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## EDITORIAL NOTE

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With great pleasure, the Sri Lanka Journal of Social Sciences and Humanities (SLJSSH) proudly announces the release of its 2<sup>nd</sup> issue for Volume 3. SLJSSH is a multidisciplinary and bi-annual refereed journal that strives to promote cutting-edge research studies in the fields of Social Sciences and Humanities. Our journal attracts submissions from esteemed scholars focusing on theoretical, empirical, policy, and practitioner issues, fostering a rich and diverse exchange of ideas within the academic community. We provide a platform for scholars to share new knowledge acquired through academic works, making valuable contributions to the advancement of Social Sciences and Humanities. By engaging with experts across these disciplines and beyond, SLJSSH endeavors to enrich the global discourse with fresh insights and innovative perspectives. Our journal's success is evident through various measurable indicators. SLJSSH is recognized and cited in the Sri Lanka Journal Online, a journal database published by the National Science Foundation (NSF) in Sri Lanka. Over time, we have experienced a steady increase in readership, article submissions, and citations, further enhancing our reputation and visibility in the academic community. This journey of success would not have been possible without the unwavering support of our faculty advisors, the dedicated efforts of our editorial staff, and the unwavering interest of our esteemed readers. We constantly strive to improve our editorial process, ensuring a seamless and rewarding experience for both authors and staff. To maintain the highest academic and research standards, all articles undergo a rigorous double-blind peer-review process and thorough scrutiny by our Editorial Board before final publication.

As we move forward, I extend my heartfelt gratitude to the Accelerating Higher Education Expansion and Development (AHEAD) Project for their valuable support in fostering a collaborative research culture within the Faculty of Social Sciences and Languages at Sabaragamuwa University of Sri Lanka. Their funding for publication has greatly contributed to the growth and development of our journal. I extend my sincere thanks to the Coordinating Editor, the Editorial Board, the diligent reviewers, and the Text-Editor for their invaluable contributions and expertise in refining the quality of our published articles. Lastly, I express my deep appreciation to all the authors for their exceptional submissions. Your research, whether individual or collaborative, has played a pivotal role in the early development and continued success of SLJSSH. I look forward to your continued support and contributions to the future growth of our journal.

Best wishes to all, and thank you in advance for your continued support and dedication to the Sri Lanka Journal of Social Sciences and Humanities.

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# Masculinity as a Trace Element of Relationship: The case of IFÁ and AYÒ OLÓPỌN among Yoruba of Southwestern Nigeria

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## Abstract

Different cultures of the world have gender specifications for cultural and professional activities- religious or social. Among the Yoruba, Ifá is the foundation on which the culture rests. That is, every cultural activity is connected back to and referenced in Ifá. Ayò olóppọn is an indigenous Yoruba game that has gained an international nomenclature in the present time. Despite the influence of Ifá on every aspect of the Yoruba life, no work has been carried out linking or relating ayò olóppọn with to Ifá, particularly on gender. This gap is filled by this study. Cultural studies, which emphasize the social power that encodes the culture in society are adopted using the comparative method. Adopting a cultural approach offers an opportunity for using appropriate analytical tools necessary at any point of analysis. The scope of cultural studies accommodates interdisciplinary and multidisciplinary fields of academic inquiry. Relying on Ifá corpora texts, incantation and interviews from Ifá practitioners and ayò olóppọn's players and author's observations from the field, gender specificity in Ifá is compared with gender roles in ayò olóppọn to establish gender synergies between the two cultural elements. It is found that there is a cultural confluence between male gender activities in Ifá and ayò performances. It is also found that there is communities' cultural change resulting in growth and development, with the involvement of the female gender in ayò olóppọn in contemporary times among the Yoruba. This study concludes that the male gender relates ayò olóppọn to Ifá.

**Keywords:** Ayò olóppọn, Ifá, Gender, Socio-cultural, Religion, Cultural studies.

## INTRODUCTION

Gender "refers to the cultural traits and behaviors deemed appropriate for men or women by a particular society" (Wardhaugh, 2010, p. 334). Masculinity as used in this study has to do with male cultural roles. Among Africans in general and the Yoruba people in particular, cultural elements such as religion and sociocultural activities are more associated or appropriate with one gender than another. This is why gender roles in between a cultural activity or element and another can be used as trace elements of relationships within a culture. The Yoruba believe that "life is an aggregate of relationships" (O'Connell, 2013, p. 2). The relationships can be within and between different cultural activities. Such as the gender relationship being investigated between Ifá and ayò olóppọn. Ifá can be described as the compendium of the Yoruba culture. This means all aspects of Yoruba life are evinced from it. Ayò olóppọn is an indigenous Yoruba game that is played in many nations of the world today.

The interrelationship in the male gender association with Ifá and ayò olóppọn is a tilling ground of cultural research establishing reasons behind gender similarities between the two cultural elements among the Yoruba. This is justified by the fact that, while some reasons have been established

with Ifá male gender, reasons behind the male gender in ayò olóppọn is hazy till the present time, the inquiry of which can be traced from Ifá, the reference-point of all cultural activities of the Yoruba. As "Sometimes it is difficult to determine, or even to imagine, how certain elements of ideology originated or what they can possibly tell us about the past experience of a society" (Lenski & Lenski, 1987, p. 41). This is the case with ayò olóppọn where the male gender cultural ideology remains daunting. Therefore, the main aim of this study is to validate that, male gender restriction to ayò olóppọn is an extension of Ifá's male gender influence. That is, the male gender is a cultural relationship that connects Ifá to ayò olóppọn. The objectives of this study are to compare the male gender roles in Ifá with male gender players in ayò olóppọn and to account for that ayò olóppọn male gender evolves from Ifá male gender specification.

## REVIEW OF LITERATURE

### Background to gender

Different cultural activities prescribe what is appropriate for men and women. However, those cultural prescriptions are not on the same aggregates between male and female

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genders. That is, the end result of gender prescription in different cultural activities is gender disparity or inequality. There have been different postulations on the causes of gender inequality. Some believe that gender inequality can be biologically determined and to some authors, gender can only be socially accounted for (Giddens 1996 & Haralambos 1980). Those who believe in biology or nature as the basic cause of gender inequality are sociologists. And those who are of the opinion that society is the basic cause of gender inequality are known as socioculturalists. In between these two opinions come the suggestion that both the sociobiologists and the socioculturalists to be blamed for gender inequality are the bioculturalists (Asue 2010).

Asue classifies the proponents of gender inequality into four categories; using Nigeria's experience: "creationists (sociobiologists), naturalists (sociologists), structuralists (socioculturalists, and survivalists (bioculturalist)" (2010, p. 7). The creationists rest their case on gender inequality to creation; citing references from the bible (Genesis 1-3), where a woman is to be subordinate to man, and Quran (7: 19-21) "follows the trajectory typified in the Judeo-Christian understanding. African Traditional Religion simply believes that a woman is a man's property. This is reflected in the Nigerian constitution whereby a woman seldom exists independent of her marital life" (2010, p. 7). This opinion is criticized by the facts provided by Archaeologists from Europe and Near East that "Paleolithic civilization practiced goddess worship and were organized as matriarchies" (2010, p. 8). The gender prescription in religious activities is implied. The order of gender spiritual roles is spelled out in the sacred books guiding the activities of the religion. This is the case, among the Yoruba. There are prescribed male and or female gender roles in worshipping Yoruba deities. For example, among the Yoruba people of Southwestern Nigeria, goddesses such as *Oya* and *Ọṣun* who are river goddesses; where the female gender is actively involved. However, there are women gender limitations on some religious practices, and in some cases, there is total exclusion of women's gender on some religious rites such as the case of *Orò* (the divinity of wild wind); which must not be sighted by women. The deity has zero tolerance for the female gender. In the case of *Ifá*, there is a limit to which women can get involved in some religious activities. However, gender restriction is also perceived to be activated in some social activities because of the synergy between the deity and the social system or event. This is perceived to be the case with *ayò ọlópọ̀n* male's connection being investigated in this study.

Naturalists are of the view that the natural division or allocation of labor as a result of biology accounts for gender inequality. Therefore, women are not being maltreated by men. The biological composition of women's nature makes them weak beings. This opinion is further buttressed by the fact that the genetic construct of human beings has a relational influence on their behaviors (Tiger & Fox 1972). The opinion of the naturalists is believed to be one of the major reasons (in some cases) why gender is preferred for some activities. However, religious activities have their own gender assignments not bound by the cultural division of labor in society. However, one assumes such should not apply to social activity such as *ayò ọlópọ̀n*. The perceived gender synergy between *Ifá* and *ayò ọlópọ̀n* is to establish that *ayò ọlópọ̀n* have some religious collocations. This resemblance is believed to be occasioned by the relationship that exists between the two cultural elements and events.

The structuralists based their opinion on gender inequality on the structures of the society. This can be associated with the cultural gender prescriptions in a society; while the survivalists are of the view that gender inequality arises as a result of class struggle. That is, men are seen as powerful and women as weak; making the men to overpower the women in performing some cultural activities. This opinion can, to some extent, be true in relation to some cultural activities that have no gender specification. The opinion of the structuralists can be an extension of the naturalists' view, in a situation like this, one can argue that men are naturally or biologically created stronger and more powerful than the female gender. However, this is not to overrule the possibility of some women being powerful or stronger than men.

McIntosh's study of the lives of Yoruba women between 1820 and 1960 "is a welcome addition to the literature on gender, power, and culture in West Africa. Yoruba women in the precolonial and colonial eras were involved in other aspects of community life. Among the Yoruba, gender specifications in cultural activities are just like the Victorian notion of separate spheres for women and men" (2009, p. 1). Some religious and sociocultural activities functions are gender specific. Some authors are of the opinion that religious and cultural activities play a central role in the propagation of patriarchal gender norms because "they believe that God destined men to be in charge and women to be governed by men is evident in many passages of the Islamic and Christians Holy Books" (Adeniyi-Ogunṣakin, 2014, p. 12). The men's domination of some religious and cultural activities is not limited to the Islamic and Christianity religions alone but extends to the African religion as well.

It can be summed up from different views on gender above that there are gender roles, which are "positions in societies that can be filled by individuals" in relation to gender (Lenski & Lenski, 1987, p. 44) in a society. The reasons for gender role specifications arise because roles are an important mechanism of social control; encouragement of specialization, cooperation among people, and specialization results in interdependence by empowering the people (Lenski & Lenski, 1987). Male or female specializing in a profession is influenced by cultural transmission, which relates to how cultural activities (including gender specification) are transmitted acquired, or inherited by the successive generation. The male gender in *Ifá* and *ayò ọlópọ̀n* is influenced by tradition. Since *ayò ọlópọ̀n* being related in this study is not a religious activity, one expects that there should be gender flexibility in its performance. This is because, unlike religion which is divine, social activities are culture-made.

### ***Ifá and Ayò ọlópọ̀n: A review***

*Ifá* "is a divination system created by the Yorùbá people of South Western Nigeria some 2000 years ago. In the course of succeeding centuries, The *Ifá* priests (Babalawo) have developed the original form bequeathed them by **ORUNMILA**, the reforming prophet of the **ODUDUWA ERA** of Yorùbá history (5000B.C. – 500A.D.) in many ways but have kept its canons essentially unchanged to this very day" (Lijadu, 1908 translated into English by Emanuel, 2010, p. ix). Because of the nomenclature of *Ifá* that cut across nations of the world, *Ifá* is known to different people by different names throughout the world. For example, *Ifá* is known as "*Fá* among the Fon of the Republic of Benin, *Eva* to Nupes, *Ifá* in Cuba, USA, Brazil, Trinidad and Tobago, Jamaica, Surinam, and Togo. *Ifá* is referred to by the Ewe as *Afa*,

*Ephod* by Jews, *Geomancy* by Europeans and *Margays*" (Qdèyemí, 2013, p. 5). The divination system is universal among these nations like with the Yoruba people. The divination system is a specialized knowledge that makes it a religious cult. The language and the system of the denomination cannot be understood by an "outsider-" non-member.

Various aspects of Yoruba culture cannot be properly understood without *awo*- cult; as walks and works of life may fall into the applicatory tentacles of culture. Interestingly, there can be no culture without a 'cult'. Here, I do not use the word cult in its esoteric sense; rather, I use it to mean specialized knowledge reserved for a certain group of people. Our earth is full of specialized knowledge and consequently of 'cults'. Only trained lawyers can practice; the untrained are looked upon as educated but not 'learned'. Without borrowing ideas from the West, the Yoruba system of professional training is also based on a 'cult' (*awo* or guild) pattern. Each professional discipline has a prefix of *awo*. Thus, *awo* means specialized training involving a gradual and graduated system of acquisition of knowledge whereby one does not proceed to the next step until one has mastered the preceding steps. Thus, *Ifá* is given the cognomen 'babalawo' (father of all cults) not only because he is the father of all the apprentices and advocates of his art, but because this 'cult' has to enlighten every other 'cult' or guild, and every individual Yoruba person about the first step to take in life. *Ifá* itself has its own peculiar nuances of professional operation which each apprentice has to learn and master. Like *Ifá*, there are other different *awo*- cults, "*awo* *oḍe* (the cult or guild of the hunters), *awo* *abiyamọ* (the cult of incarnation) which deals with fertility, childcare, agriculture, and reproduction of all living beings; *awo* *ògbóni* or *awo* *òṣùgbó* (the cult of politics), *awo* *ìyàmi* otherwise known as *awo* *àjé* (the cult of the witches), *awo* *isègùn* (the cult of the herbalists), etc. All these 'cults' have special roles to play in the thorough organization of the Yoruba community (Ilesanmi, 2004, pp. 8-10).

The opinion above posits that there is no activity: religious or non-religious that is not guided by cultural participants in terms of gender. Some cultural activities and professions are more prominent to gender than others. Gender influences why it is rare for the female gender to be an active member of the hunters' guild among the Yoruba. Likewise, the male gender rarely gets involved in "*awo* *ìyàmi* otherwise known as *awo* *àjé* (the cult of the witches)" (Ilesanmi, 2004, p. 10). However, as being investigated in this study, there seems to be a crisscrossing of gender specifications around cultural activities that relate them together. In this case, there are gender relationships in-between the cultural activity as being investigated between *Ifá* and *ayò olóppón* gender relationships in this study.

Various *Ifá* corpora prescribe gender specificity to various cultural activities among the Yoruba. In addition, the limitation, and consequences of violation of cultural gender prescriptions are sometimes encapsulated in *Ifá* corpora epistles. Yoruba cultural structure in *Ifá* is developed to and capable of influencing society positively, not only among the Yoruba people but to humanity in general. As a result of *Ifá's* influence on human development, in 2005, the United Nations Educational, Scientific and Cultural Organization

(UNESCO) declared that *Ifá* is one of the 86 traditions of the world to be recognized as masterpieces of oral and intangible heritage of humanity (Robinson 2008). By this pronouncement, *Ifá* is added to the world heritages contributing to human development. The prominent roles of *Ifá*, as a religion, science, or literary text, has over time been a concern to scholars in different areas of human endeavors, like medicine, philosophy, religion, art, history, socio-political, social, economic, and culture.

This is why *Ifá* serves as a trace element in different aspects of Yorùbá and human life in various ways. This is why the scope of *Ifá* is multifarious. *Ifá* establishes the intra-cultural relationship among the Yoruba and it authenticates the validity of Yoruba cultural activities. *Ifá* is the reference point of Yoruba culture. That is, one will gain more insights into some other cultural aspects such as religious, social, economic, political, and scientific systems of the peoples' life (past and present); because *Ifá's* knowledge extends to them. Gender specificity and peculiarity of *ayò olóppón* is perceived believed to be influenced by the proto-gender the game derived from *Ifá*. It is believed that the relationship of *ayò olóppón* to *Ifá* can only explain why some activities around the game are hazy, such as the male gender limitation or restriction known with *ayò olóppón*.

Like *Ifá*, the international status of *ayò olóppón* is also not in doubt. For instance, apart from its popularity among the Yorùbá it is called *Gisoro* in Burundi, *Oware* in Ghana, *Achochodi* in Ivory Coast, *Adjito/Vadjito* in Benin, *Ayo Eleh* in Igbo and *Kalati* in Sweden. (Appiah-Aggy, 2013). *ayò olóppón* has been incorporated into some activities of some Yoruba festivals, such as *olójó* festival in Ilé-Ifè, Òsun State, Nigeria. There are other *Ifá* corpora that address *ayò olóppón* in different forms. However, the gender correlation between *Ifá* and *ayò olóppón* is within the scope of this study.

The roles of *ayò olóppón*, just like *Ifá* have been found to span beyond relaxation or entertainment but in addition have health functions for the players. *ayò olóppón* has equally been established to have effects on the health of the players. The game has been developed to be played in social media for necessary accessibility to the derived benefits of engaging in *ayò olóppón*. In the opinions of Oyeleke et al, "Since *ayò* is the most ancient traditional board game, it implies that sufferers will once again have the feel of their culture on mobile platforms...Its acceptability by demented people and potential sufferers will not be an issue...These attributes we believe will help African sufferers to recover faster" (2014, p. 25). However, the cultural limitation of the female gender may be an impediment to giving the male gender equal opportunity as the male gender counterpart or maybe, there is likely to be no such a barrier because of the non-physical contact with some cultural materials such as *oppón-ayò*- game board and *omọ ayò*- *ayò* seeds. This is, however, subject to further research beyond the scope of this research work.

Among scholars that have worked on *ayò olóppón* is Kòmóláfè (1978). He estimates Yorùbá traditional games to be over twenty, which *ayò olóppón* is one of the leading indigenous Yoruba games. All the games are grouped into four categories: indoor, outdoor, children, and adult games. *ayò olóppón* is found to have more material associated with it than any other indigenous Yoruba games. (Aromólaran & Mustapha 1976). *ayò* is also one of the indigenous Yoruba games (if not the only one) that has gained international nomenclature. This is perceived to possibly be a result of some affiliations the game has to *Ifá* such as the gender

being investigated in this study. Other authors such as Ládélé et al (1986), Dáramólá & Jéjé (1967), Arómóláran and Mustapha (1976) likewise work around some principles governing *ayò ọlọpọ́n*. However, there is no work that examines any links *ayò ọlọpọ́n* have with *Ifá*. This research shortfall denies us to be able to account or give reason to some cultural activities and symbolisms around the game.

## MATERIAL AND METHODS

### Material

Materials for this study are majorly sourced from established findings on *Ifá* and *ayò ọlọpọ́n*'s texts, relevant *Ifá* corpora, Yoruba incantations, and interviews.

(i) Only men can become *babaláwo* and he never encountered a single female *Ifá* priest acting as a diviner during any of his extensive field studies in the cities of Ifẹ̀, Iḡànná, Meko, Ọ̀yọ́, Ilẹ̀sà, Abẹ̀òkúta, Ọ̀sogbo, Ságámù, Ilárá, Oṅdó, Ijẹ̀bú-Òde or Èkiti in Yorùbáland in 1937-38, 1950-51 in 1960 and 1965, nor did any of his informants mention such a thing. Sources from Yorùbáland going back to the mid-19<sup>th</sup> century state that only men can become *Ifá* diviners (Wikipedia, 2012, p. 4).

(iia) It was related to one of or respondents that the final graduation to becoming an *Ifá* priest, that is, *Babaláwo*, involves many rituals at the *Ifá* grove known as *Igbódù*. During the initiation, only men are allowed into the sacred place while women stay at a "market" referred to as *ọ̀jà obinrin* located close to the grove which explains why there are few female diviners. A popular myth that supports the restriction of women from popular participation in *Ifá* divination states that since one of *Ọ̀rúnmìlà*'s wives is Odù (*Ifá* corpus), female diviners should not have her included in their system of divination. Thus, the sixteen-cowry system of divination (*ẹ̀ẹ̀rindínlógún*) which is popular among women borrows most of its ideas from the *Ifá* divination...The myth surrounding the involvement of women in the sixteen-cowry divination system is that *Ọ̀rúnmìlà*, the founder of *Ifá* thought one of his wives, Ọ̀ṣun, the art of divining with sixteen cowries to keep her busy when he was not at home. In recognition of some other domestic responsibilities of his wife, *Ọ̀rúnmìlà* knew the *Ifá* text will be too difficult for her. He, therefore, made her own system of divination easier to comprehend by incorporating the central message of each of the sixteen principal *Ifá* corpora into the relevant corpus of the sixteen cowries system of divination (Ọ̀ṣunwòle 2018, pp. 49-50).

(iib) Àgbá ṣubú làgbá"

An old person fell on another old person"

Poro agogo

"It sounds like the echo of a bell: poro agogo"

A dífá fún Sẹ̀yó,

"Cast divination for Sẹ̀yó,"

A b'ọ̀mọ-ọ̀yọ̀yọ-ládgbó.

"The one with a multitude of children roundabout"

Ẹ wo'lé ayò,

"Look at the holes of Ayò,"

Ẹ wọmọ...

"Look at children..."

(iii) ení kóró,

"One inside",

ẹ̀jì kóró,

"second inside",

lọ dà ko ọ̀pọ́n ayò

"cast divination for Ayò",

to ng f'omí ojú sògbéré ọ̀mọ:

"that is crying for children..."

Ẹ wo 'le ayò, ẹ wọmọ;

"look at the house of Ayò and see children."

a kì í bá 'lé ayò láì kún...

"The house of Ayò is always full of children."

Ẹ wo 'lé ayò ẹ w'ọmọ !

"see the house of Ayò and see children."

(Fábùnmí, 1972, p. 6).

### Approach: Cultural Studies

Cultural studies are adopted for this study because it incorporates other approaches such as gender, sociology, and anthropology among others. The inclusion of gender in relation to culture makes the choice of approach apt for this study. The cultural field was first formulated by the Centre for Contemporary Studies, Birmingham University, Britain in 1964 as a graduate program to extend literary approaches to a wider perspective of historical, cultural, and political issues. Raymond Williams (1921-1983), a Welsh socialist of the center was of the view that; literature and works of art cannot be not separated "from other kind of social practice" (Kennedy & Gioia, 2007, p. 665). *Ifá* as a religion and *ayò ọlọpọ́n* as a system of social practice relate to the cultural field being expanded by Raymond Williams. He called the approach cultural materialism which was later described as cultural criticism and cultural studies. The study focuses on Marxist and Feminist criticism along with the techniques of historical criticism with political analysis based on social class, race, and gender issues.

Even though, in theory, cultural studies critics might employ any methodology, however, in real terms, it lends from the "deconstruction Marxist analysis, gender criticism, race theory, and psychology" (Kennedy & Gioia, 2007, p. 665). Gender is one of the concerns of cultural studies as there are roles and specifications in every culture. Cultural studies borrow from gender criticism and race theory considering the social inequality between sexes and races. It seeks to investigate how these inequalities have been reflected in the texts or cultural activities within the historical period of society. The "social inequality between sexes" being canvassed by the cultural approach advocates is relevant to examine the gender relations between *Ifá* and *ayò ọlọpọ́n*. A cultural approach is adopted because "a single approach will miss too much, will overlook important aspects of culture not perceptible to that particular angle of vision. A multitude of approaches will pick up an insight here and a piece of knowledge there and more of culture will enter into the inquiry. A diversity of methods will match the diversity of culture, thereby sheltering the true nature of culture from the reductive appropriations of formal disciplines" (Kennedy & Gioia, 2007, p. 667). Considering the various cultural elements in religion which *Ifá* is more associated with and social element in *ayò ọlọpọ́n*, the adoption of a cultural approach will give room for employing relevant aspects of culture that will account for adequate and comprehensive analysis of the socio-cultural and religious activities being examined at a time. It is believed that, an approach such as

cultural studies that has broader perspectives capable of embracing different cultural elements such as religion (*Ifá*) and social (*ayò ọlọpọ̀n*) in this study.

It is believed that religion, as the foundation of culture reflects and influences peoples' patterns of life in society. Because, in Africa, there is not much difference between the culture and religion of the people. It is canvassed that "religion is a most important aspect of life. It pervades and permeates all aspects of life" (Ejizu, 2017, p. 3). That is, the absence of African religious practices in the other aspects of their life results to a "deformed culture" (Ìsòlá, 2010, p. 36). The implication of these opinions is that religion, especially, indigenous religions has a greater influence on some other cultural aspects of the peoples' life.

A cultural approach requires a proper understanding of the cultural materials in relation to the context of use in a text or activity. Culture or "tradition is what determines the question and the answer within the framework of interpretation" (Okonda, 2017, p. 50). That is, cultural symbolism and meanings are contextual. Meaning that, no constant meaning associations to cultural symbols. "It is only by ancient symbols that have numberless meanings besides the one or two the writer lays an emphasis upon" that one can account for their cultural values" (Kennedy & Gioia, 2007, p. 250).

Cultural studies encapsulate different cultural activities that require different knowledge for adequate understanding. The whole notion about culture has to do with "words that have their roots in 'culture' certainly possibly have some things in common – the least common factor initially at times the terms were in vogue. The word 'cult' connotes the preferential treatment which exclusively monopolizes and denies to others, which is the essence of the cult. The idea of exclusiveness is embedded in the notion of 'cult' and 'culture'" (Ilesanmi, 2004, pp. 14-15). This means the *Ifá* and *ayò* cults are to be examined within the purview of the Yoruba culture- the extent to which the Yoruba precludes sex to the inclusion of the other; the cultural appropriateness of cultural activities.

## METHODS

Cultural gender elements in *Ifá* are related to *ayò ọlọpọ̀n* to account for their relationship. One of the ways to establish relationships among the Yoruba is by using the principle or knowledge of pairing two similar things including human beings that share related features, values, and forms in common, "such a symbolic association allows one thing to be used as a cue for the other" (Combs & Freedman, 1990, p. 126). The notion of relating two things or individuals with each other is further demonstrated in the Yoruba belief that life is based on relationships.

Sociologists believe that:

*"comparison is the basis of all scientific knowledge. A scientific understanding of anything depends on comparisons of it with other things. To understand a pine tree, we have to compare it with other kinds of trees, and then compare trees with other kinds of plants, and plants with other forms of life, noting the similarities and differences involved in such comparison and using them to draw inferences about their causes and consequences. Only in this way, we can begin to understand what a pine tree is and why it is as it is"* (Lenski & Lenski, 1987, pp. 3 -4).

The implication of the above opinion is that it is by comparison we can establish relationships within and in-between cultural elements or activities and society. By comparing the gender specification in *Ifá* with *ayò ọlọpọ̀n*, we can be provided with cultural information which "is knowledge acquired through experience and conveyed through symbols" (Lenski & Lenski, 1987, p. 38). That is cultural information on why there are some gender prescriptions and limitations in *ayò ọlọpọ̀n* that remain unresolved and unanswered today.

There are two major cultural groups in culture: primary- cliques and families and secondary- communities, associations and movements. The communities comprise geographical and cultural (Lenski & Lenski, 1987). However, the scope of this study is cultural communities within which the Yoruba people are united with common cultural tradition in relation to *Ifá* and *ayò ọlọpọ̀n* among the Yoruba communities of South-West Nigeria.

## RESEARCH PROBLEM

Among the Yoruba, it is believed that *Ifá* is a reference point for all the cultural life and activities of the people. However, no relationship has been established between *Ifá* and *ayò ọlọpọ̀n*. Before now, the male gender commonly engages in *Ifá* divination practice and playing *ayò ọlọpọ̀n* especially, in the past. It is imperative to ask and investigate whether there is male gender similarity between *Ifá* diviner and *ayò ọlọpọ̀n* player. That is, why are *ayò ọlọpọ̀n* players known with male gender just as *Ifá* practitioners? The outcome of the findings will account for the extent of male-gender similarities between the two cultural elements.

## RESULTS AND DISCUSSION

### Results

The result of this study shows that gender is an element of the relationship between *Ifá* and *ayò ọlọpọ̀n* among the Yoruba. The male gender affiliation with *Ifá* and *ayò ọlọpọ̀n* as investigated in this study is inflected by structuralist, biocultural, and naturalist views. The structuralist view (as earlier explained) has influenced the male gender with *Ifá* and *ayò ọlọpọ̀n* because of the cultural belief and societal structures of the Yoruba about women. Women are mostly engaged in domestic work; especially, in the evening time (before light is put on) when they will be busy preparing dinner. This may be one of the reasons why the female gender is rarely engaging in playing *ayò ọlọpọ̀n*. The involvement of cultural permission for women to be indulging in *ayò ọlọpọ̀n* is only allowed for women that have reached the menopause stage. This is because of the links between *ayò* seeds and women's wombs. The gender specification in *Ifá* has greater effects on the male gender in *ayò ọlọpọ̀n*. The end result of the gender similarities between *Ifá* and *ayò ọlọpọ̀n* is that *ayò* is related to *Ifá*.

The involvement of the Female gender in *ayò ọlọpọ̀n* in contemporary times is a cultural "growth and development, ... that many members of the societies will prefer not to make changes in beliefs and values, changes in patterns of social organization, changes in institutional arrangements" (Lenski & Lenski, 1987, p. 71). It is observed that there is a change in the belief of Yoruba communities in regard to gender about *ayò ọlọpọ̀n*, even though, not marginal in the female gender involvement in *ayò ọlọpọ̀n*. Unlike *Ifá* is a religion- believed to be sacred, there may be rigidity in the cultural modification. The effect of technology and science in contemporary times excludes the human- participants.

However, since *ayò ọlọpọ̀n* is basically believed to be a sociocultural event for entertainment and relaxation, further denial of the female gender will prevent them from the benefiting in the derived benefits in playing *ayò ọlọpọ̀n* that was discussed earlier. However, the effects of the violation of the cultural belief of the societies on the deprivation of the female gender from playing *ayò ọlọpọ̀n* are subject to future research that is outside the scope of the present study.

### Discussion

#### Gender-Based Relationship in *Ifá* Divination and *Ayò ọlọpọ̀n*

Generally, there is gender inequality in cultural activities which “allows us to see the world through the eyes of the opposite sex” (Kennedy and Gioia, 2007, p. 287). Some cultural activities are prominently performed by one gender than the other. Some scholars such as Spence & Helmreich (1978), Diamond & Karlen (1980), Gilligan (1982) & Nelson (1988); are of the view that “gender” is different from “sex”, with the view that, “sex is said to be biological and deals with the physical characteristics which make a person male or female at birth. Gender, on the other hand, refers to the socially constructed role ascribed to women and men, as opposed to biological and physical characteristics” (Asue 2010, p. 11). Buttressing further on gender and sex, Akintunde reports “Basow has succeeded in the classification of sex roles and gender roles, and she identifies four of each. According to her, gender roles may differ from society to society, but sex roles are the same. For example, all over the world, it is only women who give birth to children. Second, gender roles can change with history; nothing can change sex roles. Third, gender roles can be performed by both sexes, sex roles can be only performed by one of the sexes. Finally, gender roles are socially and culturally determined; sex roles are biologically determined” (2005, p. 347). The differences between sex and gender give more insights to the understanding that *Ifá* and *ayò ọlọpọ̀n* are related to gender than sex because it is gender induced. For example, there are some Yoruba cultural activities that exclude some women from performing some religious and social functions and allow some. For example, women who are still rearing children are discouraged from openly playing *ayò* game among the Yoruba people of Southwestern Nigeria. That is, even though, “women also played a great role in the rituals and cultic religions of Yoruba land...It is arguable that this role is limited to certain and specific cults. Mostly, Yoruba women priestesses are associated with fertility cults and young women’s initiation rites into womanhood and marriage” (Odeyemi, 2013, p. 7). Even though, “there are priesthoods held exclusively by women by men while some may be held irrespective of sex” (Fadipè, 1970, p. 140), however, the religion of *Ifá* divination has been strictly restricted to the menfolk. In addition, children that are not mature, for instance, below the age of twenty as well as women are excluded from *Ifá* divination. Women are discouraged from involving in *Ifá* divination because, *Ifá* works through *odù* symbolism and, it is prescribed in *Ifá* religion that, a woman must not be initiated into *odù* cult as opines by William Bascom in (i)

Bascom research covers a wide Yorùbá geographical area. He establishes that *Ifá* divination is exclusively men’s profession. The stage of initiation to *Odù* cult in *Ifá* disqualifies the women. The whole system of *Ifá* is based on *Odù* symbols. For a diviner to know the secret of *Odù*, he must be initiated into *Odù*. The cult of initiation to *Odù*, in

which women are restrained by tradition, disqualifies women to be *Ifá* priests. In other words, if some women are involved in *Ifá* divination, they practice it within the pre-initiation stage. This is a stage whereby, they are permitted to recite a few numbers of *ese-Ifá- Ifá* verses without introducing them to the secret behind *Odù*. Women that are involved in *Ifá* divination are therefore operating around this stage and not in the core cult of *Ifá* divination. Meaning that “there are some female diviners who are sometimes called *ifá* priests, but they do not belong to the inner core of cult members. It may therefore be said that the *Ifá* cult is essentially a cult of male adherents” (Abimbólá, 1976, p. 14).

The power and authority of *Awo*: diviner (in *Ifá* divination) or *Ọta*- the winner in the *Ayò* game, resides in *Odù*- the wife of *Ọrúnmìlà*: *Ifá*’s progenitor, (Adéoyè, 1985, pp. 360-5, Akinyemí 2012, p. 10, Yemitan & Ògúndélé 1970, pp. ix - x). According to Murphy “Because *odù* is the power of *Awo* no woman must look upon her form ... One who does not have *Odù* will not be able to consult *Ifá*” (2012, p. 4) *Ifá Olódù* is the basic, powerful and dependable form of five classes of *Ifá* priests listed by Abimbólá (1976, pp. 13-14). Whoever will see *Odù* must be initiated into the cult of *Awo*. “*Ènì tí yóò fọ́jú bodù olúwa rẹ̀ yóò di awo*” (Adéoyè, 1985, p. 238). That is, whoever will sight *Odù* must have been in the cult of *Awo*. Many *ayò* seeds are harvested or captured by *odù kíkún*- accumulation of seeds (Daramola & Jeje, p. 1967). The mystical power behind *Odù* in both *Ifá* and *ayò ọlọpọ̀n* is a Yoruba cultural symbol that restricts the female gender in both religious (*Ifa*) and social (*Ayò ọlọpọ̀n*) activities.

It is noticed that the female gender is strictly barred from initiation into *Odù* cult. This was reported by Qsunwole’ work in (ii). Some women are practicing divination found to be a variant of *Ifá* divination called *ẹ̀ẹ̀rindínlógún*. However, there are disparities between it and *Ifá*. For example, unlike *Ifá*, *ẹ̀ẹ̀rindínlógún* was devised so as to keep women less busy. That is, the system wasn’t devised for serious religious inquiry. This is why *ẹ̀ẹ̀rindínlógún* system is not complex. The *odù* poetic chants and the divination symbols are much easier to interpret than *Ifá* divination system. In addition, the contents of the divination are more of women’s cultural feminine issues such as marital and marriage problems, infertility, social insecurity, and other psycho-social problems.

In a Yoruba-dominated community, there are gender limitations and restrictions to some cultural events or activities such as *Ifá* divination profession. As a result of this limitation, *Ifá* profession is prominently occupied by the male gender. Few pockets of *lyánifá*- regarded as a female/mother *Ifá* diviner; are, however, excluded from some core-cult activities of *Ifá*. In addition to the exclusion of the female gender in some *Ifá* activities, there are prescribed requirements to be met before a female can successfully engage in the profession. Likewise, in *ayò ọlọpọ̀n*, there are perceived male gender similarities which can be a cultural parameter to establish a relationship between *Ifá* and *ayò ọlọpọ̀n*.

In an interview conducted with *Ifá* diviners, Akalalfá and Ifátókí, they corroborate the opinions above that there are limitations of females’ involvement in *Ifá* divination practice as they are restricted to some core activities in the profession. Akalalfá maintains that is not a gain saying or exaggeration when the Yoruba adage says *obinrin ò gbọdọ mawo. Bóbìrìn ba mawo, awo ya niyẹ*. That is, a female must not be initiated into the cult of *Ifá*. *Ifá* that is violated, the cult is modulated. He cited that, the restriction or limitation



of females from some *Ifá* activities is not only known with *Ifá* worshippers but is prominent till today among the *Orò* worshippers that women dare not see *Orò* in cult or costume.

A similar situation is observed in the management of *Ifá* profession. Official members are mostly dominated by men. It is observed here that, women are not among the sixteen *Ifá* chief priests in Yorùbá tradition. For instance, there has never been a woman professional *Ifá* chief priest that is *Àràbà* (The leader of the *Ifá* priests). It is forbidden for women to see *Odù* face; even, an uninitiated man must not also see *Odù*'s face. In addition, an initiated priest, who will see *Odù* in her shrine, must be naked. From these peculiar nature of *Odù*, it is clear that women are restricted in one way or the other to be closely associated; especially; in cultic form with *Odù* (Adéoyè 1985).

Relating this to the female gender, women's restriction also extends to the playing of *ayò olóppón*. Both *Ifá* divination and *ayò* game are performed in an open (public) place as explained earlier. Sometimes, "women also play against men but never in public place. *Ayò Olóppón* games are played by elders, adult men and young men" (Climent, Vincient & Casanovas, 2009b, p. 2). This shows that both women and the children are rarely seen playing *ayò olóppón*. It is however possible to have variants of *ayò olóppón*, just as we have a variant of *Ifá*: *ẹ̀ẹ̀rindínlógún*, that resemble the real *ayò olóppón*, but in a predominantly Yoruba cultural society women are rarely seen playing *ayò* game publicly.

*Ayò* seeds and boards sometimes determine their names and gender performance of the game. O' Connell calls the basic *ayò olóppón* be "refer to it as *Ayò*; but the Yoruba people will also refer to it as *Ayòdayò* meaning 'real *ayò*' which distinguishes the male version from those played by women and children" (2013, p. 1). It is observed that some variants of *Ifá* divination and *ayò olóppón* accommodate the female gender however, there is restrictions from the "real or core" practices as earlier explained. In other words, *Ifá* divination and *ayò olóppón* players belong to male adherents.

Fádípẹ (1970) gives the reason why women are rarely involved in playing *ayò olóppón* as *ayò* seeds symbolize children in the womb. The sanctity of womanhood is to be preserved by discouraging the women from playing *ayò olóppón*. There is the possibility that women are traditionally discouraged to play *ayò olóppón* in the open because *ayò* seeds in the holes of *opón ayò* are said to be an icon of a woman's womb and the seeds occupying the holes is iconized by the state of pregnancy of a woman. In other words, there is a general assumption that there is a power of procreation in *ayò olóppón*. It is observed that "among the Yorùbá, what has made the continuity of *Ayò* game possible is their belief in it. This gives credence to their psychological assurance that a particular household where people play *ayò* game becomes endowed with children and wealth" (Orímòògùnjé, 2014, p. 49). Perhaps, it is inappropriate for the women, to be playing or toying with a symbol with which they are iconized. This is known with other Yorùbá systems of belief as well. For instance, an image that represents a cult of ancestors is respected. This is why totemic images such as the family of *Ìkòyí* must not kill or eat rodents. It is rather preserved from being harmed or killed because of the ancestral cult associated with it in Yorùbá tradition.

It is a tradition that "ídílẹ̀ Ìkòyí kí í jẹ̀ Òkété, atúgun ni baba wọn fi nṣe. Bẹ̀ẹ̀ sì ni àwọn Ọ̀ndó kí í jẹ̀ Òkété" (Ọlájúbù, 1978, p. 29). That is, it is forbidden for the *Ìkòyí* family to eat giant rats; it was always used to scatter people in war by their

forefathers. So also the Ọ̀ndó people don't eat giant rats. It is equally possible that women are discouraged from playing *ayò olóppón*, because of the task of domestic work, because of the rigors of childbearing and child-rearing. However, women who have gone beyond the stage of childbearing and child-rearing, and domestic work may play *ayò* when they are free. Females (who fall within age limits) are discouraged from playing *ayò olóppón* in an open place (as the game demands or requires) because, of some cultural repercussions of engaging in *ayò* without meeting some requirements.

The iconisation of *ayò* (omọ ayò) with procreation can as well be substantiated within a Yorùbá incantation text as indicated in (iii). The association of *ayò* seeds in the game board with children is also expressed in (iib), *Odù Ọ̀wọ̀nrín Méjì* as reported in Agboolá (1989, p. 89). As earlier explained in this study, there are some gender age specifications in performing some cultural activities. This is the case with *ayò olóppón*; which prohibits women who are still rearing children to play the game in the open.

One can sum up the gender denotative features in *Ifá* and *ayò olóppón* as +human +male (20 years +). The appropriateness of gender association's with *Ifá* divination and *ayò olóppón* can be presented with plus (+) and minus (–) signs as follows:

Gender	Ifá Olódù	Ayò Olóppón
Adult-Male	+	+
Adult-Female	–	–
Children Male/Female	–	–

**TABLE SHOWING GENDER SPECIFICATION FOR IFÁ DIVINATION AND AYÒ OLÓPPÓN**

From the above table, the adult males are associated with *Ifá olódù* and *ayò olóppón* indicated with positive (+), while both the women and the children are associated with negative signs (–). From this analysis, one can describe the adult age associated with *ayò olóppón* to twenty years plus (20+), as earlier explained.

## FINDING, RECOMMENDATION AND CONCLUSION

This study found that both *Ifá* and *ayò olóppón* performances belong to the male gender. Female gender that involves in the two cultural activities are rare and where female gender is found, there is a limit to which they are engaged in the activities of the two cultural elements. That is, there is a female restriction from engaging in *Ifá*, and female that is under reproduction from playing *ayò olóppón* in public. This finding establishes that on the one hand, *ayò olóppón* is related to *Ifá*. On the other hand, the global nomenclature of *Ifá* has relative effect and influence on the international status of *ayò olóppón* in recent times.

Before now, no cultural element or activity of in *Ifá*, especially on gender has been found to be related or connected to *ayò olóppón* as validated in this study. The relationship established between *Ifá* and *ayò olóppón* has increased our knowledge of understanding on the gender roles in the performance of *ayò olóppón*. With gender relationship established in this study, there is a need to carry out research on the involvement of the female gender in *Ifá* and *ayò olóppón* in the present time since both *Ifá* divination and *ayò olóppón* are performed on the social media. Future investigation being recommended here will account for the effects of the female engaging in *Ifá* and *ayò olóppón* on the culture of the Yoruba people. This study concludes that *ayò olóppón* male gender is influenced by *Ifá* male gender.

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# Challenges and Opportunities in Password Management: A Review of Current Solutions

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## Abstract

*For over six decades, passwords have served as the primary authentication mechanism for almost all modern computer systems. However, password management is a challenging task for most computer users, and that has led users to many malpractices that open the door for most information security breaches over time. Despite many efforts, no alternative solution has ever succeeded in replacing passwords as the primary authentication mechanism. As a result, users are now heavily relying on password managers to alleviate the burden of manual password management. This paper addresses the topic of password management about different types of password managers and their inherent limitations. By evaluating the existing password management approaches and identifying potential improvements, this paper aims to signify an important research gap that exists in the study area; the need for fully automating the process of manual password management.*

**Keywords:** Authentication, Passwords, Password managers, Security, Usability

## INTRODUCTION

Despite that several studies have repeatedly proven and been criticized for performing extremely poorly when it comes to security, passwords are still being used as the primary, as well as the oldest authentication mechanism in modern information systems since coming into existence over sixty-one years ago (Taneski, Heričko & Brumen, 2014). The growing number of web services and applications have made it impossible for end-users to memorize passwords and perform manual password rotation due to their high-complexity requirements. Managing a collection of passwords is often considered a difficult task. This has led to users with a low technical background resorting to reusing the same passwords for multiple services or making small changes to the existing password to be used for different services while the ones with good technical backgrounds started to use password wallet solutions for managing their passwords and sensitive information (Sebastian, 2021).

A considerable number of information security breaches happening worldwide are caused by improper handling of passwords. This is due to most users not being informed enough to follow proper security practices and they lack good tools to manage passwords securely and conveniently. According to Sebastian (2021), thirty percent of the information security incidents that occurred in recent years were caused by factors related to passwords and improper password management. 45.7% of users keep the same password or the same password set for multiple web

services while 62.9% of users change their password only when prompted to do so. According to Kuka & Bahiti (2018), 14.72% of users never change the password that was initially created. These malpractices often result in financial losses, leakage of personal data, and unauthorized access to private systems.

Even though many technologies came into existence as a result of attempts to find alternatives for passwords, such as patterns, biometrics, and facial recognition, none of them managed to completely replace passwords since they are not capable of providing the same level of trade-off between security and usability that passwords can provide along with the economic and technical benefits. As a result of their weaknesses and other circumstantial factors, there have been mechanisms introduced such as 2FA and MFA to mitigate some of the common problems caused by passwords. Although, the core principle of being used as the primary way of authentication remains true for passwords despite the existence of such mechanisms.

Since passwords cannot be fully replaced, software and hardware managers were introduced allowing users to manage their passwords securely. However, due to the nature of their features such as the utilization of cloud technology, lack of usability, and weak security standards, existing solutions fail to provide a proper solution to this problem (Chaudhary et al., 2019). Most of the existing password management solutions either rely on cloud

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infrastructure which is often viewed as a target for bad actors or lack usability and features to be useful for an average user. Also, there is a considerable number of users who do not trust cloud services enough to store their passwords, which can be considered valuable assets. This often leads to them either not managing passwords properly or using inconvenient methods like writing down passwords physically or storing them on an insecure local digital file. Despite the many studies and attempts to solve this problem, none of them have managed to come up with a solution that is secure, usable, and completely offline. A solution where the end-user does not have to worry about managing passwords through some complicated process, but rather “just configure it once and then forget about it”.

This review paper comprehensively examines the literature on the password problem, explores alternatives, discusses password managers, and delves into hardware-based solutions. It aims to assess the possibility of automating the password management process. Analyzing various sources, the paper highlights vulnerabilities of traditional systems and the need for better solutions. It explores alternative authentication methods like biometrics and two-factor authentication, evaluating the effectiveness of password managers, both software-based and hardware-based. Finally, it discusses the potential for automating password management, considering emerging technologies for improved security and user experience.

## LITERATURE REVIEW

### *Password Problem*

Taneski, Heričko & Brumen (2014) discussed that user authentication on modern computer systems can be done under three methods such as “what user knows” (e.g.: - textual password, graphical password), “what user has” (e.g.: - smart card, token) and “what user is” (e.g.: - biometrics). Passwords fall under the category of “what user knows” and it can be further divided into text-based and graphic-based passwords. Password is only one component of the overall computer system security nevertheless it is the most important and essential component as well (Morris & Thompson 1979). Both Yildirim & Mackie (2019) and Habib et al. (2018) presented that textual passwords are the most cost-effective, easiest, and fastest authentication solution with zero compatibility and technical issues. Hence, it is being widely accepted as the primary authentication mechanism from personal device login to enterprise access control in modern days as well. Lyastani et al. (2018) also supported the previous fact by presenting that textual password-based authentication is the de-facto authentication scheme on the Internet. Graphical passwords follow a different authentication procedure, and they take a considerable amount of time for the password registration and the log-in process although they provide better security than textual passwords (Taneski, Heričko & Brumen, 2014). Research by Yildirim & Mackie (2019) found many alternative authentication mechanisms and schemes were researched and introduced which aimed to replace traditional textual passwords and to align with more security and usability. But none of them could overcome the simplicity of authentication by typing a keyboard character stream. Therefore, it is still considered the most popular primary authentication even after 61 years of the origin of the Compatible Time-Sharing System (CTTS) of Massachusetts Institute of Technology (MIT) in 1961 and is

most likely to have remained as it is in the near future (Fredericks, 2018).

Over the past decade, the internet has grown exponentially, and the number of web applications and online services is also abruptly increasing along with it. To keep these web applications and online services personalized, organized, and secured, password-protected user accounts have to be created and maintained by the users (Rahalkar & Gujar, 2019). As reported by Gao et al. (2018) and Pearman et al. (2019), an average internet user has to maintain 12 to 26 password-protected accounts and an average undergraduate has to maintain 8 academic password-protected accounts separately while the majority of them forget newly created passwords within the first 12 hours. This online account maintenance comes with password management which consists of strong password creation, mitigation of password reuse, memorization, periodic renewal, and instant availability. Among the above-mentioned components of password management, memorization is the key component that defines the other components and finally the security strength of a particular account (Luevanos et al., 2017). Gao et al. (2018) discussed three psychological theories that are relevant to password memorization. Depth of processing theory – how users attend to passwords to memorize them, Decay theory – memory traces that decay over time, and interference theory – forgetting passwords due to conflicts between similar memory traces.

Due to limited human memory capability, users always tend to create passwords with a certain pattern including names, dates, keyboard layouts, etc., or associate the generating passwords with corresponding online service characteristics and features. Glory et al. (2019) have also reported that manual password creation can be inspired by common sources or personal related words, or others' passwords. They argued that when users are forced to create high entropy passwords, sometimes users tend to use random password generators to create strong passwords. But these randomly generated passwords are not user-friendly and easily forgettable. Hence, users write down passwords on a notebook or save them on the device which can easily get compromised by an intruder. So, they have proposed a methodology for an automated system that can generate robust and user-friendly passwords through a set of information such as favourite novels, secret dates, etc. taken from the user, presumably a convenience for users to remember passwords easily. 50 passwords generated through this algorithm have been tested with brute force attacks and obtained a cracking span of 90 days to 1,217,000 days. They have proved that their algorithm is generating passwords that meet the minimum password strength criteria and defend against dictionary rainbow and dictionary attacks. But they have failed to propose a procedure to defend against social attacks which can help to speed up the process of the dictionary attacks. Taneski, Heričko & Brumen (2014) argued that passwords with higher entropy are more difficult to memorize in the long term, therefore users tend to create passwords that are easily guessable and breakable.

Woods & Siponen (2019) researched the trade-off between password security and memorability and could have been able to find that the memorability of manually created passwords can be increased from 42% to 70% by forcing users to verify the password three times. They concluded that applying a repetitive password verification stage could result in a significant increase in password memorability

while not inconveniencing the users. Singh & Raj (2022) and Fredericks (2018) presented that the majority of passwords that are being manually created can be broken by an attacker through brute-force attacks, rainbow table attacks, dictionary attacks, phishing attacks, and social engineering attacks even though they are aligned with the password policy provided by the online service provider. Password strength checkers are used when users are registering to a particular web service to measure the strength and guide the users to create more secure and avoid weak passwords. But Singh & Raj (2019) have observed that password strength checkers are suffering from a lack of consistency and accuracy and are vulnerable due to a static password policy enforced on every user which will create a strong bias on particular password characteristics. Also, these strength checkers cannot demand high entropy since they cannot measure the usability or the memorability of the passwords. So, they have proposed an algorithm that can generate dynamically dependent password policies on the frequency of characters. This algorithm uses special characters in the password space which is never used in manual creation to increase the complexity and make it more difficult to initiate dictionary and rainbow attacks to crack the passwords.

Biesner et al. (2020) proposed a methodology for generating novel and realistic passwords using deep learning techniques which were already increasingly used for password guessing. This method relies on data-driven deep learning text generation and surpasses the state-of-art password generation algorithms. Smith (2022) discussed people are extremely biased toward simple passwords with a word and a number when creating passwords which are limited to a certain number of combinations, and it has reduced the number of possibilities to about 1 million common passwords from 6 quadrillion possibilities of 8-character passwords. These biases expose the account security to dictionary attacks which have a success rate of 20% - 35%. According to Smith (2020), calculations have shown that 100,000 hashes can be calculated per second by a modern computer and reasonably it can crack a password in 10 seconds. Such a significant difference presents the security and strength that a random password generator can provide for password-based user authentication. Three types of schemes for random password generating (ALPHANUM-sequence of random alpha-numeric characters, DICEWARE-list of words, and PRONOUNCE3-string of syllables) are employed. Also, high entropy can be gained by including mnemonic aids for ALPHANUM, removing obscure words from the DICEWARE word list, and combining upper case letters and punctuations to the PRONOUNCE3 schemes (Smith, 2020). Grilo, Ferreira & Almeida (2021) studied 15 password managers to understand commonly used generation algorithms, and Google, Bitwarden, and KeePass algorithms were critically reviewed since they are open-source and widely used in the industry. They defined that generated passwords must satisfy the password composition policies including password character length and different character classes to avoid passwords being easily guessed or reused. Both Google and Bitwarden algorithms support string permutation and follow similar approaches to password generation apart from the order of permutation generation and character generation with the given minimum and maximum character occurrence by the user. KeePass does not support minimum and maximum character occurrence, so the algorithm generates a random sequence of characters from a union of defined sets in the policy. Security of the

generated password can be verified by the probability that the generated password is the same as any other generated password from the same policy. Therefore, a uniform distribution should be there over the entire set of possible passwords generated from the same algorithm based on the same policy.

Gao et al. (2018) raised concerns about password reuse when an average user maintains 12 to 26 online accounts, that particular user only uses 7 unique passwords for different online services. Kuka & Bahiti (2018) and Rahalkar & Gujar (2019) also argued that 52% - 56% of people overestimate their manually created passwords and reuse the same set of passwords with zero to little modifications. According to a survey by Stobert & Biddle (2018), 75% of respondents admitted to reusing passwords due to the convenience and speed of doing so. Specifically, 67% cited convenience as the reason for password reuse, while 53% mentioned speed as the main factor. A large-scale study was done by Tatli & Seker (2018) to find password reuse patterns through a 14.5 million plain text password dataset leaked during the RockYou hack and 43 different password reuse patterns were identified by an automated analysis. According to the provided literature, the majority of computer users were directed to create multiple password-protected accounts and were forced to align with strict password creation and/or renewal policies. They also argued that when people are forced to align with complexity requirement policies, people always choose to fulfill the requirements but not to secure against attacks. This conflict and frustration between IT professionals and users, and users somehow trying to follow the enforced standard policies and rules under emotional pressure had resulted in slowing down the performance of their primary tasks and reusing passwords in numerous accounts (Chaudhary et al., 2019).

As discussed by Habib et al. (2018), only 20% of password-protected online services require users to update their passwords periodically, and 67% reported creating new passwords by modifying the existing passwords. Also, 10% reported the usage of swapping passwords between accounts when they are forced to update passwords through policies. They also reported that 60% of survey participants agreed that password renewal is annoying and 45% of them have been locked out from their account at least one time within a period of a year. As presented by Abuzaraida & Zeki (2020) only 8% of survey respondents are renewing passwords regularly and only 6% renew passwords twice a year. The majority of the respondents are only changing passwords in case of security threats or felt that they have been hacked/attacked. Lyastani et al. (2018) reported that the bad practice of password reuse across multiple accounts can be seen due to the limited capacity of remembering multiple passwords.

### **Password Alternatives**

Ever since Morris & Thompson (1979) identified textual passwords as a weak authentication mechanism for modern computer systems and a huge threat to a system's security, the search for a good alternative is still a hunt. Replacement for traditional textual passwords is subject to four important roles such as usability, security, deployability, and privacy to be widely accepted and practical usage on a scheme (Zimmermann & Gerber, 2020). Chaudhary et al. (2019) have identified several types of password practices within the process of username-password authentication mechanism: one-word passwords, passphrases, Person Identification

Number (PIN), cognitive passwords, associative passwords, gesture passwords, image passwords, image-gesture passwords. This username-password pair authentication can also be associated with other authentication mechanisms during multi-factor authentication. Furthermore, several alternative solutions such as biometrics, smart cards, hardware tokens, PIN codes, Single Sign-On, One-Time Password (OTP), Authentication apps, etc. have been implemented replacing traditional username-password authentication. But these authentication mechanisms function in their own environment with limitations and vulnerabilities. None of them have been able to successfully replace the password as the mainstream approach for user authentication on all password-protected accounts, as not a single alternative technology is capable of providing the same level of security and usability with economical and technical advantages provided by the username-password pair authentication.

Siddique, Akhtar & Kim (2017) supported the above statement by reporting that decades of dedication and attempts for replacing passwords for better authentication security have not succeeded since no single technology or approach is likely to appear as a universal solution. None of the alternative approaches can match the security evaluation statistic of traditional passwords. Every effort to escape from passwords has continually brought back the credibility and accomplishments of passwords. Instead of replacing passwords, they suggested that the union of passwords and other approaches would be more likely to be a perfect way of improving security on authentication. They also reported that 84% of survey participants supported the elimination of password usage with 76% preferring alternative authentication approaches and 59% electing fingerprint scanning over traditional textual passwords. Apart from the statistical evaluation, fingerprint-based authentication offers usability advantages and outperforms all other alternatives and most importantly, it achieves more implicit credibility for user authentication. Fingerprint authentication can be misguided through fingerprint spoof attacks but modern scanners are now evolved to observe the liveliness of the fingerprint such parameters as blood flow, pressure, etc. to be resilient to such attacks. Biometric authentication has arisen with mobile, wearable, and continuous authentication solutions but interoperability, privacy, and negative perceptions remain problematic because some sensitive data like ethnicity, age, and gender can be extracted from different biometric traits such as a thumbprint, iris images, and face images. Also, biometric accuracy depends on the quality of hardware components.

A similar study by Zimmermann & Gerber (2020), indicated that numerous studies have been conducted to compare alternative authentication approaches against traditional textual passwords and increase the efficiency, accuracy, usability, and resistance against attacks. 85 different authentication approaches were found throughout their literature study and categorized into knowledge-based (text), knowledge-based (graphic), cognitive, biometric, and token-based categories. Memorization of a secret is required in all categories except for the biometric and token-based schemes while all other approaches are insignificant in terms of cost except for biometric schemes since they are required with exclusive quality sensors. All knowledge-based schemes provide the facility to easily recover from a loss where other schemes suffer from it. They also argue that many researchers criticize biometric authentication schemes as they are resilient against identity theft, trace

recordings, and targeted impersonation. Another misconception about the password being more secure due to its naturally large boundaries compared to other schemes is also discussed. They clearly showed that even though password authentication has a large password space, the actual password space is much smaller due to dictionary words, reuse patterns, and other influences and preferences. They also presented that the overall performance score of password and biometric combination outranks all other authentication schemes individually or combined in security, usability, and deployability wise.

Kurniawan et al. (2021) proposed a methodology for user authentication through the One-Time Password (OTP) system which employs AES and Blowfish algorithms to fine-tune the performance and security of the existing OTP authentication approach. They presented that 13.6% of survey participants positively responded to password sharing among others and 9.9% of account hacking events. Even though they have failed to implement OTP as a complete replacement for traditional username-password pairs, they indicated that OTP can be used to increase the security of the username-password authentication approach.

### ***Use of Password Managers***

Chaudhary et al. (2019) discussed that security experts suggest various password policies and rules for generating more stronger and secure passwords to tighten the security of computer systems but unfortunately, these policies are often unrealistic, time-consuming, and unnecessarily cognitively overload the users. According to Kankane, DiRusso, & Buckley (2018), mandatory password policies alone are not sufficient to change user behavior or attitudes toward password management. These policies are not effective in encouraging users to adopt better password habits. In the intent of addressing this ever-lasting password management problem, password managers have come into the situation. These password managers mitigate insecure password management, and user behaviors and help to alter the user perception regarding passwords to the positive side in a secure and practicable way. (Stajano et al., 2015; Luevanos et al., 2017; Chaudhary et al., 2019). A password manager is a tool with a master password to encrypt and decrypt the vault which contains all the user's accounts' login credentials. Modern-day password managers also can generate strong and secure passwords for the user and offer other optional features such as auto-fill, data synchronization, password suggestions, store secret notes, credit/debit card details, etc. (Naing Oo, 2022). Lystani et al. (2018) and Macgregor (2020) supported the idea that users who engaged with password managers in the process of password creation tend to create more strong, unique, secure passwords than users who practice manual creation. The main advantage of this is that users only have to remember a single password and the tool memorizes all other sensitive data for themselves (Rahalkar & Gujar, 2019).

Grilo, Ferreira & Almeida (2021) stated that security experts are strongly recommending password managers for password creation and storage which also frees the users from the cognitive burden of password management. Gupta et al. (2020b) categorized password managers into four types; Desktop Password Managers, Online Password Managers, Mobile-based Portable Password Managers, and USB-based Portable Password Managers. Guo et al. (2019) presented that password managers can mainly be divided

into two kinds. Retrieval Password Managers mainly focused on storing passwords locally encrypted or not under the protection of a master password and Generative Password Managers focused on the storage of high entropy passwords generated by itself. Retrieval Password Managers cannot mitigate password reuse and all these password managers suffer from a single point of failure derived from the master password. A forgotten master password blocks the legitimate user from accessing their own vault and an exposed master password can grant access to all the sensitive data stored inside of the password vault since this master password is vulnerable to offline attacks, shoulder surfing attacks, phishing attacks, etc. These password managers mainly can be found as software-based password managers and adopted by both individuals and corporations since they are more cost-saving and easy to deploy compared to hardware-based solutions, however, hardware-based password managers are still a work in progress to overcome these factors (Naing Oo, 2022).

Rahalkar & Gujar (2019) presented that software-based password managers typically operate in either an online or offline manner. The offline version of software-based password managers also known as desktop managers only contains the encrypted password vault on the client-side software-installed device and it has to be transported everywhere which requires additional effort from the user. The online version of the password manager, also known as online managers, stores the encrypted password vault on a cloud service or a remote location which can be accessed through the Internet anytime. As stated by Chaudhary et al. (2019) password managers are not still widely accepted by computer users although password managers ease users from annoying password management due to usability and security concerns. As reported, 60% - 63% of people use memorization as the technique of password management and around 8% use password managers for strong password generation and only 8% reported using password manager tools for password management. The reason for this low adaptation of password managers is the focus given by the developers of particular properties and features specific to the application and failing to account for significant usability and security measures. Password managers or Vault Applications should be far beyond in the level of security than general-purpose software applications since they are required to meet several security requirements to facilitate satisfactory protection for users' sensitive data. They should be constructed with a strong security architecture, highly efficient security mechanisms, and a strong defense strategy with the expectations of providing a secure data storage, processing, and a management environment to safeguard the integrity and authenticity of both users' sensitive data and the confidentiality of entrusted applications (Sabev & Petrov, 2021).

Offline password managers do not provide the ability to login from multiple devices anywhere either because some of them are platform dependent or vault inaccessibility through a network. This portability issue is a major problem for these offline managers and the cause of the low adoption rate among non-expert computer users. If the device is stolen or the vault is lost, all stored credentials and sensitive data will also be lost. Hence, it is a single-point-of-failure approach. But privacy and security are guaranteed at a certain level though it was revealed unencrypted passwords could be found on temporary files in the operating system (Pearman et al., 2019).

The online managers overcome the portability, synchronization, and single-point-of-failure issues of the desktop managers by maintaining an encrypted password vault as a centralized database stored in the cloud or remote locations. This feature gives high availability for users to access login credentials and other sensitive data anywhere anytime platform independently (Anand, Susila & Balakrishnan, 2018; Gupta et al., 2022). Chaudhary et al. (2019) and (Grilo, Ferreira & Almeida, 2021) counter-argued that online managers come with the possibility of security breaches and mistrust of the service provider since confidentiality arrangements might not be true at all times. Luevanos et al. (2017) reported that two major online password managers in the market, LastPass and Roboform have been identified for storing credentials and sensitive data in plain text on the cloud servers and offering suggestions for the other third-party vendors on product and data security. There were also critical vulnerabilities found on auto-fill browser extensions developed for LastPass and KeePass which may open up to attacks like iFrame sweep attacks, password sync exploitation, and injections. Despite the different number of password managers with different forms, they all use the same database format. Hence the vulnerabilities are repetitive among these famous password managers. According to provided literature by Pearman et al. (2019), some users admire and find the online accessibility of online managers useful, however others question the security of cloud-based storage since the internet is not a safe place.

#### **Hardware Based Password Managers**

Naing Oo (2022) argued that there is a significant research gap between software-based password managers and hardware-based password managers and there is no hardware-based password management solution in the market that is portable, cost-effective, backward compatible and which also gives full access and control over the credentials stored in their hardware wallet. For a hardware wallet to function properly as a password vault, it should interact with the user's web browser through client-side software which can facilitate two-way communication channels via USB, Bluetooth, WIFI, NFC, RFID, IR, and LAN. Aebischer et al. (2017) stated that a token-based authentication system called Common Access Card (CAC) introduced to the US Department of Defense (DoD) made a significant impact on organization productivity and a loss of \$10.4 million.

Stajano (2011) stated that if any mechanism is going to be invented to overcome this password problem and users are no longer needed for remembering unguessable secrets, it should fulfil at least three requirements of memoryless, scalable, secure, loss-resistance, and theft resistance. Hardware password wallets can meet all these requirements with additional advantages but with the burden of carrying a token all the time. Stajano (2011) proposed a hardware device called Pico which can bear the burden of remembering authentication credentials by transforming the traditional authentication from "something the user knows" to "something the user has". Pico communicates with user devices over the radio with public and private key encryption and it does the authentication by scanning a QR code displayed on the login screen. Also, Pico supports continuous authentication by the presence of Pico near the logged session and continuous identification through Pico-siblings, various items that the user wears every time such as spectacles, belt, wallet, jewellery items, wigs, etc. and Pico will be unlocked all the time around these Pico-siblings.

This relationship between Pico and Pico-sibling can be a many-to-many relationship and the user can authenticate to the device anywhere, anytime. Pico is also theft-resistant and loss resistant since it uses a docking station to store its encrypted backup file to a memory card while it is charging. In case of loss or theft, virgin Pico can be connected to the docking station and restore the old backup to the new device. Pico is not expected to replace passwords but to provide more usability and security simultaneously since other password replacement mechanisms trade off some usability to offer greater security and vice versa.

Stajano (2011) mentioned that smartphones are general-purpose networked devices with great ecosystems for numerous security threats and users would not enjoy the security of their sensitive data on such devices. Aebischer et al. (2017) conducted a study evaluating the Pico system for replacing passwords exploring the areas of usability, deployability, and security. With the results of prior research on the usability of token-based authentication and identified problems with the hardware-based Pico system, the Pico project was later focused on the implementation of a smartphone application. They concluded that participants disliked the QR code scanning and suggested replacing the mechanism with another modality to authenticate. However, participants liked the idea of password management being automated.

Gupta et al. (2020b) present a novel USB-based Portable Password Manager solution that consists of an Arduino Micro microcontroller to encrypt and store user credentials on the device and communicate with user devices through USB-wired connectivity. The device has an OLED display to display credentials in case of the need to log in to a non-USB-supported device. This proposed solution also uses another device named the authentication node, like the Pico-sibling in the Pico system, to authenticate the user and keep the device unlocked to support continuous user identification. This device also supports high entropy random password generation which is resistant to dictionary attacks and does credential encryption with the AES-128 algorithm. The authors have stated that the device is capable of connecting to cloud service if the user requires it. Wang & Khan (2019) proposed a methodology for a hardware-based token authentication system that facilitates users to access web services with a tamper-resistance chip that communicates to a browser app through a USB and NFC dual interface. A separate JavaScript file within a bookmark of the browser will generate the QR codes and the user has to scan it through the hardware token to authenticate to a particular web service by decrypting the stored credentials and submitting them to the remote server. A master password is used for every encryption and decryption process and then only the application can access the password vault. Same as previous works, this system also uses the AES-128 encryption algorithm. This approach is resistant to keylogger attacks but there is a vulnerability since the JavaScript file can be injected with a virus to steal credentials. This approach is theft resistant since no attacker can access the password vault is stored on tamper-resistance storage and protected with a master password but still an attacker can open the bookmark file on the browser to scan the QR code to get the user credentials. Also, they have failed to provide a loss-resistant mechanism for this proposed system and cannot act against man-in-the-browser attacks.

Guo et al. (2019) proposed a novel hardware-based password manager solution named PUFPass utilizing the uniformity of Physical Unclonable Function (PUF) to provide

hardware-level security to the hardware wallet. This PUFPass system consists of a client application and hardware wallet to securely store credentials. The client application makes the request for a password and PUF implemented hardware wallet takes username-password pair from the user and generates a strong password and strengthens it using PUF. Then that generated password is sent to a remote server for user authentication. Every time a user logs into a particular web service, the user has to remember only one password and PUFPass will do the authentication afterward through the PUF-strengthened passwords. This approach can easily mitigate the threat of exposing passwords to third parties since attackers cannot generate the PUF password without physically accessing the same PUFPass devices used for password generation. A QR-based approach is also introduced in this proposed methodology to facilitate transportability among different devices and support migration from one PUFPass device to a new one in case of theft or loss.

But the major drawback is passwords cannot be recovered since they are bound to the lost or stolen device's PUF and this might raise a potential security threat in case of a theft. Even though there are proposed solutions such as using multiple PUFs to increase their reliability in case of failure, it also increases the complexity of password management significantly. Unlike traditional approaches to password management, PUFs make it nearly impossible to take backups conveniently and restore them to another device. This results in a lack of portability and adaptability. Furthermore, current studies that propose PUFs focus primarily on the servers that facilitate cloud infrastructure which is known to be targets of malicious attacks. Although password storage will be secured, there are concerns such as the reliability of in-transit data and the reliability of software that runs on these services. Even though we can solve some of the issues associated with PUFs such as slow computation and resource utilization, the overall architecture will still be dependent on obscure cloud services, which can be a major security concern when used in practice (Mohammadinodoushan et al., 2021a), (Mohammadinodoushan et al., 2021b).

Naing Oo (2022) proposed a novel hardware password manager named E2PM stored on a regular USB stick which can be plugged into the computer and access the password manager through the Midori web browser. The system consists of two main components; Core System - a runtime image and Secure Data Partition - a memory that allows reading and writing. In this case, the user has to run the E2PM password manager by live booting the USB drive or by constructing a connection to the USB through the VirtualBox Virtual Machine manager. A 16-character long master password is used to secure the password vault and the user has to manually enter the login credentials to the web service since the copy/paste option or autofill option is not available. After using the device, the user has to enter the "shutdown" Linux command to exit from the device and if the device was used in live boot, the user's computer has to be restarted as well. The author has discussed Stajano's (2011) least 3 requirements of a novel authentication method and proved that E2PM gets along with Memoryless, Scalable and Secure requirements. The author has critically reviewed the literature about PUF-based authentication schemes and agrees with the significant characteristics that it brings to the table such as theft resistance, strong password generation, and strengthened authentication while also agreeing to the major drawbacks such as



credentials recovery, usability, backward compatibility, and loss resistance.

Table 1: Summary of Literature Review

Article	Key Findings
Taneski, Heričko & Brumen (2014)	User authentication methods: "what user knows," "what user has," and "what user is." Text-based and graphic-based passwords are two types of "what user knows" authentication. Textual passwords are widely accepted due to cost-effectiveness and ease of use. Graphical passwords provide better security but take more time. Passwords are the most important component of computer system security.
Yıldırım & Mackie (2019)	Textual passwords are the most cost-effective and widely accepted authentication solution. Alternative authentication mechanisms have been researched but cannot replace textual passwords. Textual passwords are the primary authentication mechanism in personal and enterprise settings.
Lyastani et al. (2018)	Textual password-based authentication is the de-facto authentication scheme on the internet. Users tend to create easily guessable passwords due to limited memory capacity. High-entropy passwords are difficult to memorize in the long term. Textual passwords remain popular despite alternatives.
Gao et al. (2018)	Average internet users have to maintain multiple password-protected accounts. Users often forget newly created passwords within the first 12 hours. Password memorization is a key component of password management. Users tend to create passwords with patterns or associations for ease of memorization. Manual password creation can lead to easily guessable and breakable passwords.
Woods & Siponen (2019)	Repetitive password verification can significantly increase password memorability without inconveniencing users.
Singh & Raj (2022)	Password strength checkers lack consistency, accuracy, and usability measurement. An algorithm that dynamically generates password policies based on character frequency can increase complexity and deter dictionary and rainbow attacks.
Biesner et al. (2020)	Deep learning techniques can be used to generate novel and realistic passwords. Data-driven text generation can surpass existing password generation algorithms. Deep learning methods are increasingly used for password guessing.
Smith (2022)	Users are biased towards simple passwords with words and numbers. Biases limit the number of password combinations and increase vulnerability to dictionary attacks. Random password generators provide higher security and strength. Different password generation schemes (ALPHANUM, DICEWARE, PRONOUNCE3) can increase entropy and security.
Grilo, Ferreira & Almeida (2021)	Password managers use different generation algorithms. Google, Bitwarden, and KeePass generation algorithms are critically reviewed. Generated passwords must meet composition policies to avoid easy guessing and reuse. A uniform distribution over the entire set of possible passwords is essential for security. Security experts recommend password managers to improve password creation and storage. Password managers reduce the cognitive burden of password management. Different types of password managers exist, including desktop, online, mobile-based, and USB-based options. Usability and security concerns contribute to the low adoption rate of password managers.
Tatli & Seker (2018)	Password reuse is common due to the need to maintain multiple accounts. Users often reuse passwords with little modification. Convenience and speed are the main reasons for password reuse. An automated analysis identified 43 password reuse patterns. Users comply with complexity requirements but may not prioritize security. Conflicts and frustration exist between IT professionals and users regarding password policies.
Habib et al. (2018)	Only 20% of online services require periodic password updates. Users often modify existing passwords instead of creating new ones. Password renewal is viewed as annoying by many users. Password reuse and swapping between accounts are common practices. Users may be locked out of their accounts due to password policies. Regular password renewal and compliance with security threats are low.
Abuzaraida & Zeki (2020)	Only a small percentage of users regularly renew passwords. Most users change passwords in response to security threats or perceived attacks. Limited memory capacity leads to password reuse. Users often do not prioritize proactive password renewal.

Pearman et al. (2019)	Online password managers provide portability and accessibility but raise concerns about security breaches and data confidentiality. Some password managers have been found storing credentials in plain text or have vulnerabilities in their browser extensions. Users have mixed opinions about the security of cloud-based storage.
Guo et al. (2019)	Password managers can be retrieval-based or generative-based. Retrieval-based managers store passwords locally encrypted or not, protected by a master password. Generative-based managers generate high-entropy passwords and store them. Both types have limitations, including the risk of forgotten or exposed master passwords. Hardware-based password managers are still a work in progress.
Rahalkar & Gujar (2019)	Password managers can operate offline or online. Offline managers require the user to transport the encrypted password vault. Online managers offer high availability but raise concerns about security breaches and trust in service providers. Both offline and online managers have their advantages and limitations.
Chaudhary et al. (2019)	Password managers mitigate insecure password management and user behaviours. They help improve user perception of passwords. Users who engage with password managers tend to create stronger passwords. Password managers offer features like auto-fill, data synchronization, and secure storage of sensitive data. Different types of password managers exist, including desktop, online, mobile-based, and USB-based options. Some password managers have security vulnerabilities and single-point-of-failure risks. The adoption of password managers is still relatively low due to usability and security concerns.
Morris & Thompson (1979)	Textual passwords are weak authentication mechanisms and pose security threats.
Siddique, Akhtar & Kim (2017)	No single technology or approach is likely to replace passwords as a universal solution. Combining passwords with other authentication approaches is more likely to improve security. Users support alternative authentication approaches and prefer fingerprint scanning over passwords. Fingerprint authentication offers usability advantages but can be vulnerable to spoof attacks. Biometric authentication has interoperability, privacy, and negative perception issues. The combination of passwords and biometrics performs better than other authentication schemes.
Zimmermann & Gerber (2020)	Numerous authentication approaches have been compared against passwords. Biometrics and token-based schemes require high-quality sensors and suffer from limitations. Passwords have a large password space but are influenced by dictionary words and reuse patterns. Passwords combined with biometrics outperform other schemes in security, usability, and deployability.
Kurniawan et al. (2021)	OTP systems can increase the security of username-password authentication. Some users share passwords and experience account hacking events. OTP is not a complete replacement for passwords but can enhance their security.
Naing Oo (2022)	Proposed a hardware password manager called E2PM stored on a USB stick. The system requires live booting or a connection through VirtualBox. Supports memoryless, scalable, and secure authentication. Does not offer copy/paste or autofill options. Requires manual entry of login credentials. Lack of credentials recovery and backward compatibility.
Aebischer et al. (2017)	Studied the Common Access Card (CAC) token-based authentication system for the US Department of Defence (DoD). Showed significant impact on organization productivity.
Stajano (2011)	Proposed a hardware device called Pico for remembering authentication credentials. Pico-siblings provide continuous authentication and identification. Theft and loss resistance. Simultaneously enhances usability and security.
Gupta et al. (2020b)	Presented a USB-based Portable Password Manager solution using Arduino Micro microcontroller. Supports USB connectivity and OLED display. High entropy password generation. AES-128 encryption. Continuous user identification through an authentication node.
Wang & Khan (2019)	Proposed a hardware-based token authentication system with a tamper-resistant chip. Uses USB and NFC dual interface to communicate with browser app. Securely stores and decrypts credentials. Vulnerable to JavaScript injection and man-in-the-browser attacks. No loss-resistant mechanism.

Guo et al. (2019)	<p>Proposed a hardware-based password manager using Physical Unclonable Function (PUF).</p> <p>The client application and hardware wallet generate and strengthen passwords.</p> <p>QR-based transportability.</p> <p>Passwords bound to specific devices.</p> <p>Lack of password recovery.</p> <p>Dependent on cloud services.</p>
Mohammadinodoushan et al. (2021a), (2021b)	<p>Raised concerns about the reliance on obscure cloud services and the reliability of in-transit data and software in PUF-based authentication systems.</p> <p>Slow computation, lack of portability, and adaptability.</p>
Naing Oo (2022)	<p>Proposed a hardware password manager called E2PM stored on a USB stick.</p> <p>The system requires live booting or a connection through VirtualBox.</p> <p>Supports memoryless, scalable, and secure authentication.</p> <p>Does not offer copy/paste or autofill options.</p> <p>Requires manual entry of login credentials.</p> <p>Lack of credentials recovery and backward compatibility.</p>

## DISCUSSION

### *Password Problem*

Passwords are still considered the most popular primary authentication even after 61 years of the origin of the Compatible Time-Sharing System (CTTS) in 1961 and nothing has changed for 35 years since Morris and Thompson first addressed the password problem in 1979. It is most likely to have remained as it is in the near future because none of the alternatives could overcome the simplicity of authentication by typing a keyboard character stream. With the high demand for password complexity and the increased number of password-protected accounts on web services, password mismanagement has also highly increased. But the problem is that the memory capacity of the human brain is limited and it is hard to remember 12-26 unique passwords. Therefore, users tend to create passwords that are easily guessable and reuse the same set of passwords with or without small modifications. Easy memorability, convenience, and speed are the main reasons for password reuse as discussed in the previous literature. Repetitive password verification when creating new passwords is also a good approach for increasing password memorability but it has been proven that the result of this practice is valid for a very limited period. Memorability is more dependent on human psychological factors and the frequency of utilization of a particular password. Multiple sources have discussed that manual password creation is highly biased to the person who is creating and most of them can be easily cracked through various attacks like dictionary attacks, rainbow, social engineering, etc. due to certain patterns and combinations in creation. Password strength checkers, which are used to test the strength of manually constructed passwords, lack consistency and accuracy. Furthermore, they are vulnerable owing to the static password policy that is enforced on all users, which creates a significant bias on specific password features. These strength checkers cannot require high entropy since they cannot assess the usability or memorability of passwords.

To avoid all the shortcomings of manual password creation, random password generation algorithms are used and they are comparatively stronger and more secure than most manually created passwords. Among these algorithms, Google, KeePass, and Bitwarden are well-recognized algorithms that mitigate password reuse and password guessing attacks while providing strong and unique password combinations. But since they are not relevant to the user and the user's background, these randomly generated passwords are highly likely to be forgotten easily

and cost a lot of effort to memorize (Lennartsson, 2019). Another concern about these random generator algorithms is a uniform distribution should be there over the entire set of possible passwords generated from the same algorithm based on the same policy. So that could lead to a potential security risk of using randomly generated passwords.

With the time and advancement of technology, many password alternatives were developed but none of them could have been able to replace the traditional textual passwords. Biometric and PIN-based authentications have been the most utilized password alternatives but still passwords are used as the primary authentication in case of loss of access to those authentication mechanisms. Biometric authentication suffers from a lot of privacy concerns. Therefore, most password-protected accounts combine password alternatives with traditional passwords to provide better user convenience. Even though these password alternatives authentication mechanisms have failed to implement themselves as complete replacements for traditional username-password pairs, their combinations with passwords are being used to increase the security of the authentication approach.

### *Use of Password Managers*

As reported in multiple works of literature, users have the challenge of remembering multiple complex passwords for different accounts when the human being is generally poor at memorizing more than seven characters or digits in memory. So human beings are now commonly known as the weakest link of the CIA triad and most security breaches happen from common mistakes done by human beings (Naing Oo, 2022). So basically, in such a scenario of passwords not being able to be replaced and limited human memory capacity, password managers are considered to deliver a fair deal of usability and security trade-off. Password management is about password creation, proper storage, periodical renewal, and providing availability of the credentials whenever they are wanted. Password managers are tools that can fulfil all or a few functionalities of password management. They can be categorized into software password managers and hardware password managers. Online managers and offline managers are the two subcategories of software managers. Online managers provide better usability since they can be accessed from anywhere in the world due to the high availability provided by a service provider through a cloud system.

Online managers can also be divided again into two categories; open-source password managers such as Passbolt, Encryptr, Padlock, etc., and closed-source password managers such as KeePass, LastPass, Roboform,

etc. One of the key benefits of these open-source password managers is that anybody can examine the code and help the refinement process by reporting identified vulnerabilities to developers. The ability to select a preferred server as the centralized password vault is a great feature and potentially increases security and trust in these open-source password managers. On the other hand, being open-source means the attackers can also find vulnerabilities and use them as a weapon for various attacks. Another issue raised is the technical expertise needed to configure a private server to connect to the application is somewhat out of hand for a regular user. Closed-source managers are proprietary, and users have to put complete trust in the company behind the managing service. Since the source code is hidden from the outside world, the proprietor is responsible for updating and keeping the manager clean and secure which preferably attracts more attackers than open-source managing services such as the attack initiated by LastPass in the 2017 first quarter which exploited a massive amount of assets and user data through security flaw existed on LastPass web browser extension (Luevanos et al., 2017). Online managers have a considerably low adoption rate among computer users since the sensitive data are stored in a third-party cloud service and users don't have full control over the cloud system and their data. In such a ubiquitous cyberworld, security-literate users only trust on which they have a satisfactory level of control over their data and related operations (Wang & Khan, 2019).

Offline managers only provide management functionalities within a local environment like a user computer, tab, smartphone, etc. Even though offline managers provide better security and better control over user data compared to online managers, users have to bear the burden of taking the local device everywhere or memorizing the passwords when the device is inaccessible or not available. All software-based password managers consist of a master password to authenticate the legitimate user of the password manager and sometimes it will be used as the encryption key for securing the password vault. Thus, it finally makes it the single failure point of the whole mechanism.

### **Hardware Based Password Managers**

Hardware-based password managers are much better in security and also user credentials are stored in a more isolated environment. But users have to bear the burden of traveling with the password wallet disregarding its design size. There is also a potential security risk of data leakage or data loss if the wallet is stolen or misplaced. The first hardware-based password manager was called "Pico" but it is less user-friendly since it is needed to make relationships with Pico siblings to authenticate the legitimate owner of the device. Since Pico only supports a QR-based login mechanism, all the online services should be able to provide a QR-based login approach unless the device may not be useful for online services or password-protected accounts which do not facilitate QR logins. Pico needs a docking station to be re-charged and while recharging it will make a backup of all user data and information on the device and this is the only back mechanism available for this device. So, users may have to bear the burden of spending extra money on purchasing a docking station as well for the whole backup purpose. With the results of prior research on the usability of token-based authentication and identified problems with the hardware-based Pico system, the Pico project was later focused on the implementation of a smartphone application. They concluded that participants disliked the QR

code scanning and suggested replacing the mechanism with another modality to authenticate. However, participants liked the idea of password management being automated.

In PUF-based solutions, every time a user logs into a particular web service, the user has to remember only one password (master password) and they will do the authentication afterward through the PUF-strengthened passwords. This approach can easily mitigate the threat of exposing passwords to third parties since attackers cannot generate the PUF password without physically accessing the same device used for password generation. PUF-based hardware wallets are even more secure than any other available solution, but they do suffer from providing functions such as periodic password renewal, mitigating password reuse, and especially backing up data in case of theft and resistance since the generated password are bound to the physical hardware components and the virgin device cannot be able to regenerate the passwords or restore backed-up data from the old database. This results in a lack of portability and adaptability. Furthermore, current studies that propose PUFs focus primarily on the servers that facilitate cloud infrastructure which is known to be targets of malicious attacks but not on the client-side solutions.

E2PM very small hardware wallet in the size of a flash drive which facilitates better security in contrast to software-based password managers and hardware password wallets E2PM is not very usable for non-technical users since it is not hot pluggable as other hardware wallet managers, but it has increased deployability due to simplicity of hardware and software requirements. In the event of wallet theft, the attacker would not be able to access the password vault since it is protected with a 16-character master password, but it creates the mechanism more vulnerable as well since it is a single point of failure when concerned about security. The author has provided the facts that the master key stored in the RAM can be found by an attacker by initiating a Cold Boot Attack which can obtain RAM contents dumped into the attacker's machine using computer forensic tools. This approach does not provide any loss resistance since there is no backup or migration mechanism available.

### **CONCLUSION**

Passwords have remained the most widely used form of authentication for over six decades, despite their inherent shortcomings and security vulnerabilities. The increasing number of password-protected accounts and the complexity of passwords have led to various malpractices and security breaches. While alternatives such as biometrics and PIN-based authentication have been introduced, they have not been able to completely replace passwords and are often used in combination with passwords for enhanced security. Password managers have emerged as a popular solution to address the challenges of password management. Software-based password managers, both online and offline, offer convenience and security trade-offs. However, they also present potential risks as attackers can exploit vulnerabilities. Hardware-based password managers offer better security and isolation of user credentials but come with the inconvenience of carrying the device and the risk of data loss if stolen or misplaced. The usability of some hardware-based solutions has been a concern, although advances are being made to improve the user experience. The existing password management approaches have their limitations, and there is a need for further research and

development to fully automate the process of manual password management. Future efforts should aim to address the challenges of usability, security, backup mechanisms, and resistance to attacks. By striving for more user-friendly and secure password management solutions, we can enhance the overall security of online accounts and mitigate the risks associated with password mismanagement.

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# The Impact of Intellectual Capital on Business Uncertainty and Business Performance of Small Enterprises: With Special Reference to Galle District in Sri Lanka

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## Abstract

*This study aims to study the impact of Intellectual Capital (IC) on business uncertainty in the small-scale enterprises (SE) sector in Sri Lanka and, consequently, investigate the impact of business uncertainty on enhancing their business performance. The data were collected from a sample of 150 owners of SEs employing face-to-face and telephone interviews. Partial Least Square-Structural Equation Modelling (PLS-SEM) was used to analyse the data through SmartPLS V3 software. The study findings reveal a significant positive relationship between IC and the business performance of SEs. Moreover, IC significantly affects the uncertainty faced by these businesses. Results also claim that business uncertainty plays a complementary mediating role in the relationship between IC and the business performance of SEs. Consequently, the study concludes that enhancing the IC in small enterprises builds reconfigures the available resources of SEs, ensuring expected performance and survival in economic crises. The research design, the methodology utilised, and the findings of this study will benefit researchers, policymakers, and entrepreneurs and contribute to future studies regarding the development of SEs in a developing country like Sri Lanka.*

**Keywords:** Business Performance, Business Uncertainty, Intellectual Capital, Small Enterprises

## INTRODUCTION

Today we live in a conceptualised global economy (John, 2022). Thousands of new businesses are created annually around the world with the prospect of growing into large enterprises and expanding economic activity in the global market (Emily, 2021). Small Enterprises (SEs) play a critical role in this context. SEs are considered the backbone of any country as they directly impact economic growth by creating new job opportunities and reducing unemployment, contributing to gross domestic product growth, lowering inflation, stimulating innovation, and many other economic activities (Alter, & Hagevi, 2013; Priyanath, 2017). Because of this, the SEs are more critical for a developing country like Sri Lanka, which has suffered an economic collapse and is experiencing hyperinflation. In such a case, SEs inherently contribute as a major job creator in poverty alleviation, especially in rural areas, controlling poverty resulting from unemployment arising in the collapse of the industrial sector (Gamage & Sadoi, 2013).

The effects of the Covid-19 pandemic have hit emerging economies hard. The Covid-19 pandemic directly affected the collapse of the Sri Lankan economy, which was heavily dependent on imports and remittances and managed by a poorly managed consumption economy (Gunathilake &

Jayasuriya, 2021). In Sri Lanka, revenue losses due to the pandemic have been revealed, and pre-existing economic weaknesses have worsened (Gunawardana, 2020). The economic impact of the Covid 19 pandemic has been researched in many countries around the world regarding how various industries are experiencing it, and some of the main reasons have been revealed. Decrease in employees, financial difficulties, decreases in sales and turnover, decreases in demand, and decreases in production due to health problems of employees, are the main among them (Bartik et al., 2020; Juergensen, Guimón & Narula, 2020; Nurunnabi, Alhawal & Hoque, 2020). All these cautions generate business uncertainty, especially SEs incapable of facing it with proper decision-making and finally fail in their performance.

In today's knowledge-based economies, intellectual capital is recognised as a strategic asset that provides a competitive advantage in driving businesses toward superior performance (Yalama & Coskun, 2007). It is a hidden asset in a person that can be converted into value and lead to success without perishing like other tangible assets (Edvinsson & Sullivan, 1996). Intellectual capital (IC) is considered one of the key factors affecting the success of a

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business organisation. The reason for that is the unique involvement of intellectual capital in decision-making in the face of the above-mentioned business uncertainty (Herremans, et al., 2011).

This IC-based concept has been researched for two decades to improve business performance in large-scale and medium-scale enterprises (Bontis, 2003, 2009; Johan, Göran, Edvinsson, & Nicola, 1997; Kamukama, Ahiauzu & Ntayi, 2010; Kodithuwakku, & Priyanath, 2022). Many researchers have shown a significant positive relationship between business performance and IC (Bontis 1998, 2000; Brooking, 1996; Kodithuwakku, & Priyanath, 2022). However, there have been fewer research studies on the business performance of SEs and especially business performance enhancement under such severe business uncertainty as Sri Lanka. Particularly in the Sri Lankan context, there is insufficient empirical evidence on how employers in SEs can utilize IC to enhance their business performance in an uncertain business environment. Therefore, this study aims to examine the impact of IC on business uncertainty in Sri Lanka's SEs and, consequently, investigate the impact of business uncertainty on business performance. Furthermore, research on IC in developing countries is very limited as social, political, cultural and technological factors directly influence the contextual determination and practice of IC. This makes it difficult to generalise research findings about how firms benefit from IC. Information on IC in the context of Sri Lanka is limited to IC disclosures. Therefore, it is timely to study what IC disclosures can do for the growth of business firms.

This article is organised as follows: First, a review is made of the theoretical literature on IC, business uncertainty and business performance and the relationship between those variables. Based on the literature review, hypotheses are formulated to link the different theoretical points. Then the study materials and methods are described, and the results are presented and discussed in the next section. Finally, it concludes the paper by reviewing its contributions and limitations and providing directions for future research.

## LITERATURE REVIEW

As the concept of IC is still recognised as an emerging discipline in business management, it is still passing through important evolutionary milestones. IC can be defined as a collective name given to the intangible assets, intellectual property, and human-centered and related infrastructure that exist in the market (Brooking, 1996). The concept of intellectual capital has emerged as a reaction to the departure from traditional management practices that are tied to a company's intangible assets (Tseng & James Goo, 2005). Intellectual capital consists of the skills, knowledge and experience of a company to maintain performance, competitiveness and shareholder value (Seemann et al., 2000). It can be recognised as an essential capital not limited to the physical and visual assets of the organisation. Roos (1997) and Stewart (1997) have recognized IC as a modern accounting method that considers all the assets and processes not usually shown on the balance sheet of an organisation, as well as intangible assets such as trademarks, patents and brands, and the sum of the knowledge of the members associated with the organisation and the practical translation of those people's knowledge which are used for creating a wealth of an organisation (Roos, 1997; Stewart, 1997). A few decades ago, the discussion of this concept was limited to intellectual phenomena in general, but in later

research, the intellectual phenomena can be identified under several dimensions. Zhou and Fink, (2003) have recognized human capital, structural capital and relational capital as the most important dimensions of IC.

Edvinsson and Sullivan (1996) identified intellectual capital as the combination of human resources and structural capital. Bonits (1998) explained that intellectual capital combines the three dimensions of human capital, structural capital and customer capital while not including intellectual property, such as assets related to copyrights, patents and design rights. Murthy and Mouritsen (2011) identified intellectual capital, including creative human capital, organisational capital, which has best practices and relational capital, which supports drawing and developing knowledge about suppliers and customers. Murthy and Mouritsen (2011) have not considered structural capital. Demartini and Paoloni (2013) explained intellectual capital under the three components: human capital, including skill program management; structural capital, including new product patents and relational capital, including the market share and customer contract. Tayles, Pike, and Sofian (2007) emphasised that intellectual capital is a broad consensus including human capital, structural capital and relational capital as the sub phenomena. This sub-phenomena combines the intelligence found in human resources with organisational routines and relationships in organisational networks (Sharabati, Jawad & Bonits, 2010).

### **Business Uncertainty**

According to Galbraith (1977), business uncertainty means the gap between the amount of information required to perform the task and the amount of information already possessed by the organisation. According to Williamson (1993), business uncertainty arises from not being aware of future conditions and/or the inability to determine who is more inclined to behave opportunistically. Similarly, Brashers (2001) claims that business uncertainty occurs when details of situations are ambiguous and complex, when information is unavailable or consistent; and when people feel insecure about their own knowledge or the state of knowledge in general. Perminova, Gustafsson, and Wikstrom (2008) identified uncertainty as an unexpected event or situation. It can happen due to a lack of available information about the world situation (Bosc & Prade, 1997). According to Williamson (1985), business uncertainty has two parts such as behavioural and environmental uncertainty. Business uncertainty by not disclosing, concealing, or distorting information about strategic interventions is said to be behavioural uncertainty and is based on other transaction parties' opportunistic behaviour. Behavioural uncertainty arises related person's behaviour, especially opportunism problems in dealing with the channel relationships such as shrinking activities, cheating and free-riding activities (Ranatunga, Priyanath & Meegama, 2020; Rindfleisch, 2019).

Conversely, environmental uncertainty is defined as arising from technology uncertainty, demand or consumer uncertainty, supply chain uncertainty, competitive uncertainty, political instability uncertainty, market uncertainty, inflation and similar uncertainties (Rindfleisch, 2019). Subramaniam, Collier, Phang & Burke (2011) explained business uncertainty as part of environmental uncertainty, and it is related to the unpredictable actions of major stakeholders in an organisation, such as consumers, suppliers, competitors and other regulatory groups. Sung, Lu and Ho (2010) have defined environmental uncertainty as a



situation resulting from a lack of available information related to the external environment in the organisational goals-achieving process. Environmental uncertainty is related to the control of someone, which influences the company's operation activities (Purnama & Subroto, 2016). It is also viewed as a perceptual phenomenon that has to face the individuals related to the decision in an environment (Ashil & Jobber, 2010).

### **Business Performance**

Performance is the concept used to determine the value of the outcome of a process using a standard or benchmark (Bourne, Franco & Wilkes, 2003; Khare, Saxsena & Teewari, 2012; Morgan, 2004; Robbins & Coulter, 2013). Business performance is valued by measuring the success or failure related to an organisation in achieving its goals and objectives (Wood, 2006). According to Vij and Bedi (2016) definition, business performance measures the ability of the firm as the overall index using financial terms and operational indicators to satisfy the stakeholders; under that, subjective business performance is measured using primary data and objective business performance measures using secondary data. As well objective performance is measured using financial data as financial indicators, such as an increase in sales, profitability and investments. In contrast, subjective performance is measured using non-financial data as non-financial indicators, such as the number of new products, market share, technology and marketing activity (Ornek & Ayas, 2015). According to the Business Performance Measurement (BPM) system, business performance is categorised mainly into two broad sections that are Strategic Business Performance (SBP) measures which are considered related to major corporate goals and Operational Business Performance (OBP), which are measured daily or weekly basis of the organisation.

### **Empirical Evidence:**

The concept of IC has been developed for several decades. As a result, some researchers have focused on conducting research studies related to IC and business performance by considering the business processes of various businesses and organisations. Bontis (2003) conducted a study on the relationship between IC and the performance of business firms. He stated that there is a reciprocal relationship between the essential components of IC, which has a positive relationship with business performance. Nazari (2010) investigated the relationship between the intellectual capital component and a firm's financial performance. Abdullah and Sofian (2012) explored the relationship between cooperative performance in Malaysian industries. Mosavi, Nekouizadesh and Ghaedi (2012) studied intellectual capital relationships between market value and financial performance. Research studies that have been conducted to examine the performance of banking and insurance studies empirically revealed that IC directly affects the performance of such a sector (Alipour, 2012; Do Rosairo & Vaz, 2005; Puntillo, 2009; Sujeewa Kodithuwakku, & Priyanath, 2022). Chu et al. (2006) have done an empirical study and emphasised that intellectual capital is highly relevant to organisations' value creation and strategic accumulation. Huang and Hsueh (2007) found that intellectual capital can influence business performance. However, it is dominated by relational capital. Although human capital has an effect, it is not a direct effect and indirectly affects business performance through relational capital. Also, this correlation indicates that intellectual capital is more critical for business performance.

Several studies have linked intellectual capital and performance related to the SME sector. Li et al. (2020) emphasised that human capital directly and significantly supports the efficiency of SMEs in China in the transactional economic process. Still, structural capital does not significantly affect the efficiency of SMEs. A study by Khan and Terziovski (2014) using Australian SMEs found that human capital, structural capital and relational capital mediate the intellectual capital dimensions that have a positive and significant effect on the performance of SMEs. Sujeewa Kodithuwakku and Priyanath (2022) explained that the IC is the most powerful intangible resource, which has a significant positive impact on a firm's financial performance of indigenous craft industries in Sri Lanka. Consequently, the importance of developing human capital in organisational innovation was emphasised in this study.

Although a large number of researchers have focused on conducting research related to intellectual capital and business performance, only a few researchers have been motivated to study the impact of intellectual capital on business performance by integrating uncertainty. Herremans et al. (2011) conducted a study on intellectual capital integrating knowledge uncertainty to investigate its ability to reduce uncertainty related to organisation decisions in the intellectual capital environment. In their study, the intellectual capital management system supported the reduction of internal uncertainty and indicated that there is a significant correlation between internal uncertainty and intellectual capital scale, and the development of intellectual capital in the organisational structure leads to the reduction of organisational internal uncertainty. The research done by Khan and Ali (2017) reported that intellectual capital could play a moderating role in the risk management of enterprises. It has been recognised that firms with high intellectual capital are more resilient to unexpected changes in markets and economies and that intellectual capital can effectively positively influence firm performance.

Many scholars have taken intellectual capital as the independent variable and business performance as the dependent variable in their studies and set the theoretical basis for their research. Few have applied the concept of intellectual capital to the financial performance of businesses (Bontis, 1998; Vij & Bedi, 2016). In most empirical studies related to this, the quantitative method has been adopted as the research approach (Herremans et al., 2011; Maditinos et al., 2010; Li et al., 2020). The majority of quantitative approaches used Likert Scale questionnaires to collect data (Abdullah & Sofian, 2012; Bontis, 1998; Huang & Hsueh, 2007; Zhang, Lettice & Pawar, 2019). These researchers have used both primary and secondary data, and the sample sizes varied from 100 to 750 and employed mailed questionnaires and field surveys (Chu et al., 2006; Nazari, 2010; Li, et al., 2020). Research that has adopted a qualitative approach can also be seen (Bontis, 1998).

Considering the research objectives and the existing literature, no theoretical, empirical, or methodological study of small business activity and performance integrates the concept of intellectual capital and uncertainty. Also, no researcher has conducted studies on theoretically integrating the concepts of intellectual capital and business performance using uncertainty as a mediator.

## CONCEPTUAL RESEARCH MODEL & HYPOTHESES

The main goal of SEs is to achieve a satisfactory level of performance in order to survive in the uncertain market environment generated by the pandemic situation and severe economic crisis. Three theoretical aspects have been introduced and combined as IC, business uncertainty and business performance to overcome the situation. The independent variable is IC, and the dependent variables are business uncertainty and business performance of SEs. IC is

composed of three forms; human capital, relational capital and structural capital. According to the literature, uncertainty comprises two dimensions: behavioural and environmental. Business performance considers profit, sales growth, profit growth, market share, overall response to competition, the success rate in new product launch and overall business performance. The study constructed three hypotheses while connecting these three variables shown in Figure 01.

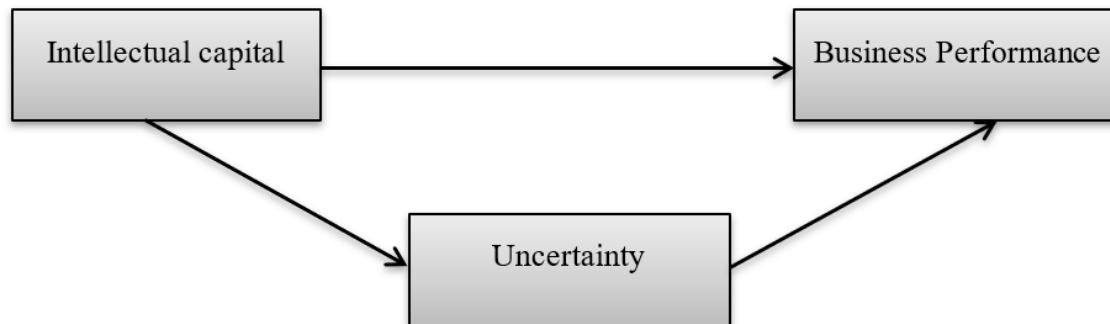


Figure 01: Conceptual Framework

**Intellectual Capital & Business Performance:** Achieving competitive advantage is a fundamental factor in the profitability of a business organisation, and its basis is intellectual capital (Grant, 1991). According to Nazari (2010), intellectual capital contributes to the improvement of an organisation by gaining advantages under competitive conditions. Also, it is a key factor in efficiency and effectiveness. The components of intellectual capital, human capital, structural capital and relational capital are the basis for the sustainability of business advantages and thereby enhance performance in the long run (Abdullah & Sofian 2012). Previously, business performance was analysed from a strictly financial perspective. Still, in the later period, non-financial performance was focused on using other factors, under which the overall performance growth is brought about by facing the competition based on innovation and leadership qualities. For that, the components of intellectual capital have a positive effect (Bourne, 2003).

Human capital is taken as the main component of IC, and it includes the knowledge, skills, experience and capabilities of people in the business organisation (Nazari 2010). The peculiarity of this capital is that it cannot be separated from the owner and cannot be controlled entirely from the outside. Human capital efficiency has a significant positive relationship with the market-to-book (M/B) value ratio, and greater human capital efficiency facilitates better financial performance (Mosavi et al., 2012). Relational capital refers to the ability of the business entity to interact with external stakeholders (such as customers, suppliers, business competitors, trade and industry associations, and credit providers) as well as the knowledge embedded in the people of the organisation to maintain those relationships in the long run (Bontis, 1998). Khan and Terziovski (2014) prove the positive and significant relationship between relational capital and SME performance under the study of the effect of intellectual capital on performance in Australian SMEs. Structural capital is identified as the infrastructure within a business organisation to improve human resources and add value. The organisation's information systems and databases, business culture, procedures, patents, and trademarks can be applied to this. Abdullah and Sofian

(2012) found that the structural capital of intellectual capital contains the highest positive relationship with business performance. Therefore, considering these findings, the study hypothesised that;

**H<sub>1</sub>: IC has a significant positive impact on the business performance of SEs in Sri Lanka.**

**Intellectual Capital and Business Uncertainty:** Business uncertainty is the difference between the amount of information available for a business organisation to perform its business functions and the amount of information it currently gains for that purpose (Galbraith 1977). Enterprises' self-reliance is enhanced by intellectual capital elements such as the right skills and knowledge, a respected brand and excellent corporate reputation, strong relationships with key suppliers, possession of customer and market data, or a culture of innovation. These qualities are directly involved in decision-making under uncertainty and thus can reduce uncertainty. Although research examining the relationship between IC and uncertainty is very limited, according to the findings of Herremans et al. (2011), if managers build up the organisational control systems appropriately and enhance the IC capabilities of the organisation, consequently it will lead to minimising the faced uncertainty in business activities. Therefore, the study predicts that;

**H<sub>2</sub>: IC has a significant negative impact on the business uncertainty of SEs in Sri Lanka.**

**Business uncertainty and Business Performance:** According to transaction cost theory, uncertainty is divided into two parts environmental uncertainty and behavioural uncertainty. These uncertainties affect SMEs because they cannot get proper information flow and knowledge about the business environment (Ahmad & Seet, 2009). If an organisation faces behavioural and environmental uncertainty, a more reliable mechanism should be implemented to prevent opportunism (Ashill & Jobber, 2010; Herremans et al., 2011). Market collapse and price control policies due to the pandemic and economic collapse, inadequate provision of government services, unnecessary regulations on taxation and finance, and political interference by subsidiaries frighten small and medium

enterprises in developing countries and thus entrench uncertainty in them. Some researchers, such as Ishengoma and Kappel (2011) noted that the poor performance of SMEs is driven by uncertainty. According to Rindfleisch (2019), behavioural uncertainties increase transaction cost, because behavioural uncertainty creates other costs for monitoring exchange partners and enforcing contracts with the partner. In the face of such a situation, the increase in cost will strongly impact reducing the performance of small industries. Sopha, Jie, and Himadhani (2020) also stated that external uncertainties significantly negatively affect SME business performance. Therefore, to test this theoretical relationship, the study hypothesised the following:

**H<sub>3</sub>: Business uncertainty has a significant negative impact on the business performance of SEs in Sri Lanka.**

**Intellectual Capital, Business Uncertainty and Business Performance:** IC increases the business performance of SEs and creates a positive relationship with the business performance (Khan & Terziovski, 2014; Mosavi et al., 2012). Conversely, uncertainty negatively affects business performance (Sopha et al., 2020). As mentioned above, IC reduces uncertainty (Herremans et al., 2011). Even though the previous empirical studies conducted by combining IC, uncertainty and business performance do not appear, it is reasonable to consider that the negatively influencing factor of uncertainty may reduce the positive effect on business performance under IC. Conversely, the IC can reduce uncertainty's effect on business performance. Consequently, the study has considered uncertainty mediating the relationship between IC and the business performance of SEs. Therefore, the study predicts that;

**H<sub>4</sub>: Business uncertainty has a significant mediating effect on the relationship between intellectual capital and business performance.**

## METHODOLOGY

Three theoretical aspects have been combined to address the research problem; hence, the deductive approach is employed. Developed hypotheses were addressed according to the quantitative research design. Data collection was done using a survey method employing a questionnaire. The population has been identified as all the SEs in the Galle District of Sri Lanka. According to the Small Enterprise Development Division, 8483 registered SEs. The study used the lottery method and randomly selected SEs in Karadeniya Divisional Secretariats from 19 Divisional Secretariats of Galle District as the sample frame. Multistage sampling has been employed to select the study sample. According to Krejcie and Morgan (1970), sample size determination table was utilised to determine the 150-sample size, and it was distributed in each village of *Karadeniya DS* according to the percentage share of SEs registered in each village.

A two-step procedure has been utilised to prepare the seven-point Likert scale questionnaire, which included (1. Strongly disagree; 2. Disagree; 3. Somewhat disagree; 4. Neither agree nor disagree; 5. Somewhat agree; 6. Agree; 7. Strongly agree) scales. After carefully reviewing the past literature, confirmatory factors for all the constructs have been utilised for the questionnaire items. A pilot survey was conducted before organising the original questionnaire to examine whether the obtained data was appropriate for achieving research objectives as well as clear and understandable for the respondents to give their responses which is the procedure recommended for increasing the

validity and reliability of gathered data. The owner or manager of each SE participated in the face-to-face interview, and a trained research assistant filled out the questionnaire according to the responses of the interview.

Established hypotheses were tested using the Partial Least Square Structural Equation Modelling (PLS-SEM), a statistical analytical technique for evaluating the relationships between multiple independent and dependent variables and evaluating more than one construct simultaneously. Data were analysed employing a two-step procedure, including testing the measurement model, followed by testing hypotheses with the help of the structural model. The measurement model is assessed by examining reliability (indicator reliability and internal consistency reliability) and validity (convergent validity and discriminate validity) tests. The study developed latent variables to measure all the variables (IC, uncertainty, and SE business performance), following a hierarchical model using PLS path modelling. The efficiency of the structural model was tested by multicollinearity issues,  $R^2$  and predictive relevance ( $Q^2$ ).

For the current study, three IC dimensions were recognized namely human capital, structural capital and relational capital. Human capital is divided into skills, attitudes and intellectual agility (Jurczak, 2008). It was measured using the dimensions of education level, practical knowledge, technical expertise, creativity and experience (Subramaniam & Youndt, 2005). Structural capital was divided into two constructs: organisational and technical capital. Organisational capital was measured using structure, routines, process and culture; also technical capital was itemised as innovation capabilities, research and development, and implementation of technologies (Bonits, 1998; Subramaniam & Youndt, 2005; Yıldız, Meydan & Güner, 2014). Relational capital consists of both business and social relational capital (Raza, 2012). These main aspects of relational capital were divided into business relations and social relations, and business relations were categorised as customer relationships, supplier relationships, Internal networks, and strategic alliances. Conversely, social relations were measured as community and government relations (Bonits, 2000; Raza, 2012). Mediating variable uncertainty was formed with two constructs: environmental and behavioural uncertainty. Demand, supply and competitive business uncertainties have been utilised to measure environmental uncertainty (Boccia & Alfred, 2009; Buvik & Gronhaug, 2000). behavioural uncertainty was determined by difficulty in assessing the partners' performance and opportunistic behaviour (Chen & Chen, 2003; Ranatunga et al., 2020). The dependent variable of business performance was measured based on past research studies concerning the SEs business sector. Seven items were used to measure the business performance: profit, sales growth, profit growth, market share, overall response to competition, the success rate in new product launch and overall business performance (Bonits, 1998; Ranatunga et al., 2020).

## RESULT & DISCUSSIONS

This study used multivariate techniques to analyse the data, and as Hair et al. (2012) pointed out, it must be assumed that some degree of measurement error is involved. According to him, the validity and reliability of such measures should be assessed. The validity of a measure refers to the degree to which the measure accurately

represents what it is intended to be used for (Hair et al., 2012; Robson, 2002; Thatcher, 2010). Based on the PLS-SEM measurement of the outer model, first, the study evaluated nine first-order endogenous latent variables. Table 01 shows standardised factor loadings which were above the minimum threshold criterion of 0.7, confirming the indicator

reliability of first-order reflective constructs and factor loading also statistically significant at 0.05 level. Further, it shows that Cronbach's  $\alpha$  was higher than the required value of 0.7 and the composite reliability was higher than the recommended 0.7 value, as well as depicts and confirms the convergent validity of the first-order constructs.

**Table 01: Analysis of First-Order Constructs**

Construct	Indicator Reliability		Internal Consistency Reliability		Convergent Validity
	Loadings	t-statistics	CR	$\alpha$	AVE
<b>1 Human Capital</b>			<b>0.931</b>	<b>0.921</b>	<b>0.632</b>
Skills in successfully solving a business problem	0.818	32.886			
Having a high level of practical knowledge	0.765	21.415			
Doing business with maximum dedication and motivation	0.760	19.562			
Maintaining good leadership qualities	0.858	42.707			
Doing business using new creative ideas	0.808	31.195			
Introduce new products or value-added products	0.790	29.720			
The ability to adapt to new technology	0.790	20.995			
<b>2 Structural Capital</b>			<b>0.912</b>	<b>0.923</b>	<b>0.756</b>
Maintains business records systematically for accurate price decisions	0.770	20.449			
The efficient business process to deal with the impact of competing business	0.822	23.616			
Good organisational culture	0.856	37.799			
High potential to launch new products	0.856	35.631			
Business or product development activities	0.876	37.778			
Use of new technology	0.825	25.604			
<b>3 Relational Capital</b>			<b>0.926</b>	<b>0.924</b>	<b>0.782</b>
Customer satisfaction is high	0.894	67.782			
High degree of customer loyalty	0.866	41.303			
Mutual trust between suppliers	0.857	33.798			
Deals with suppliers in high mutual respect	0.811	24.656			
Good corporate image	0.809	27.994			
<b>4 Environmental Uncertainty</b>			<b>0.938</b>	<b>0.931</b>	<b>0.762</b>
Customer demand for an existing product	0.863	35.521			
Customer demand for new product	0.883	34.634			
The market condition of suppliers	0.856	35.535			
Competitors price actions	0.909	64.722			
The entry of new competitors	0.814	24.726			
<b>5 Behavioural Uncertainty</b>			<b>0.940</b>	<b>0.951</b>	<b>0.821</b>
Buyers are not trusted	0.876	27.059			
Financiers are not trusted	0.875	34.512			
Byers opportunistic behavior	0.882	37.369			
Suppliers opportunistic behavior	0.894	46.738			
<b>6 Business Performance- Growth</b>			<b>0.915</b>	<b>0.682</b>	<b>0.884</b>
Opening of new factory	0.825	21.153			
Increment in the number of employees	0.828	25.212			
Establishing new buildings	0.795	16.089			
Establishing new Machines	0.858	32.647			
Growth of investments	0.823	24.089			
<b>7 Business Performance- Profit</b>			<b>0.970</b>	<b>0.869</b>	<b>0.962</b>
Growth of monthly sales volume	0.968	126.045			
Growth of monthly income	0.926	59.015			
Growth of profit	0.946	73.546			
Decrement of sold product returning volume	0.909	40.559			
Increment of stock movement	0.910	66.941			
<b>8 Business Performance -Customer Satisfaction</b>			<b>0.971</b>	<b>0.828</b>	<b>0.965</b>
Customer feedback on production	0.937	57.091			
Changes in production on customer feedback	0.920	41.554			
Customer request on new production	0.905	34.066			

	Growth of customers in each marketing area	0.888	41.952			
	Complaints on the production(s)	0.894	26.929			
	Frequency of returning items	0.886	30.479			
	Growth of popularity of the tradename	0.939	49.029			
<b>9</b>	<b>Business Performance- Employee Satisfaction</b>					
	Growth of Expenses on training programs	0.759	26.589			
	Growth of providing gifts and bonuses for the employee	0.775	18.233			
	Decrement of resignation	0.700	9.635			
	Increment in employee salary	0.755	10.859			
	Increment in employee welfare	0.750	10.559			

(n=150), Source: Survey data, 2022.

According to Fornell and Larcker (1981), the square root of AVE in each latent variable can be used to establish discriminant validity. These values should be larger than other correlation values among the latent variables. As mentioned in Table 02, all the inter-construct correlation values are lower than the square root of the AVE and satisfy the discriminant validity criterion of first-order constructs.

**Table 02: Discriminant Validity of First-Order Constructs**

	1	2	3	4	5	6	7	8	9
<b>1. Behe Uncertainty</b>	<b>0.902</b>								
<b>2. Envi Uncertainty</b>	0.636	<b>0.901</b>							
<b>3. Human Capital</b>	-0.521	-0.732	<b>0.810</b>						
<b>4. Relational Capital</b>	-0.457	-0.741	0.756	<b>0.821</b>					
<b>5. Structural Capital</b>	-0.356	-0.628	0.608	0.732	<b>0.837</b>				
<b>6. BP Growth</b>	0.610	0.821	0.782	0.710	0.804	<b>0.826</b>			
<b>7. BP Profit</b>	0.641	0.641	0.615	0.641	0.615	0.813	<b>0.932</b>		
<b>8. BP Customers</b>	-0.592	-0.532	-0.628	-0.592	-0.628	0.810	0.904	<b>0.910</b>	
<b>9. BP ES</b>	-0.626	-0.663	-0.647	-0.626	-0.587	0.641	0.615	0.621	<b>0.748</b>

Notes: 1. Diagonal values in bold are the square roots of the AVE values. The diagonal elements must be greater than the off-diagonal elements below in the corresponding rows and columns to establish discriminant validity.

(n=150), Source: Survey data, 2022.

According to the latent variable scores, three second-order constructs were formulated: behavioural uncertainty, environmental uncertainty, human capital, relational capital, structural capital, growth, profit, customer satisfaction, and employee satisfaction. According to Table 03, all the factor loadings are higher than 0.7 and their t- statistics are significant at 0.05 level. The internal consistency reliability of the constructs was also obtained since Cronbach's  $\alpha$ , and composite reliability evaluations are also greater than the recommended value of 0.7. These second-order constructs are permitted by the AVE values greater than 0.5 for convergent validity. Table 04 shows the discriminant validity of the second-order constructs, and the square roots of all the AVE values are higher than the inter-construct correlation values. It satisfies the criterion of the discriminant validity of the second-order constructs.

**Table 03: Analysis of Second-Order Constructs**

Construct	Loading	t- Statistics	CR	AVE	$\alpha^*$
<b>1 Business Performance</b>					
Profit	0.877	31.746			
Growth	0.920	67.085			
Employee satisfaction	0.747	74.611			
Customer satisfaction	0.923	14.503			
<b>2 Intellectual Capital</b>					
HC	0.981	162.805			
RC	0.983	160.741			
SC					
<b>3 Business Uncertainty</b>					
Environmental Uncertainty	0.731	15.923			
Behavioural Uncertainty	0.846	28.616			

(n=150), Source: Survey data, 2022.

The square root of AVE in each latent variable business performance, uncertainty, and IC can be used to establish discriminant validity. These values should be larger than other correlation values among the latent variables. As mentioned

in Table 04, all the inter-construct correlation values are lower than the square root of the AVE and satisfy the discriminant validity criterion of second-order constructs.

**Table 04: Discriminant Validity of Second-Order Constructs**

	Business Performance	Uncertainty	IC
Business Performance	0.837		
Uncertainty	0.750	0.847	
IC	-0.653	-0.721	0.982

(n=150), Source: Survey data, 2022.

The structural model has been assessed for collinearity issues according to the given guidance by Hair et al. (2014). Initially, collinearity issues have been examined, and Variance Inflation Factor (VIF) values should be below 5. VIF values obtained were 2.844 and 1.880, and tolerance levels are also higher than the threshold value of 0.2. hence the analysis does not depict any collinearity issues. Therefore, multicollinearity issues between the independent and dependent constructs cannot be seen in the structural model.

**Table 05: Assessment of Collinearity Issues of the Structural Model**

Model	Unstandardized Coefficient		Standardized Coefficient	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	1.738E-16	0.37		.000	1.000		
IC	.584	0.51	.584	11.499	.000	.342	2.844
Uncertainty	-.386	0.51	.584	-7.600	.000	.382	1.880

a. Dependent Variable: BP

(n=150), Source: Survey data, 2022.

The established three hypotheses between the relationships of variables intellectual capital, business uncertainty, and SME business performance tests using path coefficients  $\beta$  value and t-statistics provided by the PLS bootstrap process. Table 06 shows the evaluation of three hypotheses and obtained results.

**Table 06: Path Coefficients and Significance Levels (T-Values)**

Hypothesis	Relationship	$\beta$	t-statistics	Result
H <sub>1</sub>	IC -> BP	0.583	9.303	Accepted
H <sub>2</sub>	IC -> Uncertainty	-0.696	16.076	Accepted
H <sub>3</sub>	Uncertainty -> BP	-0.381	6.102	Accepted

(n=150), Source: Survey data, 2022.

When considering the result related to that hypothesis, H<sub>1</sub> is illustrated the relationship between IC and SE business performance. The path coefficient is 0.583 and is indicated the positive relationship between IC and business performance. When developing the IC by one amount would lead to an increment in the business performance of SEs by 0.583 amount. T-statistic value is 9.303 and confirms the significance of the relationship between IC and SE business performance. As a result of that, the H<sub>1</sub> hypothesis is accepted. The relationship between the two variables IC and uncertainty was hypothesised in the H<sub>2</sub> hypothesis. It was accepted due to the 16.076 significant t-statistic value, and the path coefficient was -0.696. It explains the negative relationship between IC and uncertainty by indicating that the development of IC by one amount will support overcoming the uncertainty of SEs by 0.696 amount. The H<sub>3</sub> hypothesis explained the relationship between uncertainty and the business performance of SEs. The path coefficient is -0.381 and illustrates the negative relationship between uncertainty and SE business performance. Increasing the uncertainty by one amount would reduce the business performance of SEs by 0.381. The t-statistic value is 6.102, confirming the significance of the relationship in this model

and the H<sub>3</sub> hypothesis is accepted. Finally, considering the result of Table 06, all three hypotheses which were established to answer the research questions were accepted.

According to Hair et al. (2014), the next step is to study the correlation between independent and dependent variables. According to the given criteria, the model having R<sup>2</sup> as 0.67, 0.33, and 0.19 are considered substantial, moderate, and weak, respectively. The relationship between IC and SE business performance contains 0.793 (substantial), and the relationship between IC and uncertainty of SEs contains 0.485 (moderate) correlations. The last two steps are to examine the effect size and the predictive relevance of the uncertainty as well as IC on all dimensions. According to Cohen (1988) and Chin (1998). According to the result, IC and uncertainty obtained 0.185 and 0.062 f<sup>2</sup> values, respectively, which indicates medium and small effect sizes. Consequently, IC and uncertainty obtained 0.492 and 0.392 Q<sup>2</sup> values proving the large effect sizes, and both statistics depict the predictive relevance and explanatory power of the variables.

**Table 07: Path coefficient and Significance among the Mediate Relationship**

Hypothesis	Relationship	$\beta$	t-statistics	Result
H <sub>4</sub>	IC -> Unc -> BP	0.265	5.973	Accepted

(n=150), Source: Survey data, 2022.

The mediate effect was identified by getting the bootstrapping result under the specific indirect effect in the Smart PLS version 3. There should be a significant t-statistic value relevance with the path coefficient value and the relationship between the three variables for establishing the significant mediating effect on the relationship between the two variables. There is a complementary mediating effect of uncertainty in the current study. Therefore, the H<sub>4</sub> hypothesis is accepted and reveals that there is a significant mediating effect of uncertainty on the relationship between intellectual capital and business performance.

## DISCUSSION

The research study investigated the research problem: whether intellectual capital could influence the uncertainty and business performance of SEs. Therefore, the main objective of this study was to explore the effect of intellectual capital and uncertainty on business performance related to the SEs. The research study mainly argued that IC enhances business performance because intellectual capital support overcoming uncertainty and thereby increases the business performance of SEs. According to Khan and Terziovski (2014) and Mosavi et al. (2012), IC enhances the business performance of SEs, and this study proved their findings because developing IC by one unit would lead to an increment in the business performance of SEs by 0.583 amount ( $\beta = 0.583$  and t-value = 9.303). Most research studies are concerned with enhancing an SE's financial assets and capabilities to increase its performance. This study presented and proved that developing the intangible assets, not in the organisation's balance sheet, makes more benefits for enhancing the business performance of the SEs. It is reasonable to understand that there are several reasons for this regard. If these organisations enhance their human capital, especially by absorbing knowledge from internet-based sources and using it for innovative and value-added products and services, it will enhance their performance. Consequently, they can organise their business models more profitably by applying different value additions to their products and services, enabling them to reach higher customer and supplier satisfaction levels, leading to higher business performance.

The findings revealed that IC significantly reduces the uncertainty of doing business ( $\beta = -0.696$  and t-value = 16.076). IC of the SEs enhances the decision-making capabilities as well as proper control among the suppliers and buyers (Herremans et al., 2011). IC reduces environmental uncertainty by conveniently handling customer and supplier demands as well as issues. Conversely, the opportunistic behaviour of buyers and suppliers also reduces by the IC with the help of technology adoptions, and IC develops mutual trust between suppliers and buyers. According to the third relationship, uncertainty reduces 38.1% of the business performance of SEs ( $\beta = -0.381$  and t-value = 6.102). Similar findings were obtained in a recent research study conducted by Ranatunga et al. (2020). They found that uncertainty reduced 37.1% of the

business uncertainty of SEs in Sri Lanka ( $\beta = -0.371$  and t-value = 4.942). This study proved their findings. As Rindfleisch (2019) mentioned, behavioural uncertainties increase transaction cost because behavioural uncertainty creates other costs for monitoring exchange partners and enforcing contracts with the partner. Although SEs use technology to enhance their IC and hence, the business performance still, some traditional transaction procedures were not changed; therefore, they face additional costs such as transaction cost. The result of the final accepted hypothesis also proved this phenomenon. It revealed that uncertainty has a significant complementary mediating effect on the relationship between IC and the business performance of SEs. Though the IC enhance the business performance of SEs, uncertainty still affects reduce it.

## CONCLUSIONS

This study exposed a new approach that has not been empirically tested in Sri Lanka that can save SEs in a developing country when the economy of the country suffers a severe downturn. It conceptually combined three theoretical aspects to achieve the objective and established four hypothetical relationships, which assumed positive relations between IC and business performance, a negative relationship between IC and business uncertainty, and a negative relationship between uncertainty and business performance. Consequently, the study hypothesised a mediating effect of uncertainty on the relationship between IC and business performance. According to the result, all these established hypotheses were accepted. It examined and provided a better understanding of how using IC in the SEs enables them to perform well. Generally, IC can be used as an enabler in a business to make it more successful. It was pointed out that all three dimensions of human capital, structural capital, and relational capital positively influence business performance while negatively affecting business uncertainty. Meanwhile, uncertainty negatively affects business performance as well as the complementary mediating effect of the relationship between IC and the business performance of SEs. Therefore, this study indicated that the use of IC is very appropriate to put an end to the problems that arise in the development of SEs. It has been demonstrated in practice that it directly enhances small business performance, while on the other hand, it works to reduce business uncertainty, which inversely affects that performance.

According to this study, SEs require to innovate their business strategies to enhance the intellectual capital to overcome uncertainty and achieve business performance to the SEs in Sri Lanka. Human capital has a vital contribution to overcoming uncertainty. It can establish using training programs, attitude development programs, and motivational programs to acquire sufficient knowledge and skills relevant to the particular business environment to face the current unexpected business environment. Therefore, relational capital development can be done by establishing relationships with all stakeholders, critically acquiring both

skills in maintaining customer and supplier relationships and maintaining financial service providers in a trusted manner. This study has selected and examined the 150 SEs to understand how they perform successfully using IC and facing circumstances of uncertainty. Though the research study has addressed the gaps in previous literature, it still contained several limitations, which provide opportunities to continue future studies. Firstly, this research was conducted using SEs in one Divisional Secretariat in the Galle district, which is not a broader representation of the whole district or the country. Therefore, a considerable amount of the population of SEs should be involved in future research, which can expect highly generalisable results. This research was conducted in the Asian region, and researchers are encouraged to conduct similar studies in different regions with different educational, social, and cultural environments since IC can vary widely due to such contextual differences.

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# The Environmental Impacts of Unauthorized Activities. A Case of the Maragala Mountain Range Environment protection area in Sri Lanka

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## Abstract

*Unauthorized activities are generally known as illegal activities. Unauthorized activities mostly take place in mountainous ranges. This system originally belonged to the ago-farming system and falls within the larger scope of sustainable agriculture. In recent decades, however, considerable literature has shown that chena cultivation and the people who use it neglect their environmental responsibilities. Therefore, the purpose of this study is to systematically review and identify the environmental impact of unauthorized activities in the mountain range. The study was conducted in the Maragala mountain range EPA using 120 families focusing on 2 Gramaniladari divisions. Descriptive statistics were used for quantitative data analysis and content analysis was used for qualitative data analysis. With Results revealed that currently, people cut down 76% of trees on the premises ignoring the principles of chena cultivation and trade. Mechanical saws have been used for this purpose. 62% of the land is encroached land and also, and they doing agricultural activities without permission. More than 80% of the sample families have removed all trees in their fields during the last five years. Forest fires rapidly increased last five years as a result of chena cultivation that destroyed 500 acres of forest area. The main reason for all these activities is the settlements located in the upper part of the Maragala mountain range EPA. The study revealed that the patterns of agricultural land use in traditional villages have changed significantly over the past few decades.*

**Keywords:** Environment protection area, Encroachment, Forest fire, Illegal logging, Minimize

## INTRODUCTION

Mountain range is one of the high-ecological environmental areas. It has a rich biodiversity. The mountain range is preserved as a forest and starting point of the many rivers. According to the UN Environment Program, 24% of the earth's land mass is mountainous and its environment includes elevation of at least 980ft - 8200ft (United Nations Environment Programme, 2020). At present, these mountain ranges are threatened with extinction. Therefore, mainly affects unauthorized activities. unauthorized activities are known as illegal, unlawful, unjustified, and environmental crimes. Unauthorized activity is any activity that breaks the equilibrium of the environment or destroys the environment (European Union Agency for Law Enforcement, 2015). Environmental crimes encompass a broad list of illegal, unregulated, and unreported fishing and illegal logging and trade in timber. On one side, environmental crimes are increasingly affecting the quality of air, water, and soil, threatening the survival of species and causing uncontrollable disasters (Environmental crimes, 2019).

The Maragala Mountain Range supports a unique combination of intermediate zone forests. It was declared an Environmental Protection Area (EPA) on 1<sup>st</sup> August 2008, by the Central Environmental Authority (DevakaWeerakoon, 2014). Scientific studies on the Maragala Mountain Range and its biodiversity are scarce. Observations that have been made in the past indicate that the area supports a rich assemblage of floral and faunal species akin to that of a wet zone forest. The Maragala Mountain has a high-quality water catchment area. It is the main water resource in the Monaragala town area, and it has a rich ecosystem (Alston, 1929).

According to the above matter, the Maragala mountain range is a sensitive area and also a very important area for Monaragala's people because this mountain range is the one and only catchment area that is the water supply for these people. But nowadays this mountain range affects many Environment impacts. This research will expect to identify the environmental impact of the Maragala mountain area due to the unauthorized activities, factor for

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unauthorized activities, give solutions, and arise management plan.

Maragala mountain range is an environmentally sensitive and important area. But unfortunately, the Maragala mountain range is at risk due to unauthorized activities. Such as unauthorized logging, forest fire, unauthorized agricultural activities, unauthorized lands, and encroachment, disposal of adversely solid waste, disposal of adverse wastewater to water sources, propagation of invasive plants and animals, and also affecting many environmental impacts (DevakaWeerakoon, 2014). This research expects to identify the environmental impacts of the Maragala mountain area due to the unauthorized activities, identify dominant unauthorized activities in the Maragala mountain range, and preparation of plans to minimize the environmental impacts of unauthorized activities in the Maragala mountain range.

## REVIEW OF LITERATURE

The environment is a very important part of the world. According to (Hemlata Pant, 2020) "The word environment refers to all ecological units which are naturally present on earth in the form of land, water, air, soil, forest, sunlight, minerals, living organisms, etc. This earth is full of natural surroundings, some are biotic, and some are non-biotic. Currently, the situation of the environment is very poor that could never be imagined by our ancestors in previous." because of that humans are doing many harmful activities to environment that create environmental impacts. Sustainable Mass Transit mention about Environmental impacts are changes in the natural or built environment, resulting directly from an activity, that can have adverse effects on the air, land, water, fish, and wildlife or the inhabitants of the ecosystem. Pollution, contamination, or destruction that occurs because of an action, that can have short-term or long-term ramifications is considered an environmental impact (Abdallah, 2017). And also (Ryan, 2016) Hazard Mitigation in Emergency Management mention given idea about environmental impacts such as An environmental impact statement (EIS) is a critical examination of any potential impacts from the proposed project and proposed alternatives. The EIS process starts with a Notice of Intent to Prepare an EIS and concludes with a Record of Decision (ROD), a document that explains the reasons for selecting a certain action. The EIS is available to the public for information and comment.

United Nation Integrational Crime & justice research Institute mention about Environmental crimes encompass a broad list of illicit activities, including illegal trade in wildlife; smuggling of ozone-depleting substances (ODS); illicit trade of hazardous waste; illegal, unregulated, and unreported fishing; and illegal logging and trade in timber. On one side, environmental crimes are increasingly affecting the quality of air, water and soil, threatening the survival of species and causing uncontrollable disasters. Despite these issues, environmental crimes often fail to prompt the appropriate governmental response. Often perceived as 'victimless' and incidental crimes, environmental crimes frequently rank low on the law enforcement priority list, and are commonly punished with administrative sanctions, themselves often unclear and low (Environmental crimes, 2019).

Environmental Impact Assessment (EIA) as a tool used to identify the environmental, social and economic impacts of a project prior to decision-making. It aims to predict environmental impacts at an early stage in project planning

and design, find ways and means to reduce adverse impacts, shape projects to suit the local environment, and present the predictions and options to decision-makers. By using EIA both environmental and economic benefits can be achieved, such as reduced cost and time of project implementation and design, avoided treatment/clean-up costs, and impacts of laws and regulations (Convention on biological diversity, 2010).

Mountain ranges are currently under threat. Therefore, affected unauthorized activities, in a cause impact on society, economics, culture, and the environment. And also highly affected by the environment. The Maragala Mountain Range was declared as an Environmental Protection Area (EPA) on 1 August 2008, under the provisions of Sections 24C and 24D of the National Environmental Act No. 47 of 1980 as amended, with the Central Environmental Authority (CEA) having the jurisdiction to manage and exercise power over this area. The area is an isolated mountain range scientific studies on the Maragala Mountain Range and its biodiversity are scarce. However, observations that have been made in the past indicate that the area supports a rich assemblage of floral species akin to that of a wet zone forest, as well as many faunal species, including several endemic fish, amphibian, reptile, bird and mammal species. The mean annual temperature of the Maragala area differs with changing altitude. The mean annual temperature of the lower part of the Maragala Mountain Range EPA ranges between 25° C and 27.5° C, while the mean annual temperature at higher elevations ranges between 20° C and 22.5° C. Given these conditions, the high-altitude area of the Maragala Mountain Range is considered by some as belonging to the mid-country wet zone (Panabokke, 1996).

Devaka Weerakoon (2014) and his team in collaboration with the Central Environment Authority (CEA) have carried out this study. It "They examined biodiversity of the Maragala Mountain Range EPA, factors for damage the Maragala mountain area and provide recommendations for the conservation and management of the site. Primary and secondary data were used for this study. The study consists of several components. Belt transects of the dimensions 5 x 50 m were used to sample the flora and fauna of the site for Rapid biodiversity assessment. Details of the physical characteristics and threat data were obtained, where possible, from available data, as well as through field observations and analyses of satellite images and available land use maps. GIS analysing method and statistical analysing method. Data interpreted by map, table Graph, and Image. The final result and conclusion was illegal logging and Chena cultivation affected to damage environment there for developed the management plan for Maragala Mountain Range Environmental Protection Area (DevakaWeerakoon, 2014).

Nordic central for spatial development organization implemented study about "Mountain Areas in Europe": Analysis of mountain areas in EU member states, acceding and other European countries in 2004. this organization studied about analysed the measures and policies implemented by national governments and the EU with regard to mountain areas; to evaluate the impacts of these measures and policies; and to develop proposals for adjustments to make them better suited to the situation of mountain areas, their needs, and opportunities. They used primary and secondary data collection methods. Quantitative data compiled by the national experts from national sources in the respective country, wherever possible collected at NUTS 5 national reports compiled by

the national experts based on interviews and review of documents, complemented by responses from European organizations concerned with mountain issues; data recorded within geographic information systems (GIS). Finally they were recognizing the great diversity that characterizes these areas (gleersen, 2004).

PRA is a systematic, semi-structured activity conducted on-site, by a multidisciplinary team. It is basically a bottom-to-up approach to learning rural life forms with and by rural people. Due to the active participation of community members as well as scientists, PRA has become a useful method to focus attention on people, their livelihood, and their relationship with social and economic factors. It is a good technique to help the community members make an appraisal of their livelihoods and issues related to them. Diverse information is collected during PRA using a number of techniques (A Roy\*, 2017)

PRA is “a family of approaches and methods to enable rural people to share, enhance, and analyze their knowledge of life and conditions, to plan and to act” (Chambers, 1994). It has been called “an approach and methods for learning about rural life and conditions from, with, and by rural people.” The PRA approach is a set of participatory and largely visual techniques for assessing group and community resources identifying and prioritizing problems and appraising strategies for solving problems. It takes into account the knowledge and opinions of rural people in the planning and management of development projects and programs and transfers the role of planning and decision-making, traditionally taken by stakeholders and development agencies, to the target group or community itself. PRA is to encourage local communities to carry out their own analysis, come to their own conclusions and design their own development programs and it is important to reduce the problems of mismatch between what is being provided by the stakeholder and what is needed by the community. (Waniganeththi, n.d.)

Qualitative Data Collection using PRA. The PRA tool which was used in the community was Problem tree Analysis. Problem tree analysis helps stakeholders to establish a realistic overview and awareness of the problem by identifying the fundamental causes and their most important effects. The main output of the exercise is a tree-shaped diagram in which the trunk represents the focal problem, the roots represent its causes, and the branches its effects. Such a problem tree diagram creates a logical hierarchy of causes and effects and visualizes the links between them. It creates a summary picture of the existing negative situation. Qualitative Research - PRA Tool Application and Observations in the Field Two research teams conducted Problem tree analysis in the community. The team was able to use the tool and found four major problems in the villages. The problem tree helped the team as well as the community members to know the core cause of the problems. In the following depictions of the outcome of the application of the tool and eliciting of data, each focal problem with the primary cause and undesired effects have been highlighted. Also, an objective tree for each problem with the desired change, proper means, and ends has been highlighted as a way forward. (Casimirraj, 2020)

The chi-square test is a nonparametric test used for two specific purposes To test the hypothesis of no association between two or more groups, populations, or criteria and to test how likely the observed distribution of data fits with the

distribution that is expected. It is used to analyze categorical data. It is not meant to analyze parametric or continuous data. It may be clearly understood that the Chi-square test only tells us the probability of independence of a distribution of data or in simple terms it will only test whether two variables are associated with each other or not. It will not tell us how closely they are associated (Rakesh Rana, 2020).

## METHODOLOGY

Maragala Mountain Range is located in the Monaragala district. Maragala mountain range is about 2500ft in height and about 10km in length. The coordinates are 60 52'18.00 N-810 23'04.00E at the top of the Maragala Mountain Range. Usually, Monaragala has dry climatic conditions, but this area has cold climatic conditions. Annual rainfall is 25000mm and temperature is 200c 250c. (foreca, 2020) This area is a high biodiversity area. It has an endemic flora and fauna species. In the past time, this area had tea estates as a result of many Tamil people living in this area. Monaragala GND and Aliya Watta GND use for this research as the sample study area.

Primary data used to conduct this research. Questionnaire surveys, PRA surveys, discussion, and field observation were used as primary data collection methods. In this study, two types of sampling techniques were used. These were purposive and random sampling methods. The purposive sampling method was used for the selection of study areas which are Aliyawatta and Monaragala GNs and the discussion group. The random sampling method was used for the questionnaire survey and mentioned of selection 120 families. The discussion was conducted with government officers. Formal observations were done and covered the activities of sand mining, chena cultivation, illegal logging, solid waste disposal, polluted waterways, invasive flora and fauna, and unauthorized settlements. PRA survey was carried out with a discussion group and residents of GNs. Secondary data were used as reports, articles, books (Literature review), digital data, 1:50000 maps, satellite images (2009, 2015, and 2018), and images for identifying some unauthorized activities.

The quantitative data were analyzed by using the chi-square test available in the IMB SPSS-20. (Formula as  $\chi^2 = \sum (O - E)^2 / E$ ). The qualitative data are analyzed using the descriptive analysis method and also qualitative data were analyzed using problem tree analysis (problem tree, objective tree, solution tree) in the PRA tool method. The GIS technology was used to mapping for land use maps, Drainage maps, and zoning maps, these maps were used to minimize the problem. Maps, charts, tables, and Google images were used for data presentation.

## RESULTS AND DISCUSSION

### Identify dominant unauthorized activities in the Maragala mountain range EPA.

Information was obtained through observation, questionnaires, and discussions. Maragala mountain range EPA is being analyzed for unauthorized activity in relation to the permitted activities in the gazette notification of the Maragala mountain protection zone published on 1<sup>st</sup> August 2008 data analysis is done in detail using GIS technology, satellite image, and MS Excel -2013 (See table 1).

**Table 1: Permitted Activities**

No	Permitted uses up to the 1000ft contour line
1	Construction and infrastructure development of whatever nature
2	Agricultural activities
3	Tourism and recreational activities
4	Parks, playground
5	Education and research activities
6	Reforestation and plant nurseries
7	Drinking water projects
8	Housing construction
Permitted uses From 1000ft contour line to the summit of the Maragala Range	
1	Reforestation and perennial crop
2	Education, religious and research activities
3	Camping sites, nature trails
4	Develop and maintain existing residential buildings
5	Water supply projects
6	Development of infrastructure related to permitted activities

Sources: Gazette notification of the Maragala mountain protection zone 1st August 2008.

Unauthorized activities were identified in accordance with the above activities. Accordingly, the main unauthorized activities taking place in this area were identified through observations in the area and discussions with the institution officials.

- Illegal logging
- Unauthorized lands and encroachment
- Forest fire
- Unauthorized agricultural activities
- Disposal of adversely solid waste



Figure 1- Unauthorized logging 1

- Disposal of waste to water sources
- Propagation of invasive plants and animals

### **Illegal logging**

Unauthorized logging is one of the most common types of unauthorized activities. It has been reported 76% of illegal logging takes place in this area (chamindha, 2020). This condition is more common in the upper lands. Plantation settlements are located in the upper lands and they are prone to unauthorized logging for firewood/timber 69% due to their low economic status (See figure 1 & 2).



Figure 2: Unauthorized logging 2

Sources :field observation

### **Forest fire**

According to the assistant director of the disaster management unit Ravindra Kumara, the forest fires have been by chena cultivation, obtaining leaves for beedi

production, hunting for animals, clearing reserves for unauthorized lands, and encroachment cultivation and grabbing. According to the disaster management unit, the largest number of forest fires occurred in 2016-2019 and many small forest fires have been reported lots a year. More details are given in table 2.

**Table 2: Reported Forest fire in Maragala mountain range EPA**

Year	Area
2016.06.28	Maragala mountain range EPA
2016.10.11	Aliyawatta watershed zone
2018.08.20	Aliyawatta watershed zone
2019.03.22	Maragala mountain range EPA
2019.07.06,07,08	Slope around Maragala town in Maragala EPA (huge damage)
2019.08.30	Maragala mountain range EPA

Sources: Disaster management forest fire report in Monaragala 2020

A forest fire destroyed over 500 acres of forest area in 2019/07/06-2019/07/08. In this context, most of the forest fires have taken place on the slopes of the Monaragala city area and in the catchment areas of Aliyawatta. According to the statement by the Grama Niladari of Aliyawatta, these activities are mostly due to the unauthorized activities of the Tamil people living in the upper part of the area.

#### **Unauthorized agricultural activities**

According to the Maragala mountain range Environmental protection gazette, agriculture is permitted in the area up to 304m. However, afforestation and perennial crops are allowed on contour lines longer than 304m. The chena

cultivation in this area is spread over an area of 144697acre and the seasonal crop is spread over an area of 136204 acres to the upper part of the area. it is very clear from the maps also, there is a risk of forest fire in the nearby grasslands due to land clear for chena cultivation in the south part of the area. It is clear from the field observation that the paddy fields constructed in this zone during the period 2018-2020 are in the "Akkara 8 village". This is also found in the field of more than 1000ft. The paddy field is spread over an area of 1 ½ acres. Also, according to this gazette notification, a home garden has not been permitted (see maps 3 & 4 for more information).

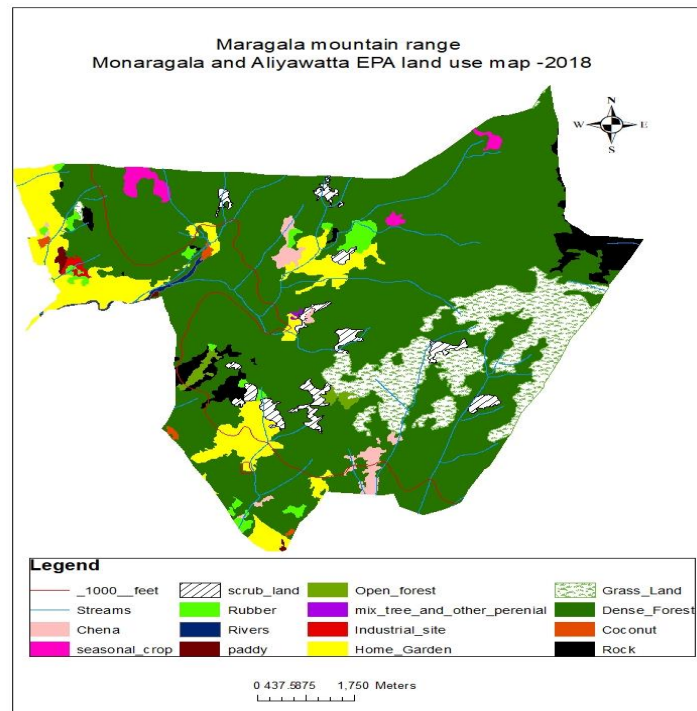
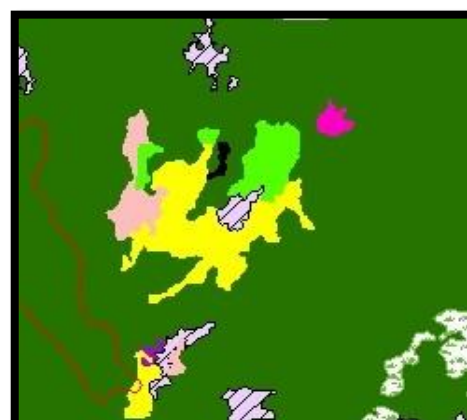


Figure 3: land use map in Maragala mountain range EPA

Sources: land use department report, 2018





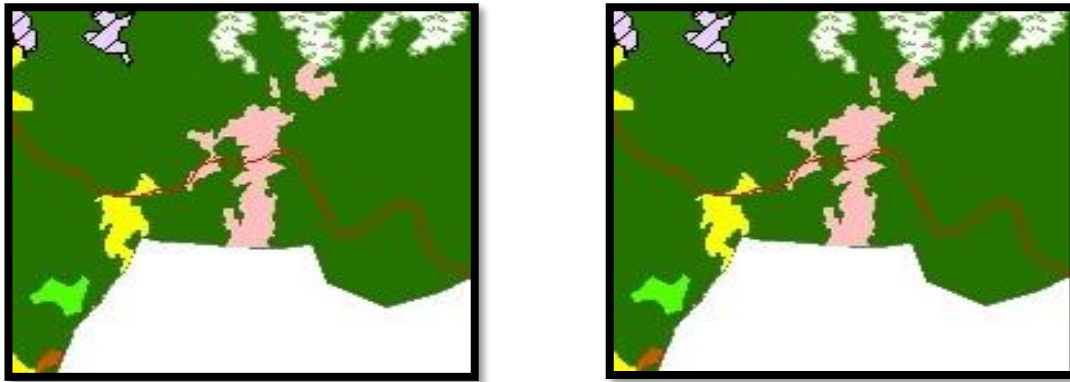


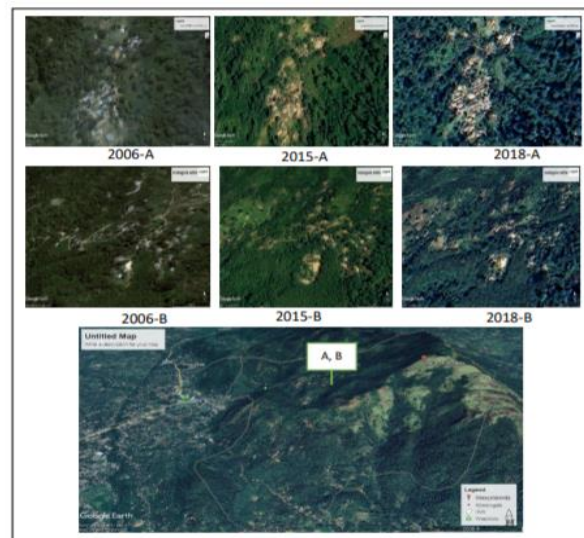
Figure 4: unauthorized agriculture activities plot in Maragala Mountain rang EPA

Source: land use department report, 2018

#### **Unauthorized lands and encroachment**

According to the gazette notification issued in connection with these ecosystems, there is a possibility of any kind of construction and infrastructure improvement in the area less than 1000ft. However, it is possible to upgrade existing residences in areas with more than 1000ft of contour line but it is not permission to rebuild. The following satellite

image shows the distribution of existing buildings in the area between 2006,2015,2018 indicating that the area has increased the number of buildings and expanded that area (Figure 5). The area belongs has been inhabited by plantation workers since early 1956. It is currently growing rapidly and it is clear that constructions carried out after 2008 fall under the category of unauthorized constructions.



Figures 5: satellite image in unauthorized settlement area and land

Sources: Google earth pro, 2019.

According to Sampath Pethikada Report (2021), there are 57 homeless people in Monaragala and Aliyawatta areas. It can be concluded that they have settled in this area illegally. According to the Sampath Pethikada, this area has unauthorized land freehold lands, and plantations can be found. Unauthorized lands are spread over an area of 123 acres out of which 122 acres belong to the Aliyawatta division. According to the statement made by Aliyawatta Grama Niladari. "Although these lands have been released by the land reform commission (LRC), they have not been given legal ownership "Accordingly, 183 acres belonging to LRC land also belong to the unauthorized lands and it can be concluded that the number of landless families is about three hundred and they also belong to the unauthorized land. According to the Questionnaire survey, 62% of residents included their land as encroachments.

#### **Propagation of invasive plants and animals**

97% of residents who represent their area have invasive plants and animals. Its widespread is due to plantation and agriculture activities, home gardens may also have contributed to this area. Due to the agricultural activities carried out in this area, plants such as Thunessa, Thunhiriya, and Agamula Nethi Wela have spread. Also, the crop that has been used by the conservation movement for plantation cultivation is widely seen as a project that the ornamental plants prepared due to home gardens. The Lantana camara plant is widespread in the open low land and the nylon Bovitiya, Podisinnomaran, wild Gansooriya is found near waste sources.

The area was also infested with aphids and fruit flies due to agricultural activities according to CEA report Kaluthara Bella, land snails, Thalapiys, Guppya were found. It is created that there is an unauthorized or spread of invasive plants and animals in this area.

Maragala mountain range EPA has been analyzed for unauthorized activities related to the permitted activities in



the gazette notification of the Maragala mountain protection zone. Accordingly, the main unauthorized activities taking place in this area were identified through observations in the area and discussions with the institution's government officers.

- Unauthorized logging
- Forest fire
- Unauthorized agricultural activities
- Unauthorized lands and encroachment
- Disposal of adversely solid waste
- Disposal of adverse wastewater to water sources
- Propagation of invasive plants and animals

This condition is most common in the upper part of the mountain range. Plantation settlements are located in the upper lands and they are prone to unauthorized activities because the inhabitant's economic status is low.

#### **Analysis of the environmental impacts of Maragala mountain range EPA due to unauthorized activities.**

Quantitative data analysis method used for the analysis of the environmental impacts of Maragala mountain range EPA due to unauthorized activities. Quantitative data analysis is

**Table 3: Decrease water quality in its water sources**

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	79.723 <sup>a</sup>	32	0.000
Likelihood Ratio	55.363	32	0.006
Linear-by-Linear Association	.155	1	0.694
N of Valid Cases	119		

Sources: Questionnaire survey, 2020.

The value of P is less than 0.05. There is sufficient evidence to reject  $H_0$ . It has been confirmed that there is a link between declining water quality and unauthorized activities in the Maragala mountain range. The water quality of the area has deteriorated due to solid waste disposal, discharges from household and industrial wastewater into water sources, and Effluent from toilet waste with water.

**Table 4: Invasive plant and animal proliferation**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	49.232 <sup>a</sup>	32	.026
Likelihood Ratio	60.190	32	.002
Linear-by-Linear Association	5.736	1	.017
N of Valid Cases	119		

Sources: Questionnaire survey, 2020.

The value of P is less than 0.05. There is sufficient evidence to reject  $H_0$ . It has been confirmed that there is a link between the spread of invasive plants, animals and unauthorized activities in the Maragala mountain range EPA. Unauthorized agricultural activities and irregular plantations in Maragala EPA are the reasons for the spread of invasive

**Table 5: Soil erosion**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	98.502 <sup>a</sup>	64	.004
Likelihood Ratio	54.620	64	.792
Linear-by-Linear Association	2.987	1	.084
N of Valid Cases	118		

Sources: Questionnaire survey, 2020.

The value of P is less than 0.05. There is sufficient evidence to reject  $H_0$ . It has been confirmed that there is a link

the presentation of an accepted statistical data analysis method in that the information obtained from the survey can be systematically determined. The chi-square test was used for this study. The information obtained from the questionnaire. Below major content depends for identify the environmental impact of Maragala mountain range. Such as;

- Decreased water level in water sources
- Decreased water quality in water sources
- Invasive plant and animal proliferation
- Endangered endemic plant and animal
- soil erosion
- landslide and soil fragmentation
- soil infertility

Table 3 shows the chi-square test on whether is a link between unauthorized activities in the EPA of Maragala mountain range and decreased water quality in water sources.

Residents of Monaragala City suffered hepatitis in 2015. It was reported that this water had mixed with feces. They are consumed by streams flowing from the top of the Maragala mountain ranges. Table 4 shows the chi-square test on whether is a link between unauthorized activities in the EPA of Maragala mountain range and invasive plant and animal proliferation.

plants and animals. Ornamental plants associated with home gardens were also seen spreading beyond the house. Accordingly, the spread of invasive plants and animals than the endemic species. Chi-square test on whether is a link between unauthorized activities in the EPA of Maragala mountain range and soil erosion.

between the soil erosion due to unauthorized activities in the Maragala mountain range EPA. It can be concluded that

the Maragala mountain range EPA is being affected by the environment due to unauthorized activities. In the Maragala mountain range EPA unauthorized logging, unauthorized agriculture activity, animal husbandry, and forest fire are causing soil erosion.

All values of the Pearson chi-square (P) are less than 0.05 (Table 4). There is sufficient evidence to reject  $H_0$ . It has been confirmed, there is a link between unauthorized activities and environmental impacts in the Maragala mountain range EPA. It can also be concluded that the Maragala mountain range EPA has been an environmental impact due to unauthorized activities.

**Table 6: Environment impacts in Maragala mountain range EPA**

Independence hypothesis	Pearson Chi-Square (P)
Decrease water level in its water sources	0.000
Decrease water quality in its water sources	0.000
Invasive plant and animal proliferation	0.026
Endangered endemic plant and animal	0.000
Soil erosion	0.004
Landslide and soil fragmentation.	0.048

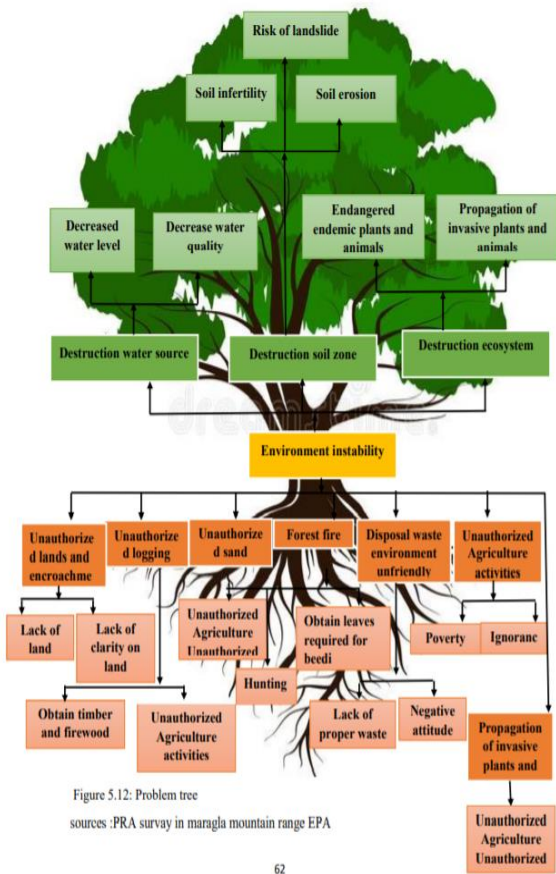
Sources: Questioner survey, 2020.

**Design of plan to minimize the impact on the environment due to unauthorized activities in the Maragala mountain range EPA.**

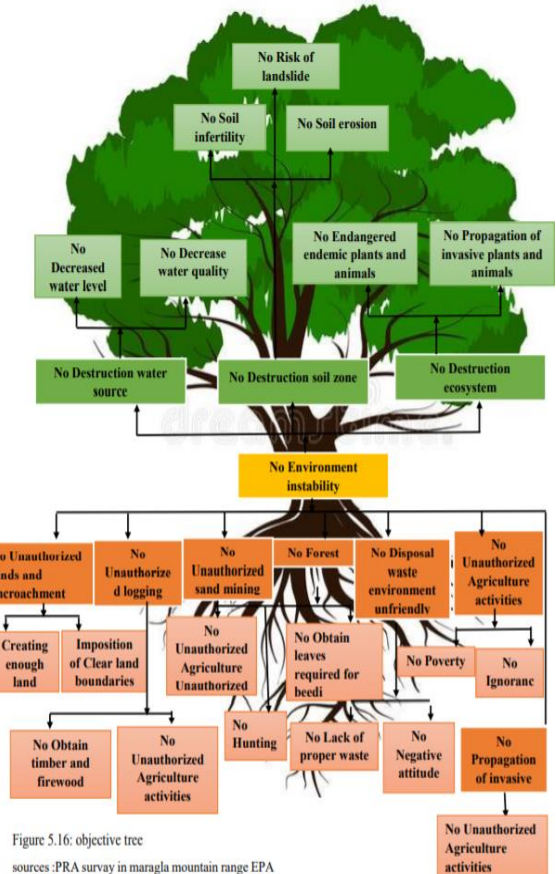
The PRA tool was used to analyze the information obtained during the preparation of the activity plan to minimize the impact on the environment caused by unauthorized activities in the Maragala mountain range EPA. The activity plan was created using the problem tree, objective tree, solution tree

The problem tree is created according to the ideas and suggestions of the residents. The main problem is the environmental destabilization which has several consequences. That is, the destruction of water sources, the destruction of the ecosystem, the destruction of the soil due to the destruction of water sources, the water level in the Water sources has decreased and the quality of the water has decreased. The causes of this environmental instability

can be divided into seven categories. These include unauthorized land and encroachment, unauthorized logging, unauthorized sand mining, forest fire, unauthorized agricultural activities, disposal of waste and polluted water to water resources, and the spread of invasive plants and animals. Problem tree analysis (Figure 5.12: Problem tree) clearly explains the cause and effects of environmental instability which is a major problem. The objective tree (Figure 5.16: objective tree) has been created using the problem-solving objectives of the problem tree prepared according to the research. The main objective is to eliminate environmental stability. Thus, the causes of environmental instability must be eliminated. PRA test the third step is creating a solution tree (Figure 7). the tree that is designed to solve the main problem to achieve the main goal is called the solution tree. Accordingly, the impact on the environment due to unauthorized activities in the Maragala mountain range EPA is environment destabilization



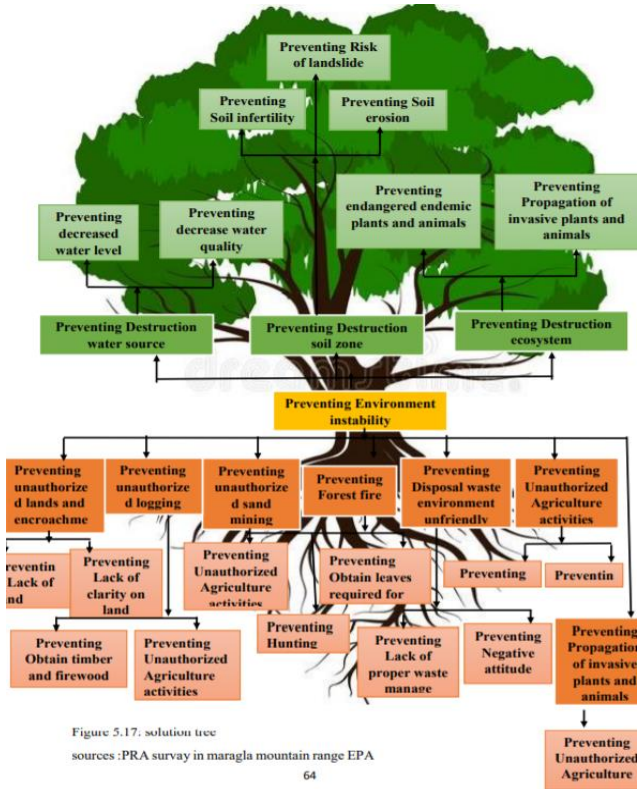
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63

Figure 7: Problem tree  
Sources: PRA survey in Maragala mountain range

Figure 8: Objective tree



64

Figure 9: Solution tree  
Sources: PRA survey in Maragala mountain range

### Activities plan

An activities plan (Table 7) is a plan of action taken to solve a major problem. The problem is designed to minimize the impact on the environment due to the unauthorized

activities in Maragala EPA. A setup process can be done to prevent the environment from becoming destabilizing due to the causes of environmental destabilization. It can be concluded that by taking action to prevent this, the threat to this ecosystem can be minimized and protected.

**Table 7: Activity plan**

Problem	Activities	Period	Responsibility	Implementers
Unauthorized logging	1. Take active legal action against unauthorized logging. 2. Planting of plants that affect water generation and purification in relation to water sources. 3. To make the community aware of the special importance of the plants in this area. 4. Granting permission to cut down trees only for essential reasons.	Medium-term Short term Short term Short term	Forest conservation department Non-government organization, water board Central environment authority. Divisional secretary office	Maragala surakimu committee
Forest fire	1. Determining areas of immediate forest fire. 2. Introducing the fire belt concept. 3. Take active legal action against forest fires 4. Raising awareness among the locals and world community about the biodiversity of this area. 5. Preparation of a program to control the spread of pine in the upper part 6. To make the visitors aware of the importance of enjoying the beauty of the environment with proper management. 7. Disruption of agriculture practices with forest fire	Medium-term Long term Medium-term Short term Short term Short term Short term	Forest conservation department Disaster management unit Disaster management unit Central environment authority Disaster management unit Department of tourism Department of Agriculture	Maragala surakimu committee
Unauthorized agriculture activities	1. Introducing the concept of agroforestry to the residents. 2. Taking legal action against persons engaged in agricultural activities in areas above 1000ft. 3. Introducing another source of income instead of agriculture. 4. Informing the residents about the use of organic manure and the preparation of organic manure at home. 5. Providing training on sustainable cultivation.	Medium-term Short term Medium-term Short term Medium-term	Department of Agriculture Central environment authority Ministry of traditional and small enterprises Department of Agriculture Department of Agriculture	Maragala surakimu committee

Unauthorized land and encroachment	1. Granting proper lands to the unauthorized land profits and evicting people from the upper part of the Maragala mountain range EPA and resetting them in an area full of human habitable infrastructure.	Long term	Land reform commission	Maragala surakimu committee
	2. Resettlement of persons who have unauthorized settled in the plantation area.	Long term	Divisional secretary office	
	3. Taking legal action against unauthorized land and unauthorized occupants in these areas.	Medium-term	Divisional secretary office	
Propagation of invasive plants and animals	1. Identify the area where invasive plants and animals have spread and control their spread beyond.	Long term	Forest conservation department	Maragala surakimu committee
	2. Raising awareness among the residents about invasive species and taking action to eradicate those plants.	Short term	Forest conservation department	
	3. Take steps to systematically eradicate invasive species from the area.	Short term	Forest conservation department	
	4. Utilization of technology to reduce the spread of invasive plants in upper forest areas.	Long term	Central environment authority	
	5. identify areas with endemic fauna and flora, and demarcate that area as high-security zones. (wildlife reserve)	Medium-term	Forest conservation department	
	6. Preparation of activities required for the growth of endemic plants and animals.	Medium-term	Central environment authority	Maragala surakimu committee
Disposal of solid waste and wastewater environment unfriendly	1. prior to the application of organic matter instead of the use of chemicals for agricultural purposes.	Short term	Department of Agriculture	Maragala surakimu committee
	2. Providing adequate toilet facilities and maintaining them properly.	Medium-term	Divisional secretary office	
	3. Awareness of proper utilization of water resources.	Short term	Water board	
	4. Develop a long-term plan to minimize the impact of water sources due to estate settlement and implement it properly.	Medium-term	Janatha estate development board	
	5. Develop a proper waste disposal process.	Short term	Divisional secretary office	
	6. Implementing a program to make the residents of the area aware of the benefits of decomposing materials.	Short term	Central environment authority	

Unauthorized Sand mining	1. Taking legal action against Unauthorized Sand miners.	Short term	Divisional secretary office	Maragala surakimu committee
	2. Awareness about the impact of sand mining in this area than other areas and the indirect effect on residents.	Short term	Central environment authority	
Hunting	1. Awareness of the impact on ecosystems due to activities such as arson for hunting.	Short term	Central environment authority	Maragala surakimu committee
	2. Taking legal action.	Medium-term	Central environment authority	
Unauthorized collection of animals and plants	1. Awareness of the Community about the importance of plants and animals in this area.	Medium-term	Forest conservation department	Maragala surakimu committee
	2. Expanding the powers of the forest department and wildlife center.	long term	-	
Other issues (landslide risk)	1. Determining landslide-threatened areas.	Medium-term	National building research organization	Maragala surakimu committee
	2. awareness of the community about soil conservation method	Short term	Agriculture department	
	3. build an alarm in the landslide risk area	Medium-term	National building research	
Ignorance and poverty	1. Implementing an awareness program for the residents of this area about the importance of this area compared to other areas.	Short term	Forest conservation department, central environment authority	Maragala surakimu committee
	2. presenting a media program on this ecosystem for the benefit of all Sri Lankans	Short term	Forest conservation department, central environment authority	

Zoning concept for Maragala mountain range EPA minimizes environment impacts due to unauthorized activities.

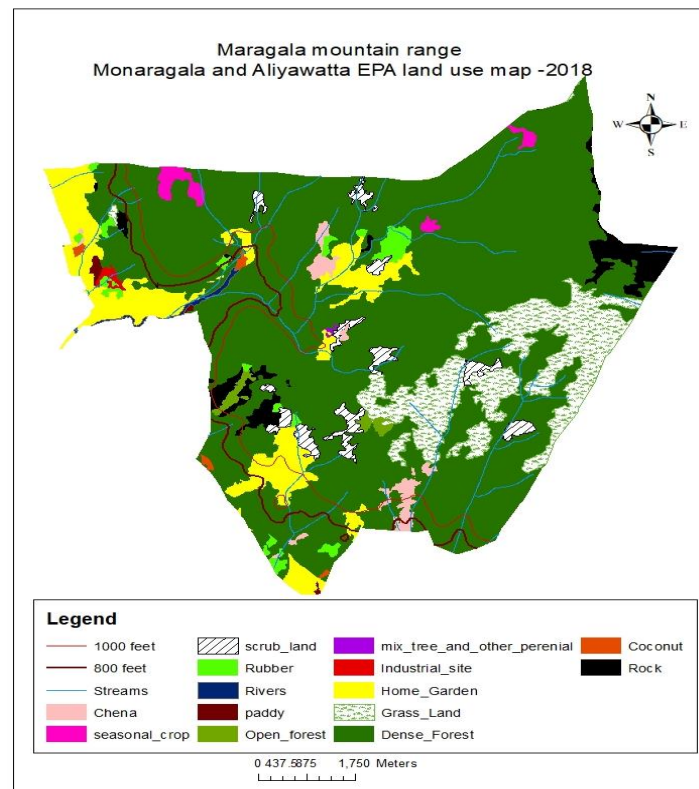


Figure 10: Zoning map

Sources: land use data, 2018

The zoning concept is proposed that the Maragala mountain range EPA is divided into three zones, to minimize the Environment impact due to the unauthorized activities. The sensitive zone (1 zone) is distributed to the area above 304m to a high level of protection. It includes natural vegetation types within endemic flora and fauna species. This zone is not entered for human activities, or permitted for other activities. It should be converted into a wildlife protection zone. The intermediate zone (2 zones) is distributed between 203m-304m. intermediate(middle)zone is a buffer. It can implement human activities within forest areas. It is not doing any environmentally harmful activities and Permitted activity can implement this zone, and establish a water project. People currently living in the upper part (sensitive zone) have the potential to settle in this zone. This zone provides an additional layer of environmental protection to the sensitive zone due to unauthorized activities. The social and economic zone (3 zones) lies below 204m extending to the boundary of the Maragala mountain range EPA. It can implement economic activities, cultivate lands (seasonal crops, chena cultivation), and small business establishments. This area has no more restrictions for human activities. But no permission for environmental impact due to the unauthorized activities.

In doing this research, it was possible to get a wealth of new knowledge, mainly to identify the unauthorized activities in Maragala mountain. There, illegal agricultural activities are a strong factor. Although doing agricultural activities is not considered an unauthorized activity, all agricultural activities carried out in areas higher than 1000ft are called unauthorized agricultural activities due to the fact that this Maragala mountain area is a highly sensitive ecological zone. Although hay cultivation, paddy cultivation, and gardening are considered as normal activities in normal areas, such

activities are known as unauthorized activities in the Maragala mountain area.

## CONCLUSION

In this research, studies have been conducted on “identifying the Environment impact due to the unauthorized activities”. During the analysis of the data, a number of issues were identified regarding the environmental impact on the Maragala mountain range EPA due to unauthorized activities. Depletion of water resources is one of the major environmental impacts that can be seen in these areas. According to the sample survey, 89% of residents confirm that the water sources have become depleted, and the water springs have dried up. Small water sources dried while large water sources as water pits in the dry season. The quality of the water has also declined. After the precipitation, the water is not suitable for drinking. Accordingly, it was identified how the environmental impact of the Maragala mountain range EPA has been affected by the destruction of water sources.

Field observations identified a distribution of invasive plants and animals in the area. it is found in abundance in agricultural lands and is found in invasive plants scattered throughout the highlands and is widespread in the low land. Endemic flora and fauna also declined in growth and distribution. Investigations by CEA have identified a number of threatened species in the area. There have also been reports of illegal animal collection and animal hunting has slightly spread the area. Looking at these facts, it is clear how the local ecosystems have been affected. it identified the environmental impact on the Maragala mountain range.

The impact of the soil zone on this field was identified through sampling observation. There was soil erosion, risk of landslide and soil fragmentation, and soil infertility. Landslides are reported in the western and southern part of

the Maragala mountain range EPA which is about 62% according to the residents. Soil erosion was also reported in the area abounding Geloon mountain.

Many unauthorized activities in the Maragala mountain range EPA can be identified by observation and discussion. This area is named EPA according to the gazette notification dated 2008/08/01. unauthorized activities have been identified through permitting activities. unauthorized logging, forest fire, unauthorized sand mining, unauthorized agriculture activities, adversary disposal contamination water to water sources, the proliferation of invasive plants and animals, unauthorized land, and encroachment find as unauthorized activities.

A rapid increase in large-scale forest fires in 2019. The forest fires that occurred on 29/8/2019 have spread to the upper part of the mountain, affecting the forest as well as threatening the catchment area. And small forest fires are common incidents annually. It spreads due to dry weather and winds. The purpose of forest fire is to prepare lands for agricultural activities, to obtain leaves for 73 beedi production, encroachments. Currently, a forest fire is one of the major unauthorized activities in the Maragala mountain range EPA (deparment, disaster management, 2019). One of the major factors influencing the presence of plantation settlements in the highlands. They are prone to these e unauthorized activities due to poverty and the lack of public awareness of the Maragala mountain region EPA. Due to the high population density of the Monaragala city area. it is currently expanding towards a 1000ft boundary area. The destruction of water resources in the area can be minimized by evicting the plantation people in the upland area and resettlement them to a place that is convenient for their economic status and employment. in addition, the impact on the ecosystem and the soil zone can be avoided. This will prevent unauthorized activities and reduces the environmental impact of the Maragala mountain range. According to the PRA survey, identified the problems, identified problems objectives, find solutions and can mitigation plan to minimize the environmental impact of unauthorized activities in the Maragala mountain range EPA Recommendations are granting proper lands to the unauthorized land profits and evicting people from the upper part of the Maragala mountain range EPA and resetting them in an area full of human habitable infrastructure, Taking legal action against unauthorized land and unauthorized occupants in these areas, Planting of plants that affect water generation and purification in relation to water sources, Determining areas of immediate forest fire and Introducing fire belt concept huge forest fire area, introducing the concept of agroforestry to the residence, Develop a long term plan to minimize the impact of water source due to estate settlement and implement it properly. This research indicated effects of unauthorized activities in mountain ranges and forest fires hugely damage the environment in a short time period. And also adverse human activities directly decrease environmental quality. Based on the findings of this study, it may be suggested that the following research be conducted in the future. Such as Impacts on the ecosystem due to human activities in mountain areas. An examination of the environmental impacts of forest fire, Study of the economic hardships of people living in the mountain upper part.

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# Empowering Rural Women through Small Scale Agro-Processing: The Potential in Maize Flour Processing in Niger State, Nigeria

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## Abstract

*This study investigated the potential of maize flour processing to empower rural women in Niger State, Nigeria. Multistage random sampling was used to collect data using a questionnaire, the budgetary analysis method was utilized for the analysis. Seventy-three (73) respondent processors were drawn for the study. Furthermore, descriptive statistics were also used to organize and present the data collected. Findings revealed that local processing of maize flour by women in the rural area is profitable, and therefore an economic empowerment strategy. The processors' gross margin and net return were estimated at N14,250 and N11,990 respectively. Hence, from the analysis, it is apparent that the enterprise has the potential of providing means of livelihood to women in the study area. Furthermore, the study identified a lack of preservatives and high moisture content of the flour, a lack of good storage facility, and frequent contamination of the flour by lubricants during milling as constraints. This study focused on the agro-processing potential of rural women in maize flour production. It is confirmed that maize flour processing has the potential to empower rural women in the study area.*

**Keywords:** Agro-Processing, Maize Flour, Profitability, Rural Women, Women Empowerment

## INTRODUCTION

The status of women in rural sub-Saharan Africa is that of an economically disadvantaged gender characterized by high dependence on male for livelihood needs. The situation is further aggravated by sociocultural boundaries placed by traditions inhibiting the female gender from aspiring to a more pronounced state of independence. A majority of rural women living in sub-Saharan Africa are reported to be poor and disadvantaged (David, and Ekaterina, 2018). Efforts are currently being made to improve the status of gender at both international and national levels. Primary agriculture is known to be the source of livelihood for the majority of the poor in developing countries, however, the gains obtained by this group do not measure up to improving their economic well-being above the average poverty level. Women being active players on the primary agriculture scene are not excluded from the vicious cycle of poverty associated with subsistent farming. Hence, there must be an alternative income source that women can exploit to improve their economic well-being aside from primary agriculture. Tolulope and Folasade (2014) in their study argued that empowering women can come in a diversity of ways, one of which is education. They identified the challenges of women's empowerment as more cultural than technological and more about people and systems than digital tools. Furthermore, they asserted that women are

central to overcoming rural poverty due to the role they play in productive activities and the household economy.

Agricultural value chain offers vast opportunities for income generation in the economy, this range from handling, processing, and delivery of a product to the final consumer. The bulk of the agricultural value addition takes place after the farm gate, therefore, most of the wealth to be made in the agricultural sector is in the transformation of primary agricultural produce into refined products that the consumer desires. Processing generates employment, provide utility to the needs of consumers at a low cost, and serves as a supplement to other marketing functions, such as merchandising, transportation, as well as storage (Acharya, 2006). In line with the aforementioned, agro-processing offers opportunities for livelihood engagements to the majority of the unemployed in Nigeria, women inclusive. Women are known to be ingenious, identifying and exploiting economic opportunities for the well-being of the family (Ellis, 1999). This is because the role women play in the family as primary caregivers places them in a position to carry most of the burden of family needs. Kaka (2013) asserted that poverty among women is a situation that must be mitigated and this has to bother access to income opportunities, access to land and properties, and

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development opportunities by the governments and international communities. Also, Cynthia and Anastasia (1993), found that consumption levels of household members are highest in households in which women play a primary role in the provision of cash earnings either in partnership with their husbands or as the primary cash providers. It goes without saying that women's empowerment improves family well-being. It is against this backdrop that the study investigated the empowerment potential of maize flour processing by rural women in Niger State, Nigeria.

## LITERATURE REVIEW

The theory of empowerment dwells on the processes and outcomes culminating in the acquisition of skills for resource mobilization and management by individuals, communities, and organizations for the attainment of greater access and control over resources for a better livelihood. The

empowering process entails participation in activities or access to structures that may be empowering while empowering outcomes entails the operationalization of the structures of empowerment that lead to access, control, resource mobilization, and management skills for a better livelihood (Zimmerman, Isreal, Schultz, Checkoway, 1992; Rappaport, 1987; Swift and Levin, 1987). Empowered outcomes expected for individuals include but are not limited to situation-specific-perceived control, the ability to the mobilization of resources, and management skills. This study is underpinned by the theory stated above for the empowerment of poor rural women in Niger State. This work is conceptualized on the understanding that lack of access to resources, and the need for resource mobilization and management skills, hinder individuals or households from attaining a comfortable livelihood standard. Hence, the outcome of such deprivation results in poverty and a poor standard of living (Figure 1).

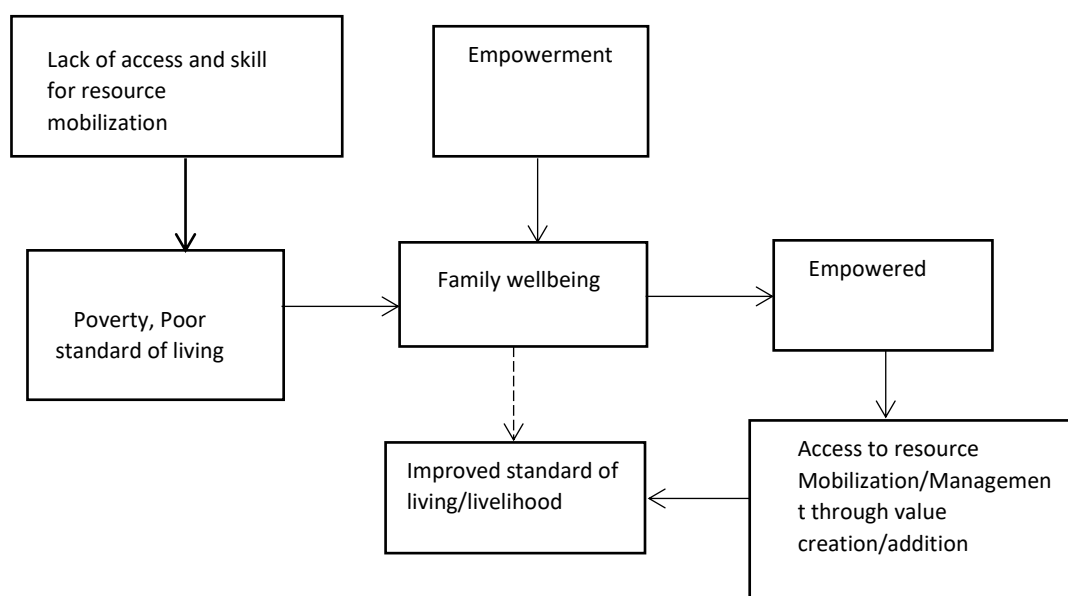


Figure 1: Conceptual Framework of the study

The wellbeing of the family as an entity is key to achieving an egalitarian society, however, economic independence of the woman remain to be a challenge. Empowerment however, provides the vehicle through which the household through the woman can be empowered. Empowering the woman through access to resource, building capacity to mobilize and manage resource for an improved wellbeing is vital for an improved living standard and economic security of the household.

Women empowerment has to do with the provision of adequate opportunities for women to develop skills and potentials in order to contribute to the development of the nation in particular and to the world in general (Lasiele, 1999). Available statistics show that women empowerment has not been attained in Nigeria as one of the MDGs. Furthermore, the empowerment of women requires effective monitoring and genuine commitment on the part of government (Ejumudo, 2013). Etuonovbe (2020), asserted that the female gender needs to be empowered to also play a significant role in family upkeep due to the prevalence of poverty. She also iterated that empowering the rural woman would give her leverage on security and

dignity in the event of the loss of a spouse or irresponsible behavior of the spouse.

Okeke (1995) pointed out the need for women empowerment in Nigeria for economic development. He is of the view that women are responsible for most of the task the home performs. Hence the need to be empowered for the task adequately, the study further asserted that Nigerian women have not attained a threshold of personal well-being and economic independence. Furthermore, Ovute *et al.*, (2015) asserted that the rights of women can be achieved through vocational skill acquisition which will enable the women to be self-reliant. He stated that the acquisition of such vocational skills will reduce unemployment among women. Eucharía *et al.*, (2012) submitted that women are making immense contributions to the development of Nigeria, however, not without challenges. Such challenges include gender status and perceived gender roles of women in society.

## MATERIALS AND METHODS

The study was carried out in Niger State, located in the north-central region of Nigeria. The area is agriculturally oriented, with a majority of the population cultivating the land and dwelling in the rural area. The population of the

area is about 3,950,249 (National Population Commission, 2006). Crops grown in the area include yam, cassava, maize, millet, sorghum, and cowpea among others. The study utilized cross-sectional data collected through a well-structured questionnaire. The survey was used to elicit information from the maize processors in the area. The respondents were rural women engaged in the local processing of maize flour as a livelihood strategy.

A multistage random sampling technique was used for the study. In the first stage, four local Government Areas were selected, namely Agai, Shiroro, Lapai and Paikoro local government areas. In the second stage, maize processing locations were further drawn from within the local government areas and finally, seventy three (73) respondent processors were sampled for the study. Hence, the total sample size used for the study is seventy three (73) respondents.

Descriptive statistics and budgetary analysis were used for analyzing data collected. The budgetary model was used to estimate the profit obtained by the maize flour processors. The budgetary model is as presented below (equation 1) following (Bwala and Aniobi, 2018):

$$NFI = GM - TFC \quad \text{..... 1}$$

$$GM = TR - TVC \quad \text{..... 2}$$

$$TR = Py.Q \quad \text{..... 3}$$

Where;

NFI = Net Farm Income

GM = Gross Margin (₦)

TFC = Depreciated values of fixed inputs

TR = Total revenue (Py.Q)

Py = Price per unit of output (₦)

Q = Total quantity of output (kg) per unit per bag of maize flour

TVC = Total variable cost

Furthermore, Ratio Analysis was utilized to determine the Return on Naira Invested (ROI); (Equation 4).

$$ROI = \frac{NFI}{TR} \quad \text{..... 4}$$

Decision Rule for ROI, if:

ROI > 0 Positive returns to the business.

ROI < 0 Negative returns to the business.

ROI = 0 Break-even.

The straight line method of estimating depreciation was used to appraise the fixed cost items (Equation 7). Thus, it is expressed as:

$$\text{Depreciation} = \frac{\text{Cost Price} - \text{Salvage value}}{\text{Life span (yrs)}} \quad \text{..... 7}$$

## RESULT AND DISCUSSION

### Socioeconomic Characteristic Of The Maize Flour Processors

Observations show that a simple majority (89%) of the processors are of the female gender with a few male (11%) processors (Table 01). Furthermore, 89% of the respondents are married, while 6.8% are single. A further 2.7% reported being divorced. Concerning the educational attainment of the respondents, observation shows that a majority of them have attended one form of educational training during the course of life, while just about 39.72% did not attend any form of formal or informal education (Figure 01). The figures show that 20.55% of the respondents have been educated through the Quranic and adult education schools.

**Table 1: Distribution of processors according to demography**

Variables	Frequency	Percentage
Gender		
Male	8	11.0
Female	65	89.0
Marital Status		
Married	65	89.0
Single	5	6.8
Widow	1	1.4
Divorce	2	2.7

Source: Field Survey, 2019

While just about 12.33% and 6.85% attended primary and secondary schools respectively. Processing of maize flour in the study area is more of a female endeavor considering the fact that a majority of the respondents are of the female gender. Furthermore, having the majority of the processors married implies that the processors have the responsibility of catering for a family (especially children) (Cheryl and Sofa, 2011). Hence, it can be asserted that the processing of maize in the study area is a livelihood strategy that the households depend on for the family's well-being. A report by FAO (2018) stated that women are increasingly supplying high-valued produce to the national and international markets more than men. This goes to give further credence to the

finding of this study regarding the participation of women in the processing of maize flour in the study area.

Education enhances the potential of an individual to derive maximum benefit from an opportunity. The finding regarding the educational attainment of the respondents indicates that they have the potential to utilize the opportunities offered by the processing of maize in the study area. It also implies that with further training, the respondents can improve the production processes of maize flour. The finding regarding the non-acquisition of formal education is corroborated by the report of UNDP (2015) where it was stated that 38% of Nigerian women do not have formal education.

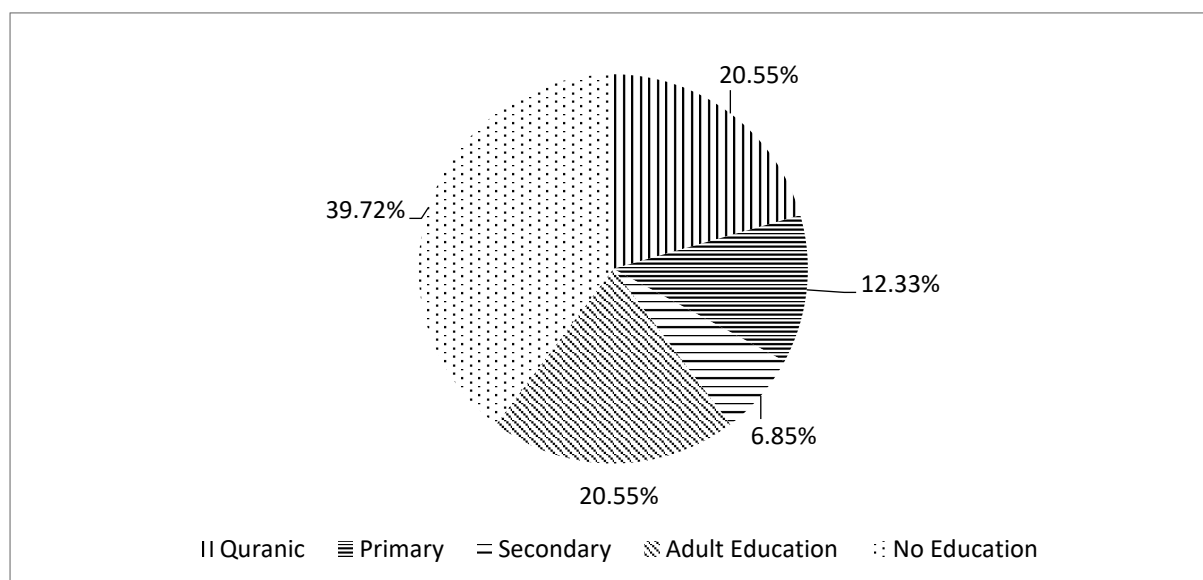


Figure 1: Educational Status of processors.

Source: Field Survey, 2019

Household size of the processors ranged between 1 to 15 persons per household. A majority (52.1%) have household sizes between 6 and 10 persons per household, while 43.8% have between 1 to 5 persons per household (Table 02). It can be asserted that a majority of the households have relatively large households. The implication of this observation is that most of families have more mouths to feed, hence, the need for extra income considering the income level of the poor rural households. Concerning years

of practice (being a maize processor), a simple majority (79.5%) of the respondents have experiences below 10 years, while just about 8.2% have experiences of between 11 to 20 years. This finding goes to show that the processing of maize flour in the area attracted most of the players in the last ten years. Thus, implies that maize processing in the area provides a means of making a living for rural dwellers; it can therefore be said that people are discovering the potential of the business.

Table 2: Household size and years of experience

Variables	Frequency	Percentage
Household Size		
1-5	32	43.8
6-10	38	52.1
11-15	3	4.1
Years of practice		
1-10	58	79.5
11-20	8	11.0
21-30	6	8.2
31-40	1	1.4

Source: Field Survey, 2019

Household size is a determinant of family well-being in a subsistent setting, this is because the larger the family the greater the labor resource available to the family to invest in productive activities. However, if not well utilized, a large household size in a subsistent scenario is a burden to the family budget. This is because it translates to deprivation of essential basic needs that may arise through rationing. The majority of the maize flour processors have family sizes between 6 and 10 (Table 02). This implies that processors of maize flour in the study area have family labor which they can utilize in the processing venture without engaging a hired hand. The results also imply that children have a high tendency of being used as a source of cheap labor. Oladejo, (2012), reported large household sizes of 6 to 10 persons in a home setting. Concerning the years of experience of the respondents in the processing of maize flour, it can be asserted that most of them are relatively new in the business. This is because a majority (79.5%) started the business in the last 10 years. This implies that the attraction to process maize flour for commercial purposes increased in the last ten years among respondents.

#### Sources of Finance for maize flour Processing

The results show that the respondents got their start-up funds from various sources (Figure 02), however, observations show that the majority of the maize flour processors (72.6%) got their finance from personal savings (Figure 02). Also, 16.44 % sourced their start-up capital from family members. While just a few (1.37) of the respondents sourced their funds from the banks. Also, about 4.11% got their start-ups from inheritance while a further 2.74% had theirs from friends and cooperative associations respectively. This finding implies that processors in the study area do not have access to institutional credits. Furthermore, the cooperative is not a popular avenue for accessing credit in the study area. While it is expedient that the processors have initial funding through personal savings, additional investments involving large capital can be better facilitated through credit institutions. The improvement of quality of the processed maize flour would require machines that are beyond the financial capacity of the processors.

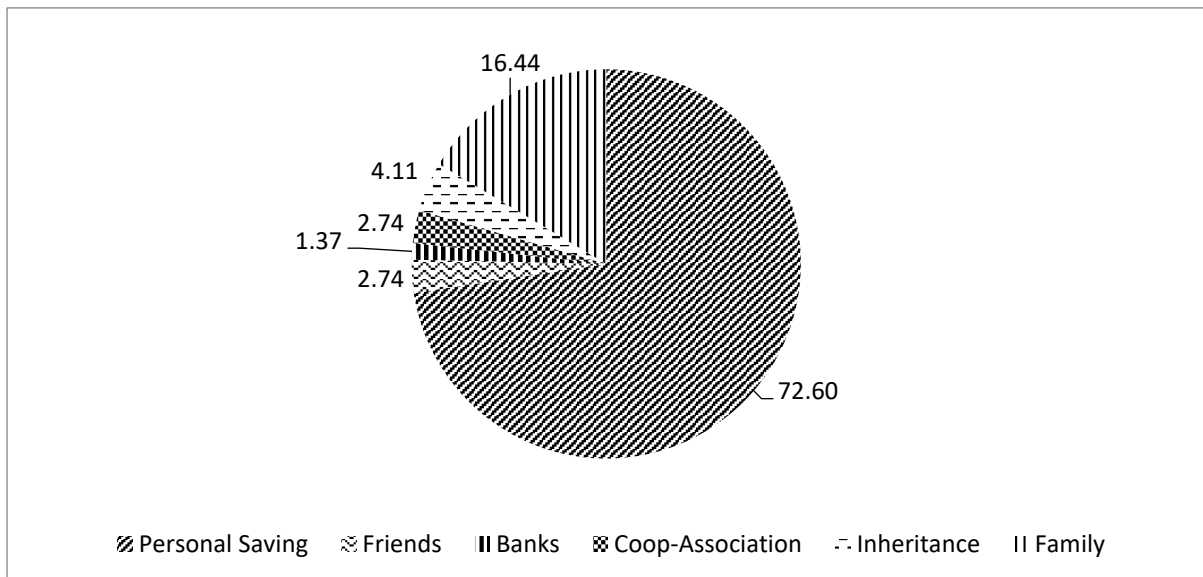


Figure 2: Source of Capital.

Source:FieldSurvey2019

Start-up capital is usually a challenge for poor individuals embarking on any business venture. Hence, even though there might be individuals willing to engage in new enterprises, it is usually difficult to access the needed funds (Acka, 2011). From the results, it was reported that a majority of the respondents provided their start-up capital through personal savings. The implication of this finding is that the processors do not have access to formal financial institutions. This situation might hinder the operators from adopting improved processing and marketing techniques due to the non-availability of funds. Furthermore, the lack of funds could also hinder the market expansion of these processors. One reason that may be put forward for the lack of access to formal financial facilities could be the lack of collateral and guarantors that may facilitate access to such funds. One such avenue where small-scale processors/entrepreneurs can access formal loans is through the cooperatives. However, processors that belong

to a cooperative are not a majority among the respondents. This means that the processors do not have the platform to pool resources both human and financial for the advancement of their enterprises. The implication of the scenario is that the inadequacies the processors may have to deal with, due to the non-availability of an umbrella body (association) from which they can have a formidable bargaining power may be profound. Furthermore, having a functional organization by the processors would also aid the branding of their commodity and expand the market scope. However, the lack of subscription to cooperatives among the processors can be attributed to a lack of information, environmental realities, and the fear of being defrauded.

Furthermore, results show that only 5.5 percent of the processors belong to a cooperative organization (Figure 03), while the majority (94.5 %) do not belong to a cooperative association.

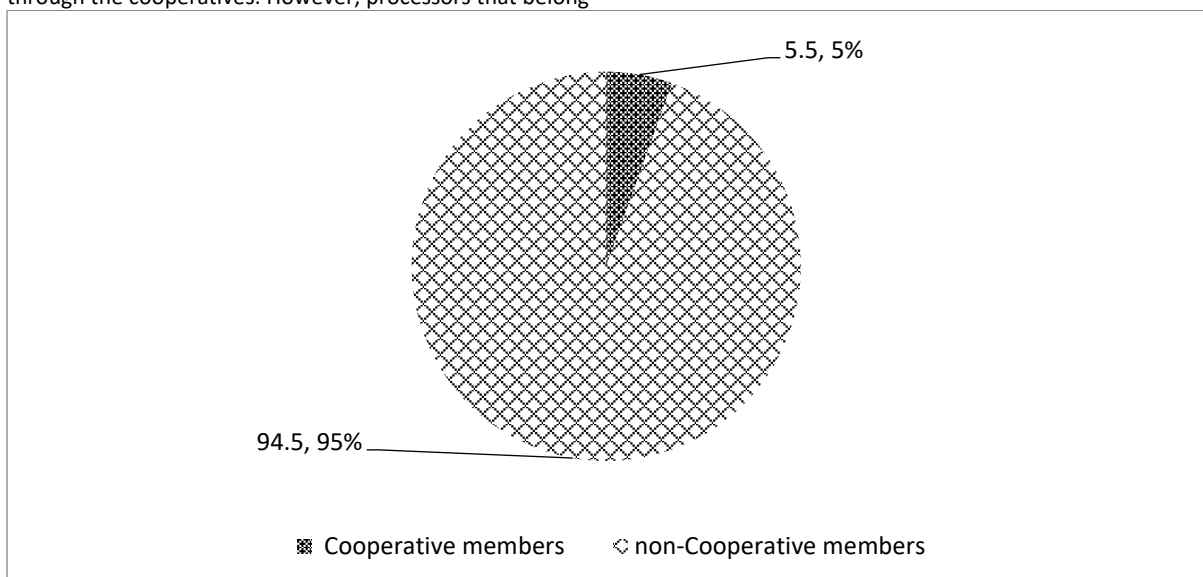


Figure 3: Membership of Cooperative Society

Source: Field Survey, 2019

A sure way to access opportunities through the pooling of resources is cooperative membership; this is critical to the development and enhancement of the well-being of trade

participants. The non-participation of most of the processors in cooperative activities exposes them more to the challenges of the environment and makes them less resilient than if they would have been in a cooperative.

#### Budgetary Analysis of Maize Flour Processing

The budgetary analysis revealed the total variable cost incurred by the processors for a hundred and fifty kilograms is ₨30,750 per week with a fixed depreciated cost of ₨2500. The total revenue obtained for the quantity of maize processed is ₨45,000 for a processing of 150kg of maize (Table 3).

**Table 3: Profitability of maize processing per production (Kg)**

Items	Quantity	Price(₨)	Depreciation (₨)	Cost (₨)	Percent Cost
<b>Costs of maize</b>	150 Kg	136	-	20,400	62
<b>Storage costs</b>	150 Kg	5	-	750	2
<b>Packaging cost</b>	4	200	-	800	2
<b>Transportation cost</b>	3	600	-	1,800	5
<b>Costs of milling</b>	3	1500	-	4,500	14
<b>Labor costs</b>	2	1250	-	2,500	8
<b>Total Variable Cost</b>				<b>30,750</b>	
<b>Fixed costs</b>					
<b>Measuring pan</b>	1	2500	400	400	1.21
<b>Big bowl</b>	2	1500	200	400	1.21
<b>Flat tray</b>	1	1800	260	260	0.79
<b>Mini Drums</b>	2	3500	600	1,200	3.64
<b>Total Fixed Costs (Depreciated value)</b>				2,260	
<b>Total Costs</b>				33,010	100
<b>Total Revenue</b>	150	300	<b>45000</b>		
<b>Gross Margin (TR-TVC)</b>				14,250	
<b>Net Farm Income</b>				11,990	
<b>Return on Investment</b>				0.266	

Source: Field Survey, 2019

Furthermore, Gross and Net returns of ₨14,250 and ₨11,990 were also calculated for the said quantity respectively (Table 03). Also, a net return per capital of ₨1.29k was estimated from the result. The analysis for the profitability of maize flour processing by women in the study area shows the enterprise to be a profitable venture. The return on investment of the enterprise showed a 0.266 profit for every Naira invested by the processors.

This finding is corroborated by Iken and Amusa, (2004) who reported that, for every one naira (1₨) the female respondents invest in rice production ₨1.02 was realized. The processing of maize flour by women in the study area no doubt enhances the income-generating base of the households. Considering the profit margin obtained by the processors, it can be asserted that an agro-processing venture of this nature presents a great opportunity for the

female gender to contribute to the income base of the family.

#### Constraints Mitigating the Processing of Maize Flour in The Study Area

Identified constraints/challenges mitigating the smooth operation of the maize flour processors in the study area are presented in (Table 4). These include product coloration, short shelf life, and contamination of flour with lubricant while processing in the mills. Lack of credit facility was also identified as a constraint. All the aforementioned constraints ranked first in the hierarchy of associated problems and constraints identified. Inadequate milling centers and availability of electricity for the proper function of these mills were identified as a challenge, this ranked second, and adulteration of the product ranked 4<sup>th</sup>.

**Table 4: Distribution of respondents according to constraints/challenges**

CONSTRAINTS	Frequency	Percentage (%)	Rank
Coloration of the product	73	100	1 <sup>st</sup>
Inadequate storage facilities	73	100	1 <sup>st</sup>
Fluctuation of price	73	100	1 <sup>st</sup>
Lack credit facilities	73	100	1 <sup>st</sup>
Short shelf life	73	100	1 <sup>st</sup>
Product contamination with grease	73	100	1 <sup>st</sup>
Inadequate grinding center & Electricity	65	89.0	2 <sup>nd</sup>
Adulteration	13	17.8	3 <sup>rd</sup>

Source: Field Survey, 2019

The ranking reveals that most of the constraints are priority as indicated by all of the respondents. All the constraints listed affect the quality of the maize flour in the study area. The presence of these constraints in the process of maize flour hinders the attainment of good-quality products. The implication of the identified constraints is that women involved in the processing of maize flour in the study area will be hindered from harnessing the full empowering potential of the venture. In line with the listed constraints, inadequate electricity supply will limit the operation of the processing activity thereby reducing output, and invariably income. Furthermore, lack of credit is an important factor that will impede the capacity of women to access technology that will improve their products.

## CONCLUSION

Agro-processing has the potential to provide employment for rural women. Rural women in the study area are making a living through the local commercial processing of maize flour. The processing of maize flour in the study area is a profitable venture that has the capacity to empower poor rural women for improved livelihood. However, there need to be developed an improved production process and packaging system. Hence, the agro-processing venture provides an avenue for self-employment for rural women. The study, therefore, recommends that women in the study area should form a cooperative to facilitate the acquisition of improved packaging and branding of the processed maize in the study area.

This work contributed to the body of knowledge through the finding that maize flour processing is a strategy through which rural women can be empowered with direct interventions from government or development agencies for the improvement of their livelihood. Interventions in the form of improved processing technology and equipment can be facilitated through Government and Non-governmental organizations. This will improve the shelf life of the flour and increase its value. Thereby increasing the income of the women involved in the processing. The study did not take into cognizance women that do not participate in the processing of maize flour in the area for comparative analysis. Future research should consider having groups that do not have the capacity to participate, this would allow for a comparative study to isolate the difference in well-being between the groups.

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# The Role of Honour in Tolerance to Intimate Partner Violence against Women in Sri Lanka

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## Abstract

*The current study aimed to examine the role of the type of honour endorsement (masculine, feminine, family, moral integrity) in the tolerance to intimate partner violence against women (IPVAW) in Sri Lanka. Three hundred and sixty-two Sri Lankan participants completed an online questionnaire. Results revealed that feminine honour and masculine honour were positively associated with, and moral integrity was negatively associated with, tolerance to IPVAW. Results also showed that men were more likely to tolerate IPVAW than women, and women were more likely to endorse feminine honour and family honour than men. The results suggest that specific types of honour play a predictive role in tolerance to IPVAW along with gender differences that are in line with cultural and gendered norms.*

**Keywords:** Attitudes, Culture, Honour, Intimate Partner Violence, Sri Lanka

## INTRODUCTION

Intimate partner violence (IPV) is a term used to describe physical violence, sexual violence, stalking, or psychological harm inflicted by a current or former partner or spouse (World Health Organization [WHO], 2021). According to a comprehensive analysis conducted by the WHO across 161 countries from 2000 to 2018, around 30% of women have experienced physical and/or sexual IPV or non-partner sexual violence at some point in their lives. Out of this figure, IPV accounted for 27% of the cases. Furthermore, WHO (2021) reported that intimate partners are responsible for nearly 38% of all female homicides worldwide. In the context of Sri Lanka, the estimated prevalence rate of IPV varies from 25% to 75% (Guruge et al., 2016). The Women's Wellbeing Survey furnished data indicating that Sri Lankan women are twice as likely to have experienced physical violence from an intimate partner compared to a non-partner (Department of Census and Statistics Sri Lanka, 2019). Many factors can predict these numbers. However, there is very limited research that explores the role of cultural predictors, therefore, the current research aims to examine the role of honour as a cultural predictor of tolerance to intimate partner violence against women (IPVAW) in Sri Lanka.

## LITERATURE REVIEW

Sri Lanka has endured a long-standing history of conflict due to the Civil War fought from 1983 to 2009; it has also undergone natural disasters such as the 2004 Indian Ocean earthquake and tsunami, leading to 250,000 to 300,000 deaths (Tomita et al., 2006). At the time, many men sought

solace in alcohol as a response to the tragedy, and donor organisations neglected emotional support to deal with loss and emotional bewilderment, leading to increased violence against women (VAW) (Dominelli, 2020). Like in other South Asian countries, women in Sri Lanka are likely to remain silent about their IPVAW due to shame and the stigma that might be cast on their families, as well as the fear of exclusion from the community (Pande et al., 2017; Bhandari & Sabri, 2018). Nonetheless, Sri Lanka has established legal structures in place for women's welfare through the 2005 Domestic Violence Act and a ministry committed solely to women's affairs (Kohombange, 2012), however, reporting of violence and related research remains scarce (Colombini et al., 2018).

In a study done by Guruge et al. (2017) on post-war IPV prevalence in the country, participants called IPVAW a widespread but hidden problem. Similarly, Fulu and Miedama (2015) call IPVAW a "complex and multi-dimensional phenomenon" (p. 1431). Various factors, one of which is honour values, may play a role in the tolerance to IPVAW. A compact body of existing literature has emphasized high tolerance to IPVAW among individuals with a high honour endorsement (Dietrich & Schuett, 2013). The term 'honour culture' refers to social groups with strong beliefs, norms, and attitudes about the significance of individual and family reputation (Cohen et al., 1996). Such cultures create environments where their inhabitants are socialized to defend their honour fiercely against any threats to their social image or reputation (Souza et al., 2017; Uskul et al., 2015). According to Khan (2018), there is a contention

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that collectivist cultures centred around honour uphold patriarchal systems, resulting in the enforcement of distinct and unequal gender roles upon both men and women by other members of their respective groups. In these cultures, male identities are often associated with authority and dominance, while female identities are strongly linked to concepts of sexual purity, family reputation, and adherence to appropriate attire (Christianson et al., 2020). Deviation from these gender roles, particularly for women, is correlated with incidents of domestic violence, physical abuse, coerced marriages, and, in extreme cases, homicide (Bhanbhro et al., 2013).

Empirical studies provide substantial evidence of gender-based disparities in the acceptance of intimate partner violence (IPV). For instance, Simon et al. (2001) conducted a study involving 5338 adults and discovered that male participants under the age of 35 exhibited significantly higher levels of acceptance towards IPV, especially when the violence was initiated by the female partner. Both men and women in the sample showed greater acceptance of women perpetrating violence against men compared to men perpetrating violence against women. Female victims of IPV commonly experience fear and a sense of insecurity if they attempt to leave their abusers (Aziz et al., 2019). They often worry about potential legal repercussions faced by their partners, which can lead to retaliation and further violence (Abadi et al., 2012), and tend to overlook the violent nature of their relationships or partners (Bagshaw et al., 2000). Similarly, factors such as concern for the well-being of children (Özçakar et al., 2016), financial dependence (Ahmad et al., 2009), and fear of community rejection (Katerndahl et al., 2017) contribute to women's decisions to stay in relationships marked by IPV.

### ***The Concept of Honour***

The concept of honour is intricate and diverse, encircling multiple dimensions that operate at various levels, including the individual, group, and gender role domains (Novin & Oyserman, 2016). It encompasses a range of facets, such as reputation, adherence to moral values, and the acquisition of respect. At the individual level, honour entails the preservation of one's integrity, the demonstration of authenticity in one's actions, and the establishment of one's social standing. Additionally, it involves the resistance against insults and disrespect, as well as the safeguarding of one's own reputation, family, or social group from potential harm (Cross et al., 2012).

Female honour is predicated upon the observance of sexual chastity, adherence to societal standards of modesty, and the appropriate selection of attire (Mosquera et al., 2002; Uskul et al., 2012). Conversely, male honour is contingent upon the capacity to protect oneself, one's possessions, and one's family against insults and threats (Lopez-Zafra et al., 2019). Empirical research on honour distinguishes between cultures characterized by high honour and those characterized by low honour or dignity (e.g., Northern Europeans and Northern Americans; Mosquera et al., 2002; Uskul et al., 2015), which are associated with specific ethnic groups. In honour cultures, surveillance is frequent as members must ensure that other members adhere to the behavioural codes. Consequently, impression management is important for members in an honour culture as it ensures that others maintain behavioural adherence (Pearce & Vitak, 2016).

Patriarchal societies, characterized by a strong emphasis on honour, assign considerable importance to specific virtues

associated with female honour. These virtues are highly regarded as esteemed social assets and are subject to stringent control and protection (Eisner & Ghuneim, 2013). In Mediterranean cultures, for instance, the virginity of young women is perceived as a cherished or even sacred social commodity (Mernissi, 1982). Bhanbhro et al. (2013) propose that women are subjected to a socially constructed value system rooted in honour, which holds them primarily responsible for preserving the honour of their family. As a result, women are expected to rigorously uphold their purity, which aligns with male notions of honour, by refraining from engaging in actions deemed socially dishonourable (Cetin, 2015).

### ***VAW in the Name of Honour***

In cultures characterized by high honour, deviating from established honour values is often seen as disgraceful. Interactions between males and females in such cultures are considered turbulent as they challenge a man's ability to control and protect the women for whom he is culturally responsible (Araji, 2000). The presence of strong value systems, combined with tolerated practices, can lead to violence being justified in the name of honour. Intimate partner violence (IPV) typically arises from impulsive and harmful intentions, with perpetrators opportunistically using weapons or other means to harm their victims (Leone et al., 2016). However, honour-based violence (HBV) tends to be premeditated, serving as a public statement, and reprimanding those who are perceived to have dishonoured to their families or communities, often through alleged transgressions of cultural norms (Cohan, 2010). Vandello et al. (2009) conducted a study exploring the influence of honour values on relationship violence, and their findings indicated that Latinos who endorsed honour traditions were more likely to tolerate IPV committed in the name of honour compared to other forms of IPV. Therefore, a connection between honour and the tolerance of IPV is evident, but further research is required to examine the generalisability of this relationship due to the limited availability of studies in this area.

### ***The Role of Honour in Tolerance to IPVAW***

In Sri Lanka, there is a similar dynamic between perceptions of honour and women's conduct to that of other South Asian cultures. For example, in India, honour is a female commodity that is connected to the male prerogative to ensure that a woman does not disrupt the delicate balance through their actions (Vishwanath & Palakonda, 2011). Women are expected to conform to norms of sexual propriety and men are expected to be guardians of women's modesty in order to protect their family honour (Obeyesekere, 1984). Additionally, past research has shown that retaliatory violence due to high honour endorsement is common in cultures such as Turkey and Pakistan (cf. Leung & Cohen, 2011; Mosquera et al., 2008). Comparably, Sri Lanka has endured a history of political and collective violence since 1983 when the civil war began (Höglund, 2005). This type of violence can be linked to people's concerns of upholding honour and maintaining a united front. As a form of interpersonal violence and similar to neighbouring countries in the South Asian region, Sri Lanka ranks high on rates of IPVAW (cf. Guruge et al., 2016). Literature based in the Middle East, the Mediterranean and South America has found links between interpersonal violence and honour endorsement (Ceylan-Batur et al., 2021; Gengler et al., 2021), and the same has been found in other South Asian cultures (e.g., Couture-Carron, 2020;

Singh & Bhandari, 2021), however, there has thus far been no research pertaining to the relationship between honour and IPVAW conducted in Sri Lanka.

Young Sri Lankan men have an understanding that VAW should not be tolerated in society, yet they see themselves in instances of conflict when traditional patriarchal gender roles are deeply ingrained in their culture (Darj et al., 2017). In Darj et al.'s research, when asked about their perceptions of VAW, most men expressed that gender-based violence should be not accepted, "*Even though a man takes the major role he has no right to abuse*" (p. 4). However, some men believed that a man could engage in violence if a woman argues back during a family conflict. Moreover, Haj-Yahia and De Zoysa (2007) found that many individuals who tolerated IPVAW also justified it by reason that women who suffered from IPVAW also benefited from it, and that they were responsible for the violence inflicted on them. An 'honourable' man is expected to use violence in retaliation to theft, insult, or other attempts at subordination of himself or his family. As masculine honour is maintained when a man defends himself or his family (Mosquera, 2016), the inability or unwillingness to respond aggressively can result in stigmatisation because "*responding with toughness and strength becomes imbedded in the definition of being a man*" (Cohen et al., 1998, p. 266). Thus, individuals highly endorsing in masculine honour are more likely to have greater tolerance to IPVAW than individuals with a lower endorsement.

Mosquera et al. (2002) suggest that there are four types of honour which are feminine honour, masculine honour, family honour and moral integrity. Family honour has shown to be a key predictor of violence against female members of the family with protection and maintenance of family honour as being the main justification for such violence (e.g., Sev'er & Yurdakul, 2001). This link is deeply embedded in gendered norms of honour as described previously (Uskul et al., 2019). In the same way, honour cultures tend to also be patriarchal where the subordination of women is the standard (Glick et al., 2015). As honour is not only dependent on a man's reputation but also on the behaviour of their female family members, non-adherence to feminine honour codes can provoke shame in the family which can result in violence against women (Baldry et al., 2013; Vandello & Cohen, 2008). Therefore, feminine honour may also be a key predictor of tolerance to IPVAW.

On the other hand, notions of moral integrity attached to IPV have been found to act as a restraint to IPV acceptance and perpetration (Ferrer-Pérez et al., 2019; Wieslander, 2020). In an analysis of a randomised controlled trial with a sample of 409 families (mothers and adolescents), having positive attitudes towards IPV and sexual violence (low IPV morality) heightened the risk of IPV perpetration for adolescents (Foshee et al., 2016). Moreover, another study highlighted that the probability of involvement in any type of IPV increased by 10% with every one-step reduction in IPV morality measured on an attitude scale (Ybarra & Langhinrichsen-Rohling, 2019). However, the correlation between IPV acceptance and moral integrity is ambiguous, with some research showing opposite results. For instance, Vecina (2018) found moral absolutism (the ethical belief that certain actions are inherently right or wrong) to be an indirect predictor of sexist and violent attitudes in men, and moral justification of VAW through self-deception. Therefore, the relationship between IPVAW tolerance and moral integrity is unclear and requires further examination.

### The Current Study

The current study aimed to examine the role of type of honour endorsement in tolerance to IPVAW in Sri Lanka. Since this study was the first to explore the relationship between honour and tolerance to IPVAW in Sri Lanka, a quantitative study served the function of identifying any meaningful differences which can later be used to advance follow-up studies that employ qualitative approaches in exploring the nuances of honour values and their role in tolerance to IPVAW. The study used a continuous dimension of honour where culture was considered to not only operate from the outside but also within the individual in guiding behaviour. We hypothesised that (1) higher feminine, masculine, and family honour endorsement would be associated with greater tolerance to IPVAW while moral integrity would be associated with lower tolerance to IPVAW. Furthermore, we predicted that (2) feminine, masculine, and family honour would be stronger predictors of tolerance to IPVAW than moral integrity. Additionally, we predicted that (3) men would report higher endorsement of all honour types and (4) show higher tolerance to IPVAW than women.

### MATERIALS AND METHODS

An a priori power analysis was carried out using G\*Power version 3.1. (Faul et al., 2007) to determine the minimum sample size required for linear multiple regression analyses using four predictors. Results indicated the required sample size to achieve 95% power for detecting a small to medium effect, at a significance criterion of  $\alpha = .05$  was  $N = 129$ . We utilised an undergraduate student sample from higher education institutions in Sri Lanka. Volunteer sampling method was used. The inclusion criteria were that participants needed to have Sri Lankan nationality and be 18 years or above. Five hundred and forty-five participants completed the study survey on attitudes toward IPVAW. Participant responses that included a majority of missing values ( $N = 183$ ) in the survey were removed. Thus, we included 362 participants (251 females; 104 males; 7 prefer not to say;  $M_{age} = 24.4$ ,  $SD_{age} = 8.18$ ) in the analyses. Data gathered from the survey was analysed using IBM SPSS Statistics version 25.0. The study was reviewed and approved by the Cardiff School of Sport & Health Sciences Ethics Committee (Ref. UG-4544).

The 20-item Attitudes of Acceptability of Intimate Partner Violence Against Women scale (A-IPVAW) developed by Martín-Fernández et al. (2018) was used to measure tolerance to IPVAW. The scale had three dimensions: physical violence (for instance, "*I think it is acceptable for a man to hit his partner if she has been unfaithful*"), verbal violence (for instance, "*I think it is acceptable for a man to shout at his partner if she is constantly nagging/arguing*"), and emotional violence (for instance, "*I think it is acceptable for a man to threaten to injure his partner or others if she leaves him*"). The questionnaire was in the form of a 7-point rating scale with the lowest value indicating 'strongly disagree' and the highest 'strongly agree' ( $\alpha = .899$ ).

The Honour Scale (Mosquera et al., 2002) was used to measure participants' level of honour endorsement based on four types of honour. The scale consisted of 25 items in total ( $\alpha = .931$ ). The feminine honour subscale consisted of 7 items ( $\alpha = .880$ ), the masculine honour subscale consisted of 7 items ( $\alpha = .723$ ), the family honour subscale consisted of 4 items ( $\alpha = .833$ ), and the moral integrity subscale consisted of 7 items ( $\alpha = .907$ ). The lowest value on the scale

represented 'not at all' and the highest value represented 'very bad'. Items such as "How bad would you feel about yourself if your family had a bad reputation?" were asked.

After clicking the study link, participants were directed to the information page which detailed the nature of the study. Participants were advised to reconsider their participation in the study topic distressed them. Participants were informed about their right to withdraw at any point of the study by simply closing the browser. However, they were informed that after submitting their responses, the data could not be withdrawn as responses were anonymous. The IPVAW scale was presented first and then the honour scale. At the end, participants were debriefed on the study and were thanked

for their participation. The debrief page included a list of mental health first aid services and their contact information. The approximate duration of the study was 10-15 minutes.

## RESULTS

### *The Relationship between Honour Endorsement and Tolerance to IPVAW*

To examine the relationships between the study variables, Spearman's rho correlation coefficients were used to assess the relationship between tolerance to IPVAW and the types of honour endorsement (Table 1).

**Table 1:** Descriptive Statistics and Correlations of Study Variables

	<i>M</i>	<i>SD</i>	1	2	3	4	5
IPVAW	1.72	.981					
Feminine	4.65	1.58	.169**				
Masculine	4.55	1.06	.102	.467**			
Family	5.67	1.37	.001	.596**	.562**		
Moral	5.88	1.23	-.214**	.380**	.342**	.563**	

Note: Correlation is significant at the  $p < .001$  level (\*\*\*),  $p < .01$  level (\*\*),  $p < .05$  level (\*).

### *The Role of Types of Honour Endorsement on Tolerance to IPVAW*

Multiple linear regression analysis was conducted to assess whether feminine honour, masculine honour, family honour and moral integrity significantly predicted tolerance to IPVAW. All variables were log10-transformed due to skewness before being included in the analysis. The results indicated that the model was a significant predictor of tolerance to IPVAW ( $R^2 = .096$ ,  $F(4, 357) = 9.53$ ,  $p < .001$ ). It was found that feminine honour ( $\beta = .289$ , 95% CI [.119, .333],  $p < .001$ ), masculine honour ( $\beta = .209$ , 95% CI [.059, .434],  $p = .010$ ) and moral integrity ( $\beta = -.263$ , 95% CI [-.479, -.072],  $p = .008$ ) were significant predictors of tolerance to IPVAW. However, family honour was not a significant

predictor ( $\beta = -.166$ ,  $p = .144$ ). Participants' scores on tolerance to IPVAW increased by .226 for each scale point of feminine honour, by .246 for each scale point of masculine honour, and decreased by -.276 for each scale point of moral integrity.

### *Gender Differences in Honour Endorsement and Tolerance to IPVAW*

To examine gender differences in honour and tolerance to IPVAW, a one-way analysis of variance was conducted with gender as the independent variable and the types of honour (feminine honour, masculine honour, family honour, moral integrity) and tolerance to IPVAW as the dependent variables (Table 2).

**Table 2:** Means, Standard Deviations, and One-Way Analysis of Variance in Honour Endorsement and Tolerance to IPVAW between Men and Women

Variable	Male		Female		<i>F</i> (3, 357)	$\eta^2$
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
IPVAW	1.99	.082	1.61	.587	7.23***	.057
Honour Endorsement						
Feminine honour	3.90	.144	4.97	1.52	10.48***	.081
Masculine honour	4.46	1.18	4.60	1.00	1.36	.011
Family honour	5.33	1.46	5.82	1.29	2.97*	.024
Moral integrity	5.62	1.32	6.00	1.17	1.56	.013

Note: ANOVA is significant at the  $p < .001$  level (\*\*\*),  $p < .01$  level (\*\*),  $p < .05$  level (\*).

## DISCUSSION

The aim of the current study was to examine the tolerance to IPVAW in Sri Lanka as predicted by type of honour endorsement. First, we examined the relationships between the types of honour and tolerance to IPVAW. Second, we assessed the role of feminine, masculine, and family honour and moral integrity on tolerance to IPVAW. Finally, we examined the gender differences in honour endorsement and tolerance to IPVAW.

With reference to our first hypothesis, we found a positive relationship between feminine honour and tolerance to IPVAW and a negative relationship between moral integrity

and tolerance to IPVAW. However, masculine honour and family honour did not show any associations with tolerance to IPVAW. Feminine honour centres on sexual shame which is denoted by virginity before marriage, limiting sexual relations, and modesty in clothing and relations with men (Mosquera et al., 2002). The nature of feminine honour suggests that the greatest threat to a family's honour lies in the woman's body (Chowdhary, 2007), and deviance from feminine honour codes can lead to violence in many South Asian communities (Welchman & Hossain, 2005). It is possible that participants who were higher endorsers of feminine honour reflected on the justifications of IPVAW which is commonly justified by the infidelity of women (Haj-

Yahia, 2002). This can be seen as degrading for people that highly endorse honour (Frijda & Mesquita, 1994).

Furthermore, we found that participants who were higher endorsers of moral integrity were less likely to tolerate IPVAW. Our finding is consistent with previous research (cf. Ceylan-Batur et al., 2021), and could be explained by the nature of the moral honour code, which is grounded on values such as being loyal, honest, and trustworthy (Mosquera et al., 2002). Moral compasses define what is to be considered acceptable and unacceptable behaviour, and religion and the law may also reinforce moral binaries of good and bad behaviour. However, previous research has shown that local constructions of morality can shape tolerance to violence (Schepers & Zway, 2012). For example, in one study conducted in South Africa, morality was judged by one's adherence to specific community codes such as respecting another person's privacy (Van Niekerk, 2015). This suggests that being moral could also mean the avoidance of intrusion or invasion of another person's privacy, and thereby tolerating any known occurrences of IPVAW.

With regard to our second hypothesis on the predictor roles of the types of honour endorsement on tolerance to IPVAW, we found that only three types of honour were predictors of tolerance to IPVAW. Feminine and masculine honour were positively associated with, and moral integrity was negatively associated with tolerance to IPVAW, with feminine honour being the strongest predictor, and masculine honour being a stronger predictor than moral integrity. As discussed above, feminine honour and moral integrity are characterised by varying elements of the honour code and thus can play different roles in predicting tolerance to IPVAW. Cohen et al. (1996) suggest that masculine honour is deeply embedded in the male roles that men are subscribed to in society. For example, Sakalli and Kuzlak (2018) found that in Turkish culture, men were described as strong, controlling, dominant, and protective of women as prescribed by the male gender role in Turkey. Similarly, the post-war context is particularly significant in understanding the conceptions of masculine honour in Sri Lanka. Höglund and Orjuela (2011) suggest that masculinities in Sri Lanka are strengthened by militarisation and honour. *"Honourable men must be prepared to risk harm and usually commit violence in order to defend their honour, even against minor insults and challenges"* (Dafoe, 2012, p. 43). Therefore, participants who scored higher on masculine honour might have been more tolerant to IPVAW due to the longstanding patriarchal norms in the country.

Relating to our third hypothesis, we found that feminine and family honour showed gender differences, where women scored higher on both types of honour than men. This rejects our third hypothesis. An explanation for this can be that honour rests on women's sexual conduct therefore the burden of shame accompanies women, as any 'shameful' physical conduct would dishonour their families (Christianson et al., 2020; Pitt-Rivers, 1968). Thus, higher endorsement of feminine and family honour may be more apparent among women than men due to the pronounced norms surrounding shame in Sri Lanka (e.g., Abeyasekera & Marecek, 2019; De Alwis, 2002). Although we found no gender differences in moral integrity, past research has suggested that in some cultures, people believe that hurting others is not only justifiable, but also fundamentally virtuous (Rai & Fiske, 2012).

For gender differences in tolerance to IPVAW, results indicated that men were more likely to tolerate IPVAW than women, which supports our fourth hypothesis. This is in line with previous research that suggests that men are more likely than women to be tolerant of VAW, view a smaller number of actions as violent and express less empathy toward victims (e.g., West & Wandrei, 2002). Men are expected to be strict and in charge of the women in their life in patriarchal honour cultures, which frequently encourages violence against them (Eisner & Ghuneim, 2013). A study that explored the motivation behind VAW across six different countries including Sri Lanka showed that VAW was closely related to narratives of masculinity that justify male domination and control over women (Fulu et al., 2013). These motivations are embedded in cultures that promote patriarchal dominance over women and such beliefs tend to manifest in the form of prejudice in the legal and medical systems in Sri Lanka (Centre for Women's Research, 2004).

## CONCLUSION

To the best of our knowledge, this is one of the first studies conducted in Sri Lanka examining honour endorsement and its role in the tolerance to IPVAW. The study findings revealed that feminine honour and masculine honour were positively associated with, and moral integrity was negatively associated with tolerance to IPVAW. The findings also showed that men were more likely to tolerate IPVAW than women, and that women were more likely to be higher endorsers of feminine honour, and family honour than men. This suggests that specific types of honour play a predictive role in tolerance to IPVAW along with gender differences that are in line with cultural and gendered norms. Honour values originate from an intricate system of interdependent values, morals, and beliefs, that when studied together, provide a bigger picture of what may be called a 'cultural logic'.

There are a few notable limitations of our study. Firstly, due to the nature of the sample, participants may have embodied WEIRD characteristics (Henrich et al. 2010), which could serve as a buffer against tolerance to IPVAW (Bhowmik & Biswas, 2022). Secondly, some of the questions in the A-IPVAW scale may have influenced socially desirable responses. Nonetheless, the scale has been shown to be a reliable and valid instrument to assess tolerance to IPVAW (Martín-Fernández et al., 2018) and its items have been shown to present low loadings of social desirability (Villagrán et al., 2022). Additionally, the honour scale used in the study asked participants to rate how bad they would feel if they acted in a particular way (Mosquera et al., 2002). This type of question framing could be considered leading as it assumes that participants would feel bad. However, despite these limitations, our study contributes to the knowledge base, providing new insights into the understanding of honour and IPVAW in an understudied country.

We recommend that future research take into consideration the various types of violence against women (e.g., emotional, physical, verbal, sexual) when examining tolerance and its association to honour. Furthermore, future studies should aim to incorporate demographic factors such as socioeconomic status in the analysis to provide a more comprehensive understanding of tolerance to IPVAW. Growth in the empirical evidence surrounding these topics may help non-governmental and governmental organisations in Sri Lanka to better understand the

multifaced nature of IPVAW, improve public policy, encourage reporting of violence, and most importantly, protect victims.

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# The Impact of Glories and Traumas on the Sinhalese - Tamil Relationship in Sri Lanka: A Study Based on ABC Triangle

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## Abstract

*Due to the diversity of its ethnic and religious groupings, Sri Lanka had to encounter innumerable challenges. One aspect of a problem is hidden when it is being observed. The masterpiece of Johan Galtung's ABC Triangle was meant to examine those hidden circumstances. Deep cultural syndromes can have a direct impact on a person's behaviour. Since the Rathnapura district in Sri Lanka primarily comprises significant cultural syndromes, it is selected as the research study area. In-depth qualitative interviews and a questionnaire were used in the study. MS Excel was used to examine the quantitative data, while the content-based analysis method was used to assess the qualitative data. When one incident became a source of 'Glory' for Sinhalese, it became a source of 'Trauma' for Tamils as well; Tamils and Sinhalese suffered trauma from the same incident. Lack of rights and language proficiency affects how long specific syndromes persist and develop directly. People still have a strong belief in information passed down through generations. Organizing programs for government officials, religious leaders, and school children and implementing a by-lingual service system in every public office are considered important activities to reduce the syndromes in attitudes. While making new policies, implementing policies, and conducting research, it is crucial for policymakers, scholars, and public servants to pay attention to the culturally entrenched cultural syndromes in society.*

**Keywords:** Conflict Triangle, Cultural Syndromes, Ethnicity, Glory, Trauma

## INTRODUCTION

"That complex whole which includes knowledge, belief, art, law, morals, custom, and any other capabilities and habits acquired by man as a member of society" (Edward Tylor:1871, 1). According to Edward Taylor society is a collection of beliefs, arts, culture, customs, and other capabilities and habits. Within a society, people interact with each other. The large social group shares the same space with different cultures, ethics, and values. Within a society, culture acts a prominent role in people's behavior. Human beings are more sensitive to their culture. More than laws and regulations people are respecting, and observing their culture within the society. According to Herskovits (1948, 17), "Culture is the man-made part of the environment". Culture is a complex factor that includes practices, norms, values, customs as well as traditions. It is a very sensitive area as well. Those features vary according to different ethnic groups. As ethnic groups share similar cultures, languages, and religions from generation to generation. According to Herskovits (1948), culture is the man-made part of society. People's behavior, dressing patterns, attitudes, ideas, foods, marriage, every aspect is

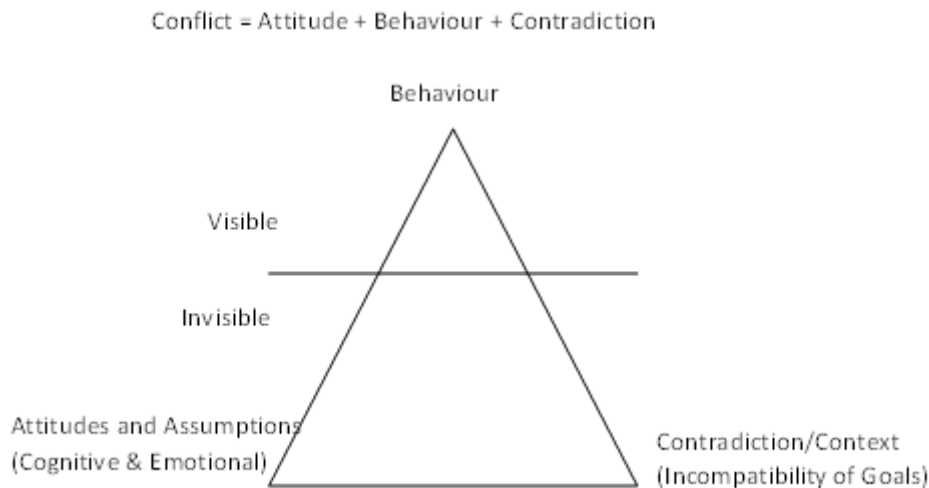
based on the culture. Cultural beliefs and attitudes are transmitted from generation to generation. People have deep-rooted beliefs, norms, and traditions tied to their culture. Those values are harder to be changed. The cremation issue of the dead bodies of those diagnosed with Covid in the Covid-19 period can be cited as one of the best examples. Even within the global pandemic situation for health purposes, they would not like to change their cultural rules and that is their right to protect their culture. Cultural Violence is a pathetic situation of a multicultural society.

"Cultural violence" is defined here as any aspect of a culture that can be used to legitimize violence in its direct or structural form" (Galtung, 1969). Galtung's Violence triangle also explained how cultural violence affects the build-up of "Direct violence". Some societies are dominated by majority ethnic groups. Minority cultures may face discrimination because of their particular ethnic group and culture. According to Johan Galtung, cultural violence affects directly for people's attitudes and creates direct behavioral action.

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Figure 1: ABC Triangle



(Source: Jayathilaka, 2014).

Johan Galtung presented the conflict Triangle with three main components (Figure 1). According to Johan Galtung conflict is the collection of Attitudes, Behavior, and Contradiction. According to Galtung, there are two main parts visible and invisible. People can see only the visible Behavioral part but invisible attitudes and contradictions are hard to see. That should explore by people (Galtung & Webel, 2007). Conflict is like an iceberg. All people can see the small visible part but the huge invisible part is under the water. For the behavioral part, Cultural violence and Structural violence may be caused. Sri Lanka had a very traumatic experience with 30 years of war. As well, even if we have ended up that physical war there may be still fire under the ashes. Galtung's Conflict triangle best explains Sri Lankan internal conflicts between ethnic groups (Galtung & Webel, 2007). The Sri Lankan government could touch the Behavioral part of the 30 years of war. But the attitude and contradiction parts are still existing.

As a nation, Sri Lanka has already experienced various terrible circumstances. Wars and ethnic conflicts existed throughout history. However, Sri Lanka will go forward after conquering all of those difficult circumstances. Additionally, there are no longer any active wars or interethnic conflicts in Sri Lanka. As a result, of that, people interact, communicate, and contact with one another. However, experiences are difficult to forget, even for people who are moving ahead. These experiences contribute to the development of syndromes. Despite their interaction, Sinhalese and Tamils can easily split due to cultural differences, even for the smallest of reasons. When there is a relationship between Sinhalese and Tamils, Why there is showing a high degree of influence of Cultural syndromes in the relationship between Sinhala and Tamil ethnic groups? Do Sinhala and Tamil people still live with Glories and Traumas? How do Cultural Syndromes affect the relationship between Sinhalese and Tamils? are the questions that need to find answered.

The Sri Lankan constitution had already provided rights for all ethnic groups. Without considering cultural factors or ethnic factors, people can live freely. Legally cultural freedom is existing within Sri Lanka. History noticed huge structural violence against minorities within Sri Lanka, especially plantation Tamils faced structural acts of violence (Jayathilaka, 2014). Structural violence also has arisen around minority people based on their culture. Syndromes

are a collection of opinions, behavior, emotions, and beliefs. Syndromes may lead to pre-assumptions about a particular person or group of people. Cultural syndromes may occur based on cultural factors ethics and experiences. According to Galtung and Webel (2007) in cultural syndromes, we can see the main two parts as Cognitive Pathology and Emotional Pathology.

Choosiness, Glory, and Trauma (CGT) are existing as Emotional pathology in cultural syndromes. Ethnic groups have a particular idea as their ethnic group is prominent among all other groups and can be introduced as choosiness. All victories as glories and all defeats consider traumas. One group's glory may be a trauma for the other party (Galtung & Webel, 2007). All cultural syndromes are working on human beings' minds and syndromes planted and grow for a long period and come out as violent actions or verbal methods. And it directly impacts the relationship development between two ethnic groups.

From the day Sri Lanka got independence, there were some traumatic incidents for minority ethnic groups. Especially for Tamils. Because of that, Sri Lanka had to face thirty years of war. From Independence Day to today, different ethnic groups had to face different experiences. Innocent people had to die only because of their ethnic groups. 1983 lots of Tamils had to die. Moreover, LTTE killed many Sinhala people. Most of them are not relating to any fault except their ethnic group. After civil war also aroused different issues relating to ethnic groups. Why did those incidents happen? Whether there is any relationship between deep cultural syndromes? Those were important to study. And based on all experiences got by both ethnic groups Sinhalese and Tamils build up different beliefs about another culture. Even with 30 years of war, Sri Lankan government got the victory by controlling the behavior part of the conflict, which was not a victory for the Tamils.

Based on all background situations it's important to see how the deep cultural syndromes impact the ethnic relationship development between ethnic groups. Especially between Sinhala and Tamil ethnic groups. What is the behavior of cultural syndromes inside the relationship? How does it act? Sides were important to study. Sinhalese and Tamils having a day to day life relationships for different purposes. Not only daily relationships but also as a multi-ethnic society Sri Lankans can't go forward without unity. But Sri Lankan society does not focus on deep-rooted unity. Always

Sinhalese as well as Tamils are ready to raise their voice for their particular ethnic group. Not on behalf of all Sri Lankans. So forth, it was important to study and find the nature of cultural syndromes between Sinhalese and Tamil ethnic groups. It is important to analyze the degree of influence of deep cultural syndromes on relationships between Sinhala and Tamil ethnic groups by focusing, how traumatic incidents influence on Sinhalese and Tamils and how glorifying incidents influence on Sinhalese and Tamils.

According to Galtung's theory, attitudes are existing which are caused to the buildup of another war. In that situation, this research topic was very important, because the study of Cultural Syndromes which affect the ethnic relationship in Sri Lanka is mostly affected by society these days. Even Sri Lanka ended thirty years (30) of physical war still people who belong to particular ethnic groups like Sinhala and Tamil are reluctant to build up pure relationships. Their relationship is easy to break even only by a word. Those are like fire under the ashes. Under the reconciliation process that is a must thing to address their cultural syndromes. As socially it's important to study the nature of cultural syndromes, and what are those syndromes. So, this research was deeply gone through that issue.

The empirical importance of this research was the psychological perspective. This research mostly considered people's psychological views, beliefs, and behavior for the syndromes.

This research was an initiative for researchers who expect to do further studies based on the reconciliation process, the buildup of positive peace within Sri Lanka, how the "A" Attitude help to buildup positive peace as well as how deep culture act for a pluralistic society. Theoretically, this research is important for the above area researchers. The methodological importance here is the researcher could use many data-collecting methods such as interviews, and questionnaires.

## LITERATURE REVIEW

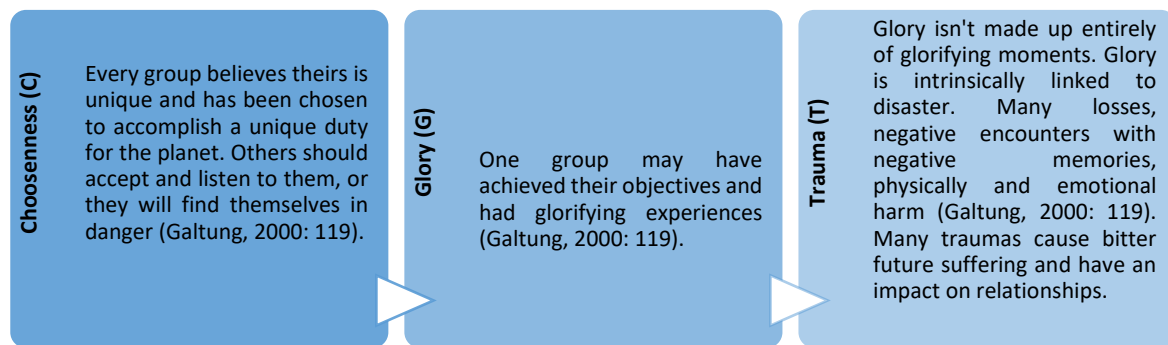
The purpose of this study is to determine the impact of deep cultural symptoms on the relationship between two ethnic groups. Sri Lanka, as a multi-ethnic and multi-religious country, has already had various incidents concerning cultural issues, mainly because, the country is a multicultural society with people who are very sensitive to their cultural matters. The majority of these instances are distressing for Sri Lankans. As a result, research based on Galtung's Triangle and the study of Deep Cultural Syndromes underlying Society became necessary. To do this, a literature review is important in identifying symptoms, Galtung's theory, and the practical application of the ABC Triangle.

Theoretical literature act a major role in this research. "Conflict is a dynamic process in which structure, attitudes, and behaviors are constantly changing and influencing one another" (Galtung, 1969). "Conflict is the interaction of

interdependent people who perceive incompatible goals and interference from each other in achieving those goals" (Folger, Poole & Stutman, 1993). The conflict has its own life cycle within the society (Galtung, 2000). People can notice their results at first glance, but they do not pay attention to the underlying causes. We can use Johan Galtung's specific theory of the "ABC Triangle (Conflict Triangle model)" to discover deep-rooted conflict instances. The ABC Triangle was his best introduction. According to him, "Conflicts are disappeared as well as reappeared again" (Galtung, 2000: 13). Conflict can be divided into three stages, according to Galtung. Attitude (A), Behavior (B), and Contradiction (C) are the three categories (Galtung, 2000: 13). All three components of a conflict have a mutual relationship. A conflict cannot be resolved permanently until all three components of the conflict are addressed. Because people are just addressing the behavioral phase of the conflict for the present term, they cannot understand how the unconscious element is strengthening the conflict. It was also used in the ABC conflict triangle. The Iceberg model was also applied in the ABC conflict triangle. More than the visible aspects of a conflict, there is a big invisible portion that most people choose to ignore (Youth transforming conflict, 2017). "Where do goals which are incompatible or contradictory emerge from? We can divide the answers into three categories: natural, cultural, and structural" (Webel & Galtung, 2007). The "A" component of conflict triangle denotes assumptions about the attitudes that are influenced by the conflict. Mainly, thoughts, beliefs, and feelings will feature prominently. And this aspect leads to presumption and subjective ideas in people's minds (Youth transforming conflict, 2017: 78). A negative mindset can also contribute to conflict; on the other hand, a positive attitude can lead to peace. It is essential to address this mentality component initially when individuals focus on peacebuilding. Because preconceptions and subjective attitudes will harm people's relationships when interacting with them. The psychological domain can be considered the attitude component. Attitudes can powerfully influence behavior

Cultural violence is an important topic to consider while studying Deep Culture. Cultural Syndromes can be identified as causes of cultural violence. CGT and DMA are two terms that are used interchangeably. CGT can look at gender, race, class, and nation cultures, while DMA can look at them as a part of Western and other civilizations (Galtung, 2000: 119). Both symptoms are the roots of cultural violence and encouragement for public behavior of direct violence. "DMA-CGT is a pale, secularized, social science-type reductionism of a religious narrative that has inspired hopes and doubts in billions" DMA-Syndrome in practice by a CGT viewpoint on reality (Galtung, 2015: 8).

Figure 2: Chart of CGT



(Source: Created by Authors, 2022)

Speech and behaviors, architecture and laws, science and the arts are examples of how cultures express themselves. People learn a set of life norms from their culture, such as good/bad, right/wrong, beautiful/ugly, sacred/profane, and so on. However, good and terrible may vary depending on the culture. Some cultures are okay with a certain amount of murder. As a result, cultural violence occurs (Galtung, 2000: 108). Some basic needs and rights are structurally violated in some societies. Culture as well as structure separate gender, race, and religion. Economy, consumption, health, education, gender, and the environment are all key variables in maintaining global peace, according to the UNDP's Human Development Report. However, in order to conduct social peace, it is important to analyze whether people are scared of direct violence, ethnic conflict, and the prevalence of crime (Galtung, 2000: 17). Non-negotiable essential needs were discussed in this book.

Deep insults about basic needs may be perceived strongly. People may become more aggressive if they do not receive basic needs and rights (Galtung, 2000: 84). Because of deep culture and deep structure, direct violence, cultural violence, and structural violence emerge. Cultural and structural violence are both invisible. Priests, intellectuals, and professionals may use words and images to enact cultural violence. That could be enough to secretly murder people (Galtung, 2000: 102). DMA and CGT syndromes may occur as a consequence of cultural violence. Choosiness, Glory, Trauma (CGT) and Dichotomy, Manicheism, Armageddon (DMA). Galtung's publications are essential for gaining a comprehensive understanding of these two elements (Galtung, 2000). In 1990, Johan Galtung published a research article titled Cultural Violence to describe the concept of cultural violence. "Cultural violence makes direct and structural violence appear," he said. "Even feel right - or at the very least not incorrect" (Galtung, 1990: 2). It is right to commit a murder on behalf of the country, but it is wrong to do it for oneself. As a super-type, cultural violence can be introduced to the conflict triangle. Both physical and structural violence are legitimized by cultural violence (Galtung, 1990: 5). "Direct violence is an event; structural violence is a process with ups and downs; cultural violence is an invariant, a 'permanence'" (Galtung, 1990: 5). Religious and ideological violence, as well as language and art, empirical and formal science, can all contribute to cultural violence. Researchers can have a comprehensive understanding of what cultural violence is and how it occurs by reading this research article. And because this cultural violence causes trauma in people's minds, it is a direct source of trauma.

Empirical literature can prove the importance of theoretical literature. In the year 2000, Johan Galtung's book *Conflict Transformation by Peaceful Means (The Transcend Method)* was the most helpful literature for learning about the ABC Triangle, as well as Deep Culture and Deep Cultural syndromes. The United Nations Disaster Management Training Program is presented with this book.

The theme of Gandhi and cultural violence was covered in this article. He believed in the unity of life, as well as the unity of means and objectives. Violence, according to Galtung, can occur in any corner of the triangle, whether structural, cultural, or direct. Antonino Drago in 2015 published "Improving Galtung's a-b-c to a Scientific Theory of All Kinds of Conflicts". The most valuable practice is to live as a person who accepts nonviolent actions. In 2011, Thomas Matyók, Jessica Senehi, and Sean Byrne edited the book *Critical Issues in Peace and Conflict Studies*, which explained varied cultural attitudes on nonviolence approaches. Catholics, Buddhists, and Hindus are three different religions that accept non-violence. Violence is one of the major socio-political concerns that occur in conflicts. Especially when it comes to cultural violence. Cultural traumas are the starting point for the war. In 2016, Professor Bishnu Pathak published an article titled *Conflict Transformation Theory for a Peaceful World: Top and Ceiling of Traditional Peacemaking*, which was based on Johan Galtung's *Conflict Transformation Theory for a Peaceful World*. Galtung's ideas attracted the author's curiosity

*Empathy and Peace in the Qur'anic Context* Based on Johan Galtung's ABC Triangle is a research article that was done by Mahdi Hasanzadeh and Rasool Akbari Chaechechi in 2014. "Culture" was defined as "the symbolic reality of human life," with "religion" and "language" as two of the most important components (Hasanzadeh & Chaechechi, 2014: 4). As three types of violence, structural, direct, and cultural violence were introduced. Sarah Al-Areqi wrote a research article called "Examine the Relationship between 'Reconciliation' and 'Justice' after Violent Conflict: Case Study of Guatemala." This essay was written by a researcher who studied the relationship between justice and reconciliation in Guatemala. Long-term violence, structural inequality, and economic exclusion were present in Guatemala. Even though they signed a peace treaty in 1996, violence still exists (Al-Areqi, 2020).

"Gramsci recognized the political society as one floor of the Substructure power that exercises direct formation of political and economic consciousness through the domination of government, public institutes, and army, etc." (Bates, 1975). The unconscious part of Guatemalan society must be addressed first in order to establish positive peace.

As Galtung said before, they are not addressing the attitude and contradiction (cultural and structural violence) that causes conflicts to disappear and reappear.

Discriminations Created by Structural Violence (Case Study of the Tea Plantation Sector of Sri Lanka) by Aruna Jayathilaka, examined unconscious dimensions. It's a little tough to find material about the unconscious dimension and the ABC triangle in Sri Lankan contexts. In that case, By connecting the tea plantation sector in Sri Lanka, researcher Aruna Jayathilaka illustrated structural violence-based research. The pathology of PSFM syndrome can be shown here, and PSFM syndromes emerge as a result of structural violence. To demonstrate how the unequal distribution of oil revenues in African countries and the social divisions created as a result of this to induce violent intrastate conflicts, Nemanja Dzuverovic published a research article titled *New Battles in Africa – Oil Revenue Management as a Source of Intrastate Conflicts* in 2011. Any of these corners can be the start or end of a conflict (Dzuverovic, 2011: 53). The ABC triangle can be applied to both personal and national situations. Ethnic or language differences did not cause the majority of conflicts in Africa. African conflicts are caused by high poverty, resource (energy) products, and failed governmental structures. A-grievance, B-greed, and C-natural resources were merged into one theory by the author (Dzuverovic, 2011: 55).

Based on the peace journalism model: Analysis of Al-Jazeera's coverage of Bahrain's uprising and Syria's chemical attack research article written by Zainab Abdul-Nabi in 2015. The author noted Al-Jazeera's coverage of the Qatar royal family's active participation in the Arab Spring. The ABC Conflict triangle and its three key attributes that caused Direct, Structural, and Cultural violence were the focus of peace journalists. 'winning is not everything, it is the only thing' (Lynch and Galtung, 2010: 3) and Afghanistan in the whirlwind of US-Russia rivalry in Central Asia written by Yahia Baiza in 2017 were another publications based on Galtung's Conflict Triangle theory. Every person who lived today may have to face different kinds of conflicts. People can not live without conflict. It may be intra-personal conflict, inter-personal conflict, interstate or intra-state conflict. Because of that, people need to find out the method to solve those conflicts. As a result of that, the philosopher Johan Galtung found The Conflict Triangle. By studying that theory people can get a clear idea about why conflicts are occurring? What are the reasons? In which issue they should address to sort out their issue. Regarding Galtung's conflict triangle there are many research articles are there. Many researchers focused to apply the ABC triangle to the conflicts that they are facing within their country. Because today's world day by day becoming very complex as well as needs, feelings, resources every aspect of life became as incompatible. Today is the best period that, people need to think and observe a conflict by using Galtung's theory. It showed more than the visible part there is hidden context. Even people could solve the visible part invisible part will come out as behavioral violence. And it is a process unless people do not address the unconscious dimensions.

Methodological literature acted key role. From Culture to Behaviour: How Can a Culture of Violence Affect Organized Conflict? by Louis-Alassane Cassaignard-Viaud used WVS (World Value Survey) frequently asks sensitive questions, and it's importance to be aware of the interviewee's beliefs, rituals, and traditions when doing so. Not only did the researcher use the interview technique, but both qualitative

and quantitative data were used in this study. People's deep qualitative data can always be captured via interview techniques. The researcher was able to display data using a variety of statistical methodologies. A total of 14 variables and 103 datasets were used in this study. The EFA approach was also utilized to evaluate the data. "The fewest number of hypothetical constructs (also known as factors, dimensions, or latent variables) that may parsimoniously explain the correlation seen among a set of measured variables" is what EFA is all about (Watkins 2018, 219–20).

Cultural Betrayal as a Dimension of Traumatic Harm: Violence and PTSS among Ethnic Minority Emerging Adults by Jennifer M. Gómez used the questionnaire method for Participants, (N = 296; Women: 60.5%; Men: 38.9%; Other: 3%; Decline to Answer: .3%). Traditional college age (M = 20.12; SD = 2.81). Ethnically (35.0% Asian, 24.7% Hispanic/Latino American, 14.2% Other, 13.2% Black/African American, 5.7% Native Hawaiian or Other Pacific Islander, 3.4% American Indian/Alaska Native, and 3.4% Middle Eastern).

Data analysis was carried out by SPSS software. A special cloud-based subject pool software to provide a questionnaire for university students was employed in this case. Both qualitative and quantitative as well as primary and secondary data were used respectively.

Examine the Relationship between 'Reconciliation' and 'Justice' after Violent Conflict: Case Study of Guatemala by Sarah Al-Areqi, In this particular research paper, Statistical analysis was utilized to combine qualitative and quantitative data. The paper analyzed the problem by making a distinct ABC triangle for it. This study relied heavily on secondary data. There isn't much emphasis on collecting primary data; instead, depending on secondary data, create your own calculation and analysis approach. In this study, the case study comes into focus. Choosing a specific country and a certain set of people. *New Battles in Africa – Oil Revenue Management as a Source of Intrastate Conflicts* by Nemanja Dzuverovic wrote this research paper by dividing the main two sections. The theoretical framework is the first section, while the case study is the second. The author had to apply the case study method to collect data. Because case studies are the finest research tool for gaining a detailed understanding of a certain subject. The author of this research work used many research papers, including research articles by Johan Galtung. The author's primary methodologies were a case study and secondary data. Based on the peace journalism model: Analysis of Al-Jazeera's coverage of Bahrain's uprising and Syria's chemical attack article written by Zainab Abdul-Nabi. This article addressed 8 questions about the main issue. We used both primary and secondary data. The method was unique in that all data was collected using an online platform. Only data from the 14th of March to the 31st of March 2011 was collected. The research was enhanced by a large number of statistical graphs. Bar graphs have been used to prove each piece of evidence. That strategy was both appealing and simple to use correctly presenting the data acquired. Afghanistan in the whirlwind of US-Russia rivalry in Central Asia research by Yahia Baiza used qualitative research methodology. Analyze data by using secondary data such as research papers, and books.

Professor Bishnu Pathak's research article was named as Johan Galtung's Conflict Transformation Theory for Peaceful World: Top and Ceiling of Traditional Peacemaking. The method of secondary data was used by the author. His paper

was based on research materials. There is no use of primary data. Many points were examined using Galtung's books and essays, as well as numerous other research studies. Cultural Violence was written by Johan Galtung. As secondary data collection approaches, he generated research articles based on his own theory as well as user research articles. To present the data properly, tables were utilized to analyze it. He developed his own theory, and he used his research articles to back up the majority of the secondary data. Johan Galtung Pioneer of Peace book also written by Johan Galtung as well as by Dietrich Fischer. They developed this book using secondary data as well as analyzed data by using tables. Especially point was those research articles were mainly built up through the author's theories. Discriminations Created by the Structural Violence (Case Study of the Tea Plantation Sector of Sri Lanka) done by researcher Aruna Jayatilaka wrote this study paper, which includes both qualitative and quantitative data. The theme was investigated using secondary data sets. Tables were used to convey the majority of the quantitative data. The author also employs diagrams to clearly identify objects. The author used research articles and survey articles as secondary data. The entire research topic had been broken down into subtopics, and all data had been quantified.

The Sri Lankan people had to deal with various problems as a result of their ethnicity when discussing deep cultural syndromes and the Sri Lankan context. It's challenging to locate a Sri Lankan publication that discusses Sinhalese and Tamil deep cultural syndromes, despite the fact that there are many publications about deep cultural syndromes in other countries. Despite this, individuals just had a superficial understanding of their mentality. As a result, new struggle between Sinhalese and Tamils is possible at any time, since grassroots issues are still not being addressed. If Sri Lanka wants to end its conflict situation permanently, they must engage in a process of psychological healing. Addressing their psychological wounds is necessary. This kind of research needs to move forward for that. Additionally, if anyone else is interested in conducting further studies on glory and trauma, the outcomes of this study could be useful.

## MATERIALS AND METHODS

To collect Primary Data researcher used the "Mixed Method". Both Qualitative and Quantitative methods were

used. This research focused on "Mixed Method", both qualitative as well as quantitative data. Because to get numerical explanation validity can get help from the quantitative data and other data which could not capture through the quantitative data can gather using qualitative methods. The mixture of both data types. Strong method and minimize the limitations. It helps to solve complex research problems easily (Kabir, 2016). Quantitative data collected through google forms. Sample size was 80. The sample size was decided by using the above sample size calculator and it showed as 109 but considering the timeline of the research, it had reduced to 80. These 80 samples covered the whole Rathnapura District. Semi-structured Interviews have used to collect qualitative data and the sample size was 20. Research articles, books, journals, websites, and videos had used as secondary data.

This research is mainly based on Rathnapura District which is belonging to the Sabaragamuwa Province in Sri Lanka. Rathnapura District is a multi-cultural and multi-ethnic area. All different cultures are daily interacting with each other. Because of political activities, economic activities, and plantation activities. More than other areas Rathnapura District is a place where a combination of different types of ethnic groups. There are Tamil People who lived in the Northern area of Sri Lanka moved their place to Rathnapura District because of the civil war. Both Sinhala and Tamil people closely interact in this area more than in the other districts within Sri Lanka. This research was conducted using both probability and non-probability sampling. Under probability, sampling methods used the "Cluster sampling method". Because the researcher could collect data from Sinhala and Tamil groups about their experiences with other ethnic groups and their bad as well as good experiences with them. To that, the researcher needs to separate the data-collecting population according to their ethnic groups to collect data separately. The cluster sampling method helped to achieve the researcher's target. By using the cluster sampling method Collected data from 80 people within Rathnapura District. Selected 20 sample sizes, special people such as 10 Religious Leaders, 05 religious leaders from the Sinhala community, 05 religious leaders from the Tamil community, and 10 people who were academics. To capture data had used the "Simple Random Sample" method.

Table 1: Codes regarding Interviewee

No.	Position	Area	Code	Date
Religious Leaders (Sinhala)				
	Buddhist Monk	Pelmadulla	BM01	09.06.2022
	Buddhist Monk	Pathakada	BM02	09.06.2022
	Buddhist Monk	Pelmadulla	BM03	09.06.2022
	Buddhist Monk	Opanayaka	BM04	11.06.2022
	Buddhist Monk	Rathnapura	BM05	12.06.2022
Religious Leaders (Tamil)				
	Pandit in Kovil	Balangoda	TRL01	10.06.2022
	Pandit in Kovil	Opanayaka	TRL02	13.06.2022
	Pandit in Kovil	Kahawatta	TRL03	13.06.2022
	Pandit in Kovil	Endana	TRL04	13.06.2022
	Pandit in Kovil	Balangoda	TRL05	14.06.2022
Academics (Sinhala)				
	Founder of National Peace Council		NPCF	04.06.2022
	Member of National Peace Council		NPCM	05.06.2022
	University Lecturer		ULSIN01	12.06.2022

	University Lecturer	ULSIN02	12.06.2022
	Teacher	T-SIN03	14.06.2022
Academics (Tamil)			
	University Lecturer	ULTAM01	06.06.2022
	University Lecturer	ULTAM02	12.06.2022
	University Lecturer	ULTAM03	22.06.2022
	Teacher	T-TAM04	13.06.2022
	Teacher	T-TAM05	14.06.2022

Note: Table 01 represents codes of interviewees.

(Source: Created by Authors, 2022)

## RESULTS AND DISCUSSION

This research mainly focused on finding out people's attitudes towards the glories and traumas of Sri Lankan history. When a person has an experience, consciously or unconsciously, it may affect them for their whole lifetime. As well as shaping the personality of a person (Kawamoto, 2016). People who are living in Rathnapura district also have a lot of experience with Sri Lankan history. Are those effects on their current lives? Are those experiences affecting their present attitudes? To find the answers to all these questions, the researcher had to find answers for a few other questions. To capture the data, both qualitative and quantitative data were represented within this analysis. What is the public's opinion about "King Dutugamunu defeating King Elara"? , What is the public's opinion about the death of V. Prabakaran?, What is the public's opinion

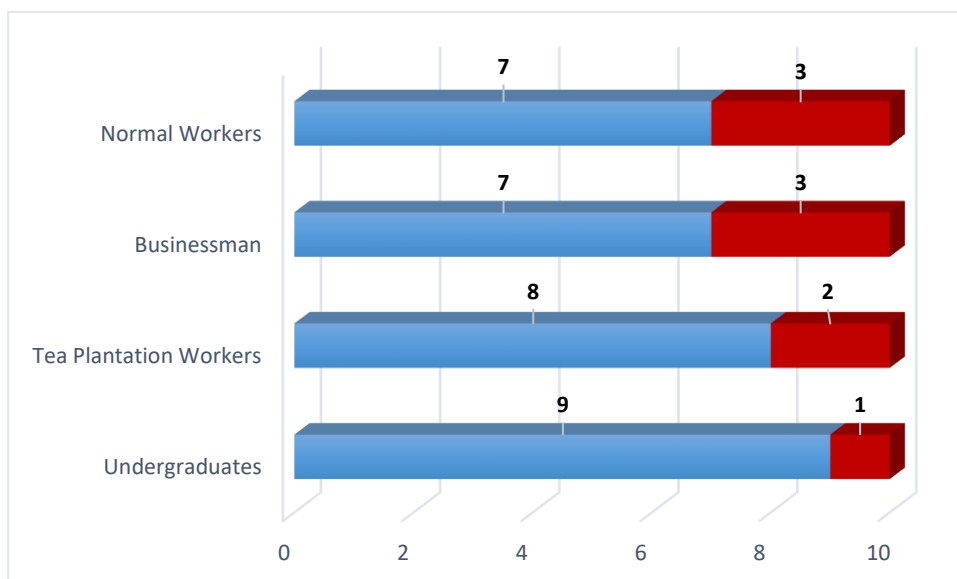
about the 1948 government's behavior?, What is the public's opinion about "Black July"?

### What is the Public's Opinion about "King Dutugamunu Defeating King Elara"?

According to Sri Lankan history, there were many incidents between ethnic groups. When one ethnic group achieved victory, another group had to bear the trauma. But, due to those incidents, both sides had to face traumatic incidents. King Dutugamunu-Elara war is the most iconic incident within Sri Lankan history. What do Sinhalese and Tamils in Rathnapura district think about these incidents ? Are they recalling it happily? or Sadly?

Defeating King Elara by King Dutugamunu was a glorifying experience for most of the Sinhala people. 38.8% of people "Strongly Agree" and 11.3% of people "Agree". These people are belonging to the Sinhala community.

Figure 3: Sinhalese Feeling about Defeating King Elara



(Source: Survey Data, 2022)

According to figure 3, as the Sinhala ethnic group, the victory of King Dutugamunu was a celebrative moment to recall. Even today as an ethnicity they are proud of that moment. It is no different in layers within society. While Every Sinhala person was happy to recall proud history, the Tamil community has the saddest attitude towards King Elara's death. According to history, King Dutugamunu's war against King Elara was a special event. In Sinhala Literature "Mahawamsaya" proudly published that Sinhala King fought with the Tamil king and defeated him by getting a massive victory. With that, Sri Lanka became a united country (The Mahawamsa, 2010).

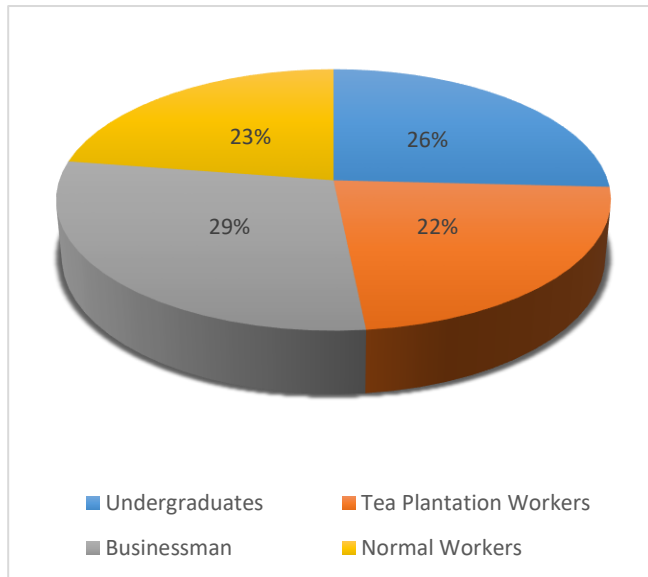
"As Buddhists, we are not accepting killing, but as a nation, Sinhala person it is happy to recall about building united Sri Lanka" (BM01, 2022).

"Sri Lanka became as a united country and got remarkable victory" (T-SIN03, 2022).

The above quotations got from Buddhist religious leader's interviews. In Buddhism, there is a concept that rejects killing. In any case, at any moment for any reason killing is a sin. However, as monks, some are accepting king Elara's murder because it helped to unite Sri Lanka. United Sri Lanka by a Sinhala king was the proudest moment for Sinhalese.



Figure 4: Percentage of “Disagree” answers that get for Question “Did you accept the Death of King Elara?”



(Source: Survey Data, 2022)

While the Sri Lankan majority celebrates victory as the opposite party Tamil ethnic group has the saddest memory to recall. Figure 4 shows how Tamil ethnicity provided their responses regarding the question “Killing king Elara was the most suitable decision that got by king Dutugamunu”.

“As Buddhists, we are not accepting killing, but as a nation, Sinhala person it is happy to recall about building united Sri Lanka” (BM01, 2022).

“Sri Lanka became as a united country and got remarkable victory” (T-SIN03, 2022).

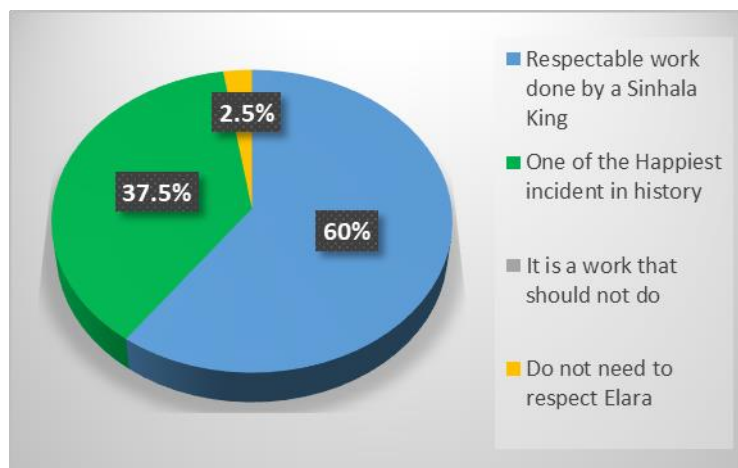
When considering different social statuses 26% of UN-TAM, 22% of TPW-TAM, 29% of BUS-TAM, and 23% of NW-TAM

recalled that memory as the saddest incident. Altogether 78% of the Tamil community, got responded to it as a traumatic experience that got from history.

While one ethnic group gets glorifying experiences another ethnic group is getting traumatic experiences. When getting examples one by one from history it can easily identify who is getting more victorious experiences and who getting the saddest experiences. In the pre-history of Sri Lanka, Sinhalese and Tamils were face many experiences. All the time only one party got the victory by defeating another. At that point, while one ethnic group is celebrating another ethnic group had to face difficulties.

### **Building Monument of King Elara**

Figure 5: Ideas about king Elara’s Monument



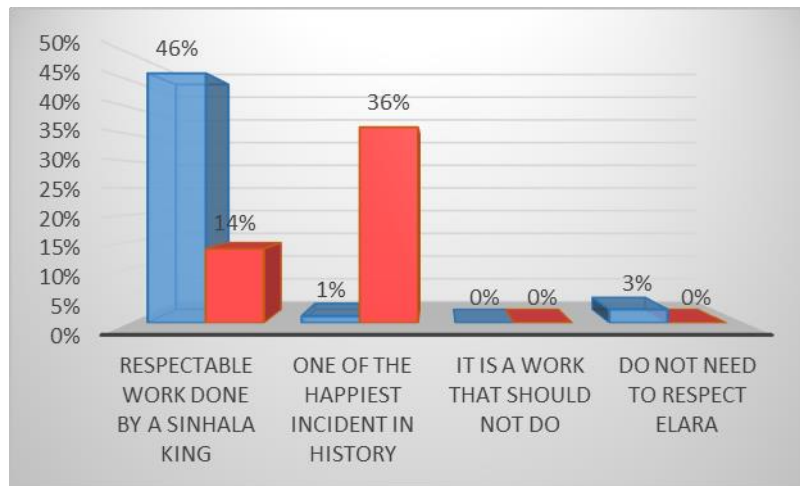
(Source: Survey Data, 2022)

60% Majority responded as respecting King Elara was respectable work done by a Sinhala king. Both Sinhala, as well as Tamils, include to this 60% of the majority. And 37.5%

of people mentioned it was the happiest incident in history. Of that 37.5%, most people belong to the Tamil ethnic group. More than other responses there was a combination of Sinhalese and Tamils.



Figure 6: Sinhalese and Tamils' Ideas about the Monument of King Elara



(Source: Survey Data, 2022)

Considering the number of responses 46% of Sinhalese answered "Respectable work done by a Sinhala king", and 14% of Tamils also responded to the same answer. And 36% of Tamils recall this as the happiest moment in history while 1% of Sinhalese selected the same answer. 3% of Sinhalese also responded, "Do not need to respect king Elara". The majority of Sinhalese (46%) are proud because of that significant event done by a Sinhala king. However, the majority of both Sinhalese and Tamils were satisfied with their historical moment.

As well as some people and monks are not happy with that murder but as a king, Dutugamunu's one action made them happy.

"King Dutugamunu did respectable work by making a monument of King Elara" (BM02, 2022).

"I am very happy that King Dutugamunu built the monument of King Elara" (NPCF, 2022).

When recalling that moment as a Sinhala person has a proud feeling about making a monument for king Elara. Not only Sinhalese but also Tamil people felt happy about hearing about that incident. Both Sinhalese and Tamils were happy about the monument. However, while, Sinhalese was happy about the death of king Elara, Tamils were not happy.

"King Elara fairly ruled the Tamils" (ULTAM02, 2022).

"We have learned that king Elara's name was the metaphor for Justice and Fairness" (TAM05, 2022).

There was a story to prove king Elara's justice. He had set the "Bell of Justice" anyone can ring it and get the justice that person needs. Moreover, king Elara gave the death penalty to his own son because he killed a calf ("King Elara, the Just," 2021).

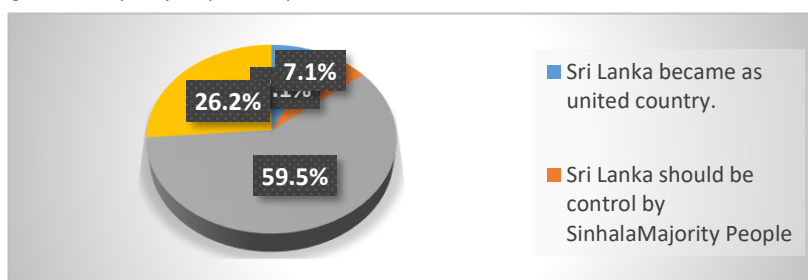
According to the above explanation, when one group gets victories another one suffered because of traumas. This incident happened in history in Sri Lanka. Sinhalese and Tamils both live in Sri Lanka. However, the issue is that Sinhalese only learned about King Dutugamunu and his victories while Tamils learned about King Elara. How can both ethnic groups develop their relationship without knowing each other? When focusing on this point can identify there is a gap between Sinhalese and Tamils. Because as people cultural beliefs are not a thing bring when people born. People learn those things after their birth from society. There is a lack of interaction between Sinhalese and Tamil feelings.

#### What is the Public's Opinion about the Death Of V. Prabakaran?

Sri Lanka faced 30 years of war. That period was the hardest period for all Sri Lankans. As a result of the demise of LTTE terrorist organization leader Prabakaran was the happiest moment in Sri Lankans' lives.

2009 May Sri Lankans most of the people made milk rice and came to the road and celebrated this victory as much as they can. Even Buddhism teaches killing someone is not a good fact. It is a sin, They celebrated one another's death. There are many reasons. For 30 years Sri Lankans could not live freely as a country. 50% of the Sinhalese sample 49% celebrated the death of Prabakaran. Even today they are happy to recall that victorious day. 3% of people did not accept the death of Prabakaran. But 97% of people have that glorifying attitude. From 2009 May to future generation to generation this glorifying attitude, and feelings may transmit. Most Sinhalese have this attitude. But according to Buddhism killing is a sin. But Sinhalese have numerous reasons to prove this murder is not a sin. There may be sometimes that people need to get controversial decisions

Figure 7: Why Majority of People Celebrated the Demise of Prabakaran?



(Source: Survey Data, 2022)

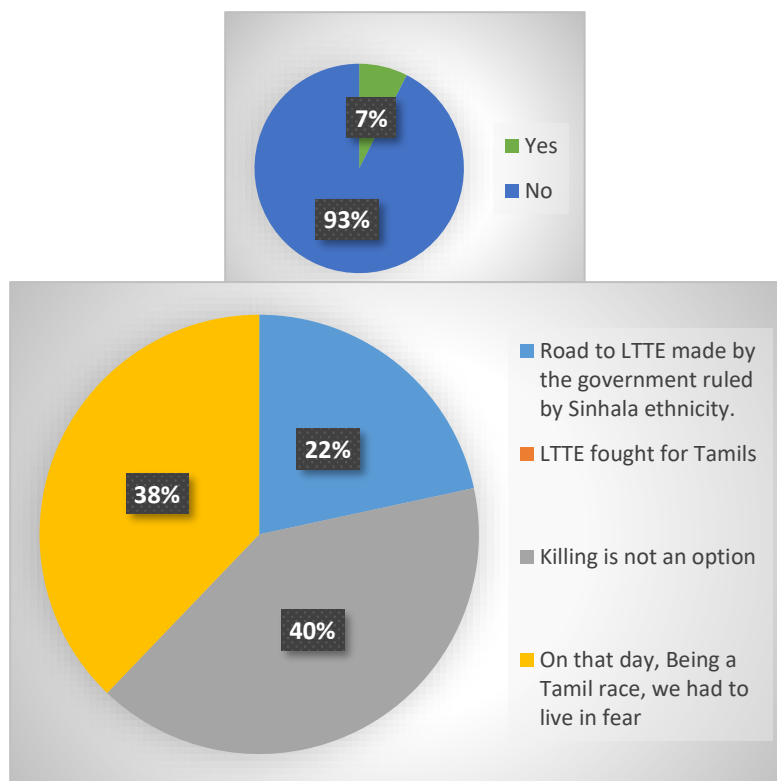
Figure 9 shows, 59.1% of the majority of people were happy about the demise of Prabakaran because Sri Lanka was free from fear. 30 years people live with fear for life. With the death of the leader of the LTTE terrorist organization that fear was gone. That is the viewpoint of most Sinhalese. Another 26.2% responded that "Prabakaran got the punishment that he deserved". That response was a bit tough than majorities idea. As a result of traumatic experiences, 26.2% of people are not willing to give empathy toward Prabakaran. And 7.1% of people celebrated this incident because they got a united country again while another 7.1% celebrated because Sri Lanka is a country that lived with a Sinhala majority and Sri Lanka should use by Sinhala ruler.

"All Sinhalese celebrated from the death of LTTE leader Prabakaran. With the experience that we got like damaged to Temple of Tooth Relic, killed many innocent people we can be happy about his death" (BM04, 2022).

"All family members didn't go in one transport. Because there was an uncertainty about lives" (ULSIN01, 2022).

While 97% of the Sinhala community celebrated the end of the war, from the Tamil community 93% suffered without celebrating in Rathnapura District. from the Tamil community only 3% celebrated but the majority of Tamils experienced traumatic experiences from that.

Figure 8: Why Tamil People did not Celebrate Prabakarn's Death



(Source: Survey Data, 2022)

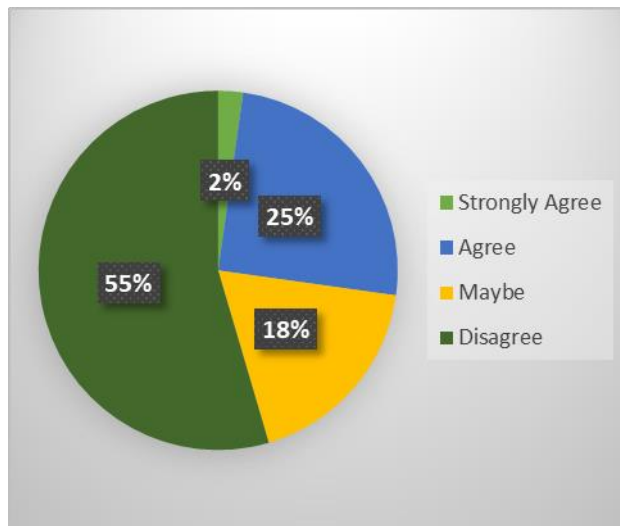
When analyzing the whole Tamil population who responded to the questionnaire 40% of them answered as "Killing is not an option" (figure 10). According to the Human rights as well as their religion and ethnic feeling answered as even though he did many faults anyone can't kill a person. Rules. Laws are there to punish them. While 97% Sinhala ethnic group celebrated the death of Prabakaran 40% of Tamils suffered from it. And another important answer is "On that day because Tamil people had to live with fear". 38% of people responded to this answer. Because when most Sinhalese celebrated their victory, Some of them thought Tamil ethnic people were their enemies and by hurting them they celebrated.

While Sinhala ethnic group celebrated achieving a fear-free country Tamil ethnic group got experienced a fearful environment. They had to live within their houses. Not because of another reason, only because of their ethnicity. Being a Tamil person was the issue.

#### What is the Public's Opinion about The 1948 Government's Behavior?

In 1948, just after independence, the Sri Lankan government showed doubtful behavior. While one ethnic group got all the rights, other ethnic groups had to remain without any rights.

Figure 9: Just After Independence in 1948, Do the Government Rule the Country Very Well?



(Source: Survey Data, 2022)

Sri Lanka got freedom from Britain in 1948. Just after the independence government behavior was significant. Because it treated different ethnic groups in different ways. 2% of people accept the government's behavior. 18% didn't have a clear idea about the 1948 government's actions. But 25% of people who belong to the Sinhala ethnic group responded as "Agree" (Figure 11). When thinking about that period they didn't get any issues because of the government while 55% of the majority told 1948 the government was an injustice. In this 55%, 40 people in Tamil chose the "Disagree" answer, as well as 05 UN-SIN, selected the same answer.

But Sinhalese could celebrate the moment of freedom. They got each and every right that gave by the government while Tamil people faced numerous issues.

1948 after getting independence Sri Lanka achieved its happiest moment. 27% of Sinhalese responded as 1948 government actions were satisfied because, 5.7% of people answered as "Got Job Opportunities", 71.4% majority happy about getting freedom as well as citizenship as Sri Lankans, 14.3% responded government is done well because they got more opportunities than Tamil people, and 8.6% said the government got equal rights. Sinhalese didn't get much hardship because of the 1948 government even some people didn't know as a government what type of decisions they got, and what happened. They only knew that they didn't get any hardship.

"Because Sinhalese are the most prominent ethnic group in Sri Lanka, there is no matter to treat especially for Sinhala ethnic groups. Other ethnic groups arrived after the Sinhalese. So, it is okay to treat Sinhalese like that" (BM01, 2022).

4.4% of Tamil respondents provided their answers as, because of 1948 government decisions, and acts they enacted like Sinhala Only Act many Tamil people lost their jobs. This is the turning point for the LTTE also. While one group of people has all rights one group is suffering. 37.7% of people responded as they didn't get citizenship. While Sinhala ethnic group was happy about freedom and Sri Lankan citizenship Tamil ethnic group couldn't be happy about freedom because the government didn't give citizenship to them. They enacted the Citizenship Act. Many people suffered without citizenship, they couldn't buy food

or land. Some families broke into pieces because some Tamil people had to return to India. 57.8% of people lost their basic human rights, and 57.8%, 03 people were Sinhalese. They knew the situation that happen in 1948 but others didn't have any ideas because as Sinhalese they had all rights and opportunities.

In society, some Sinhalese did not have any idea about the 1948 situation. Their answer was they got every right within this country. As citizens as well as people within the same country, the interaction between different ethnic groups showed only physically. Not only the 1948 Citizenship Act but also the 1956 Sinhala Only Act, made a huge impact on Tamil's lives.

"Sinhalese got citizenship in 1948, but we had citizenship in 1976. They did not treat us as Sri Lankans. There was a coupon book to get rice. We got a different color coupon book than Sri Lankan citizens. That done to identify us as we are not citizens in this country." (TRL01, 2022).

"There were 11 members in mother's family. But because of Citizenship act in 1948, only 04 remained in this country other all left Sri Lanka. My mother always suffered without her brothers and sisters" (ULTAM01, 2022).

"We didn't have any equal treatment past, as well as, present" (TRL03, 2022).

1948 Tamil ethnic group had many traumatic experiences because of the government's behavior. According to the responses in those days, Tamil could not buy land, because they are not citizens. However, by bearing all sadness when they going to get a government job, they were rejected by the government because they are not citizens.

"We had only two options, one Stay at home, second go to work at tea plantation state." (ULTAM01, 2022).

While Sinhalese got every right, Tamils lost their human rights also. With that traumatic experience, Tamil People suffered a lot. Moreover, some saying even today we do not have equal rights. These traumatic experiences affect the buildup of deep cultural syndromes. It affects the relationship between Sinhalese and Tamils. Tamil ethnic group is tired of Sinhalese. Why is that? Because of the lack of interaction between Sinhalese and Tamils. Many Sinhalese suffered what happen in history. They are not happy with what happened in 1948.

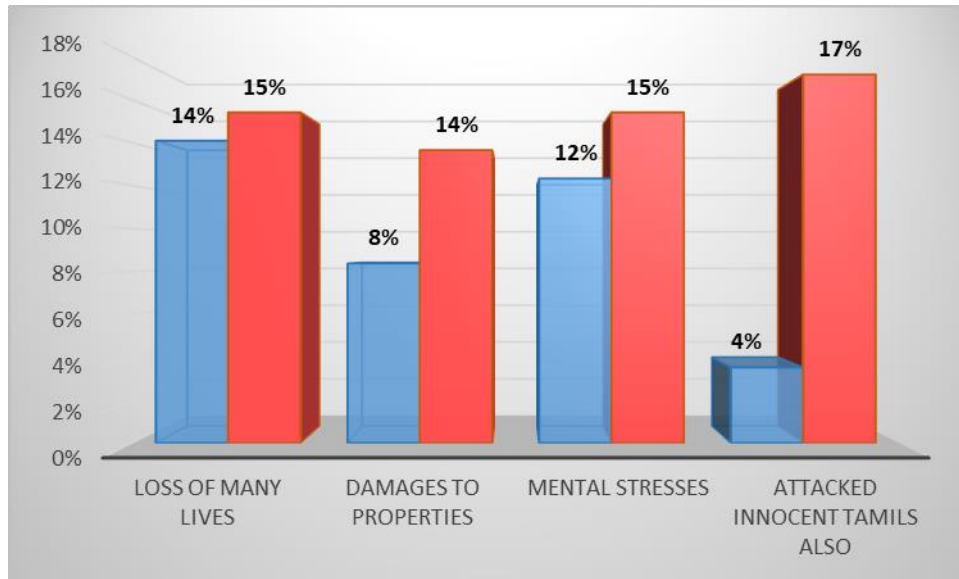
In 1956 Sinhala only Act was enacted because there was a discussion about "which language should be the official

language?" because a small number of people spoke English. Some suggested Sinhala and Tamil both should be the official language. But even 75% majority of Sri Lanka in Sinhalese, if Tamil became an official language that will be a threat to Sinhala Language (NPCF, 2022).

#### What is the Public's Opinion about "Black July"?

According to the responses, Black July was the saddest incident for both ethnic groups. 100% of responses showed the answer "Yes" to the question "Black July is the saddest incident in Sri Lankan History?"

Figure 10: Why Black July was being Saddest Incident in Sri Lankan History?

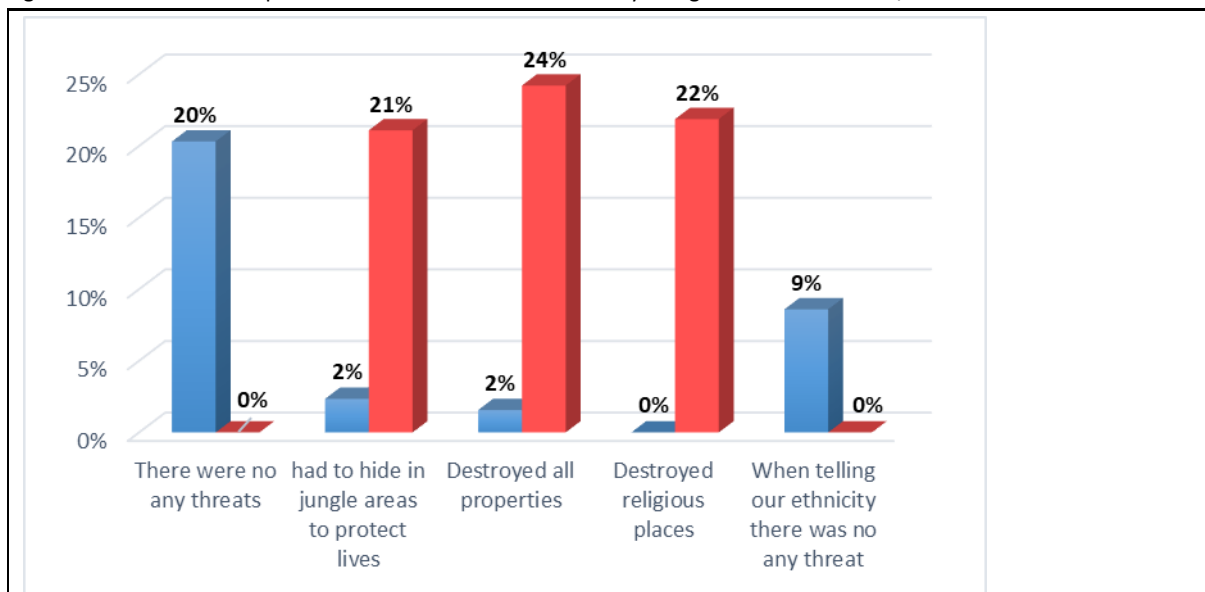


(Source: Survey Data, 2022)

1983 Black July was the saddest incident for both ethnic groups. Even if any party gets victory from a conflict not anyone can assume that as a 100% victory. Because under that happiness there are many losses. For the answer to "Loss of many lives" 14% of Sinhalese and 15% of Tamil people responded. Sinhala people answered that they saw the saddest incident. Even though those people are not Sinhala ethnic group many lives were destroyed. And many Tamil people lived in fear. They didn't have any protection. 08% of Sinhalese and 14% of the Tamil community responded to the answer "Damages to properties". More

than Sinhala Community Tamil had responded to this. Because at that time there was huge destruction of properties that belongs to the Tamil ethnic group. 12% of Sinhala ethnic group and 15% of Tamil ethnic groups responded, as there is huge mental stress because of this Black July. 4% of Sinhalese and 17% of Tamils responded to the answer "Innocent Tamils also attacked". According to the responses majority of 17% of Tamil answered that they have attacked during the Black July period because of their ethnicity. Instead of being Tamil people, they did not do any other fault. For both ethnic groups, Black July was the saddest incident that they didn't like to recall.

Figure 11: What are the Experiences that You Got from Black July Being Tamil Ethnic Person/ Sinhala Ethnic Person?



(Source: Survey Data, 2022)

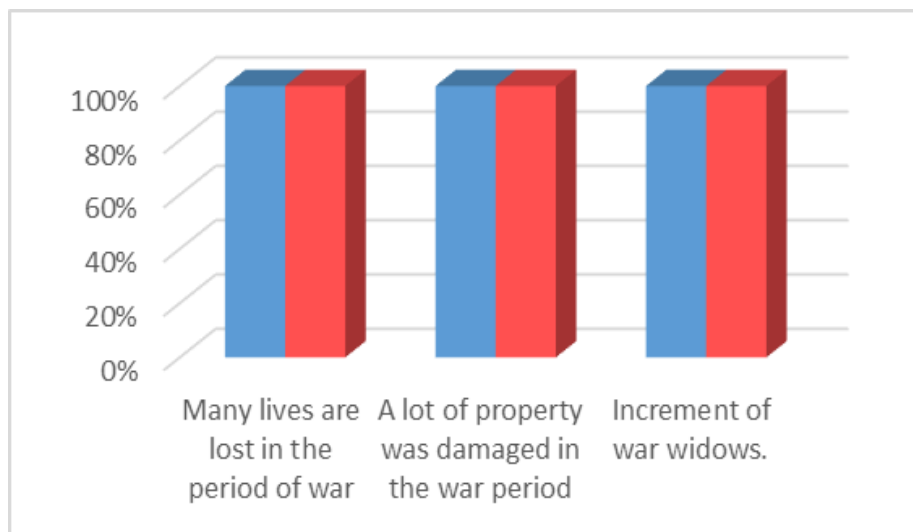
The above figure displayed some experiences that Sri Lankan got during the Black July Period. According to the above figure can identify the most traumatic experiences were happen to the Tamil Community. 20% Sinhala ethnic group responded as there were no threats to their lives in that period. Some of them face traumatic incidents, and threats but at that moment when realizing he/she is a Sinhala person, there was no threat again and 9% responded to that answer. However, to Tamil ethnic group's response to those answers was 0%. However, the highest response can see as "Had to hide in jungle areas to protect lives" 21% of responses can see in the above figure. 24% of people's properties were destroyed and 22% of people's Religion places were destroyed.

"We couldn't even walk on the road. Sinhalese burned our all vehicles. Those days your university was not there, our

one bus burnt in Pabahinna area. We are Indian Tamils, because of that people came to burn our house and we ran to refugee camps" (TRL01, 2022).

"When I am going to my office I saw a group of people breaking Tamil shop. Daily I am buying goods from that shop and I know that owner. He is a Tamil person. I asked from those people why are you breaking this shop? They answered as, Don't you know our 13 soldiers were killed? And I replied back, Were those boys killed by this shop owner? And they were not happy about my answer. They asked me, what is your ethnicity and I replied, as I am Sri Lankan. But they asked again whether I am Sinhalese or not...." (NPCF, 2022).

Figure 12: Traumatic Incidents



(Source: Survey Data, 2022)

According to responses that 100% of people accept that even with victories from war, and conflict when looking back again there are thousands of traumatic experiences. 100% of respondents answered as Life losses, increasing war widows, and Damages to properties coming behind them with the victories.

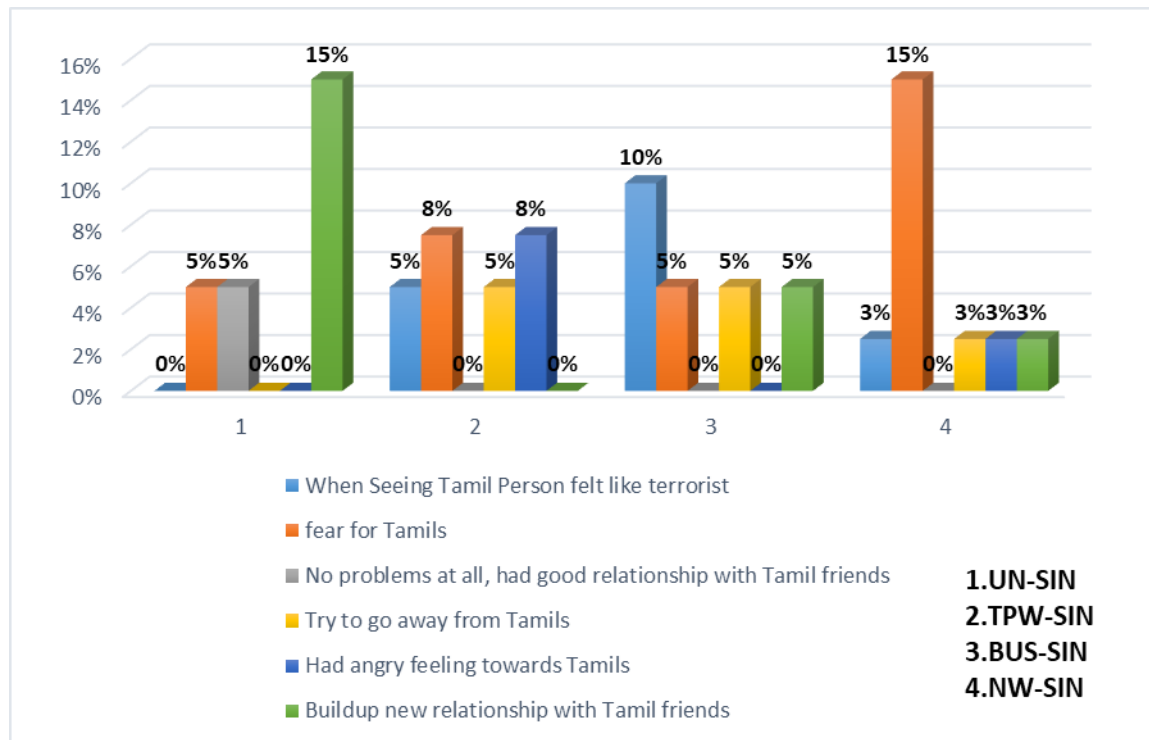
### Relationship between Sinhalese And Tamils

There is more interaction between Sinhalese and Tamils within Rathnapura District. Rathnapura is a combination of all ethnic groups. But Tamil and Sinhala people daily interact with each other. As well as with above mentioned all experiences do they have pure interaction between them?

When considering Sinhala people 97.5% of people have Tamil friends while 5% don't have any Tamil friends. And According to Tamil ethnic group responses, 87.5% of people have Sinhala ethnic group friends while 12.5% of people don't have any Sinhala friends. When considering the majority, interacting with Sinhala and Tamil people within the Rathnapura district is at the highest level. 72% of responses received as they have a "Close" relationship while 17.3% have a "Very close" relationship. 9.3% of people have friends but that is not a "close" relationship.

### Interaction between Sinhalese And Tamils In The Civil War Period

Figure 13: Sinhalese Attitudes towards Tamil people in the Civil war period

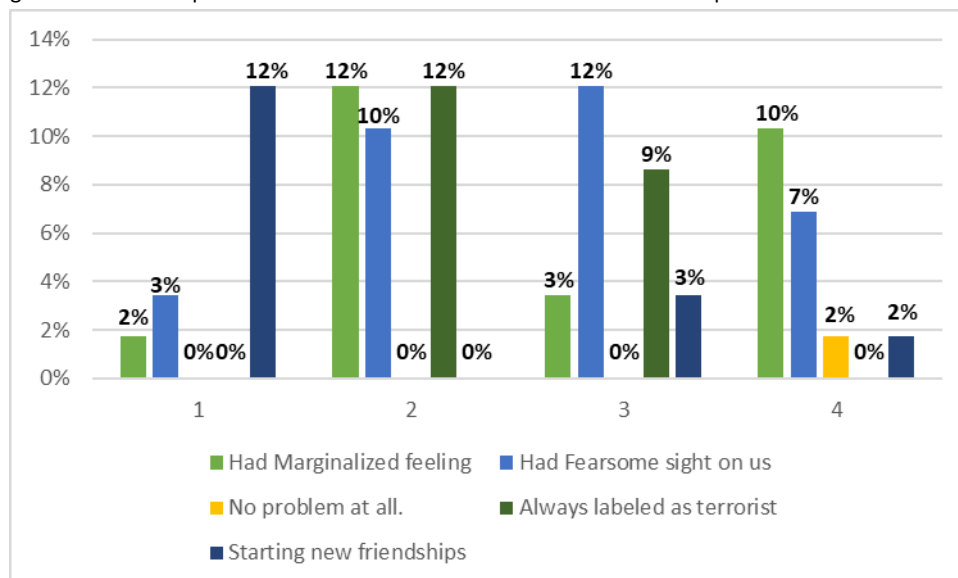


(Source: Survey Data, 2022)

Above figure shows what is the Sinhalese attitude during the civil war period. there is a significant difference between social status. While other people had fearsome sight of Tamil people, fear for Tamil, and trying to go away from Tamil people UN-SIN category showed a good relationship with their friends. There are past experiences but it showed for the relationship it doesn't matter. But each and every

other layer people had fearsome sight of Tamil ethnic groups. 15% of NW-SIN responded with the highest rate of that answer. 10% of BUS-SIN had an attitude when seeing any Tamil person thought as a terrorist. 8% of TPW-SIN responded to the answer "Had angry feeling towards Tamil". They showed 0% of building up a new relationship with the Tamil ethnic group in the civil war period while other social layers at least showed 3% of improvement from relationship factor.

Figure 14: Tamil People's Attitudes towards Sinhala Ethnic in the Civil war period



(Source: Survey Data, 2022)

According to the above figure UN-TAM showed 12% of the highest level relevant to the answer "Starting new friendships" while TPW-TAM showed 12% relating to the answer "Always labeled as terrorist". And also TPW-TAM

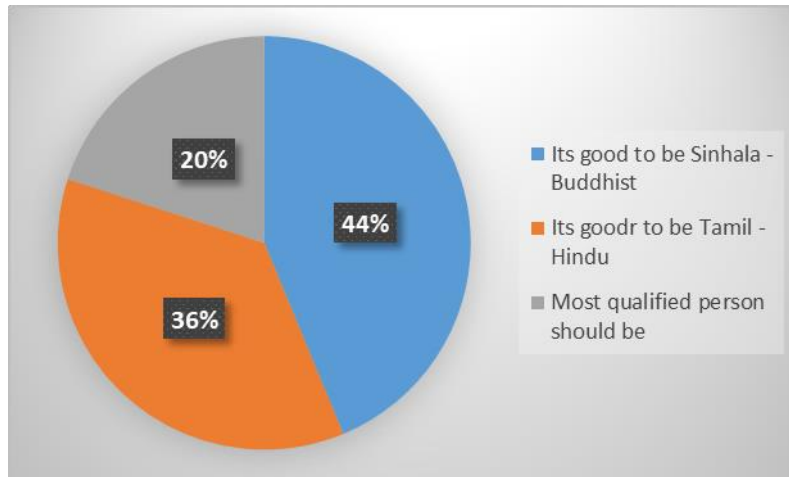
12% responded as, in civil war period they lived with marginalized feeling. 12% of BUS-TAM had experienced having fearsome sight on them by Sinhala ethnic group. 2% from NW-TAM responded as they didn't face any problem.



When considering the above two figures can identify because of war, people's attitudes toward other ethnic groups changed. Their cultural norms, values, beliefs, as well as experiences, also can change their attitudes.

Current society is free of fear of war, and conflict. But when considering the above responses researcher can come to a conclusion as both Sinhalese as well as Tamils can not forget those experiences. As a result of that, can they conduct a pure relationship?

Figure 15: Which Ethnicity Person Should Be The President?



(Source: Survey Data, 2022)

According to the responses, "Who should be the president? Sinhala – Buddhist person or else, Tamil- Hindu person?" 44% of people responded regarding "Its good to be a Sinhala

- Buddhist" while 36% of people answered, "It good to be a Tami-Hindu person". only 20% of people answered as the "Most qualified person should be" the president. Why do people have this type of attitude? Below figure 4.27 explained the reasons for the above answers.

Table 2: Why President Should be Sinhala/Tamil person?

If you are telling Sinhala-Buddhist, why?		If you are telling Tamil-Hindu, why?	
Can control a country correctly	0	To get equal rights for all ethnic groups	22.2%
To continue Sri Lanka as a United country	35.9%	Avoid getting irresponsible decisions like the 1948 government	25%
To get equal rights	15.4%	Treat equally minority groups also	15.4%
Again can not face a war	61.5%	To address minorities issues	61.5%

(Source: Created by Authors, 2022)

61.5% of respondents regarding the Sinhala community responded to the answer "Again can't face a war", and 35.9% of people respond to "Continue Sri Lanka as a United country" while 25% of Tamil people respond to the answer "Avoid getting irresponsible decisions", and 61.5% of people respond to the "To address minorities issues". It proved that still, both ethnic groups people are suffering fear from Deep cultural syndromes. Even though it seems like solved all issues still issues are continuing but have not appeared physically. And past experiences make an impact on the Sinhala-Tamil relationship in the Rathnapura district.

## CONCLUSION

Impact of Glories and Traumas on the ethnoreligious relationship in the Rathnapura district is finalized. When studying about Rathnapura district people by asking questions and getting responses to questionnaires found that there are deep cultural syndromes on their minds. The context for those syndromes or attitudes is a historical event in Sri Lanka. King Dutugamunu – Elara war, 1948 government's activities as well as a civil war. Because of those events, Sinhalese and Tamils could get different types

of experiences. While one ethnic group achieved glories, other ethnic groups had to get traumas. As well as another time, both ethnic groups got traumas. Because of that, it affects the Sinhalese and Tamil's relationship and collapses the interaction between them. One day any time, any place it may convert into a conflict. According to the responses that the researcher received, conclude as all three stages occurred because of a Lack of interaction between the feeling of Sinhalese and Tamils.

According to the question asked in the questionnaire, "Do you believe that your ethnic group has a long history?" 100% from both ethnic groups were answered as "Yes". And when interviewing people they responded as, "Sinhalese is the first ethnic group in Sri Lanka", "Hinduism is the oldest religion in the world". 17% of Sinhalese responded more than others literature they have valuable literature while 20% of Tamil responded as they have a long history that even could not tell an exact date.

When identifying Glories Sinhalese got Glorifying experiences from King Dutugamunu and king Elara's war. Still, Sinhalese proudly recalls that event, as well as victory, got to the death of LTTE leader Prabakaran. And in 1948 with the freedom of Britain Sinhalese got the rights that need to live. But when considering War victories can't actually

consider glories. "Glory isn't made up entirely of glorifying moments. Glory is intrinsically linked to the disaster. Many losses, negative encounters with negative memories, physically and emotional harm" (Galtung, 2000: 119). Many traumas cause bitter future suffering and have an impact on relationships. Loss of lives, damage to properties, mental stress, and damage to the economy can consider as traumatic experiences. As a Tamil ethnic group, they have glorifying experiences with king Dutugamunu's decision to make a monument for king Elara. In addition, getting citizenship back.

Since there is no longer a war in Sri Lanka, the country is content with its socioeconomic situation. Despite the fact that this is true, memories and experiences are things that people never forget entirely. Consequently, this research has demonstrated that the conflict's effects are still being felt by the populace. Using the ABC triangle as an examination instrument, this study investigated profound psychological elements. This could shed light on the problems that people continue to face and the reasons why they are unable to recall certain sensitive events. Even though they would rather forget certain incidents, these memories continue to have an impact on their lives. Therefore, the research suggests new policy implementations to address the deep social divisions between Sri Lanka's ethnic groups.

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# A Conceptual Framework on Predictors of Cyberbullying Victimization

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## Abstract

*Cyberbullying is becoming a prevalent problem worldwide including in Sri Lanka with adolescents, in particular, being vulnerable to it. Researchers identify various personality traits and social factors as contributing to one's vulnerability to cyberbullying. Rather than being stand-alone factors, these personality and social factors are often interrelated and interdependent. Thus, the objective of this study is to examine how social structures such as family, peers and school influence personality traits that increase or decrease one's vulnerability to cyberbullying victimization, and design a conceptual framework on predictors of cyberbullying that depicts this relationship. This study is a qualitative study using the analytical research approach. The existing literature on factors contributing to cyberbullying, theories on cyberbullying and on human development are analysed for identifying the relationship between social structures and personality traits. The big five personality traits theory identifies the personality traits that increase one's vulnerability to cyberbullying while the bio-ecological framework on human development posits that human development is influenced by various social structures such as the family, peers and school. This study combines the two theories and demonstrates with reference to secondary sources and existing literature, how social structures such as the family influence development of personality traits that can increase or reduce one's vulnerability to cyberbullying. The study reveals that factors such as poor parental support, poor parental monitoring and supervision, emotional loneliness and lack of social cohesion in a family, poor peer support and lack of supportive and trusting relationships with one's teachers lead to the development and perpetuation of personality traits such as neuroticism and extraversion that increase vulnerability to cyberbullying while the existence of family cohesion, positive peer support etc can reduce vulnerability to cyberbullying by inculcating personality traits such as conscientiousness, and reducing neuroticism etc. Based on these findings, cyberbullying prevention and intervention programs should focus on promoting positive and supportive relationships between parents-children, teachers -students and peers to enable adolescents to acquire and develop personality traits that increase their resilience to cyberbullying.*

**Keywords:** Cyberbullying, Cyber Harassment, Personality traits, Predictors, Social Factors

## INTRODUCTION

As a result of the rapid rise in the use of electronic means of communication new forms of violence have come into being including cyberbullying which is emerging as a severe problem worldwide. Cyberbullying involves harassment, humiliation, or threat that occurs through the internet, emails, text messages, instant messaging, social media websites, online forums, and chat rooms, whereby harm is intentionally inflicted upon individuals by a single person or a group of persons (Watts et al., 2017; Wang & Chang, 2010). Cyberbullying can be seen to occur more often among teenagers than adults due to the high speed at which young people are adopting new technologies and their cognitive and emotional immaturity (Chengyan Zhu et al., 2021; Durak, 2018).

Occurrence of cyberbullying does not happen in isolation from the wider social environment in which humans operate; in fact, it stems from complex interactions between individuals and multiple social structures such as family, neighborhood, peers, school, community, etc (Jattarmat et

al., 2021). Accordingly, various individual-level factors and social-level factors serve to promote and maintain vulnerability to cyberbullying. The individual-level factors include variables that are directly associated with the characteristics of specific persons such as age, gender, personality traits, etc. The social level factors involve variables that relate to the social background and social relationships of persons such as socioeconomic status of the household, parental support, school climate, peer support, etc.

Despite the abundance of research on individual and social level predictors of cyberbullying victimization, to date, there have been few studies that examined how personality traits, which predispose a person to become a target of cyberbullying, are affected by the social structures in their surrounding environment. In terms of the risk factors associated with cyberbullying victimization at the personal level, many studies evidence that adolescents with personality traits such as low self-esteem, high degree of

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self-expression or openness (sensation-seeking) are more likely to be cyberbullied (Pereira et al., 2016; Celik et al., 2012; Patchin & Hinduja, 2010). Studies of Feslt & Quandant, Celick and Safaria & Suyono reveal that college students with the ability to effectively balance emotions such as anxiety and hostility, and those who are conscientious, more organized with a great sense of responsibility and self-control are less likely to be cyberbullied (Safaria & Suyono, 2020; Feslt & Quandant, 2016; Celik et al., 2012). Further, it is proven that older female teenagers, especially those aged over 15 years, are at a greater risk of becoming victims of cyberbullying (Alvarez-Garcia D, 2018; Buelga, 2015). At the situational level, the role of parents, teachers and peers are seen as critical in cyberbullying experiences. Parental neglect, parental abuse, parental inconsistency in supervision of adolescents' online behavior and family dysfunction have been found to have a direct impact on cyberbullying victimization (Katz et al., 2019; Hong et al., 2018). Moreover, inharmonious teacher-student relationships and lack of peer support are major sources of tension that contribute to cyberbullying victimization (Wright & Li, 2013; Hinduja & Patchin, 2009). A majority of research studies on predictors of cyberbullying victimization has provided individual-level explanations (impact of characteristics of individuals on cyberbullying victimization), micro-sociological level explanations (impact of interactions between persons and groups on cyberbullying victimization) or macro-sociological explanations (impact of social systems and culture on cyberbullying victimization). Analyzing a phenomenon at one of these levels while ignoring the other levels of explanation yields an incomplete explanation of the phenomenon (Meire, 1985, p.65). Therefore, the present study seeks to fill this gap; it searches for possible linkages between social structures and personality traits that contribute to cyberbullying victimization to provide meaningful context and a more holistic perspective on this social phenomenon.

The influence of social structures such as family, school and peers in shaping personality traits that heighten or mitigate the risk of cyberbullying victimization is examined in this study. Furthermore, a framework is built conceptualizing the interplay between social structures and personality traits with regard to increasing or decreasing vulnerability to cyberbullying. This framework is expected to provide a deeper understanding of the underlying dynamics of cyberbullying, which is vital in bringing it to an end. Moreover, it is also expected to enable the formulation of targeted cyberbullying intervention and prevention measures, which treat those with different social behavioural norms differently.

#### **CYBERBULLYING: DEFINITIONS, PREVALENCE AND IMPACTS**

Information and Communication Technologies (ICTs) have a double-edged character; conveniences in terms of access to information and interpersonal communication go hand in hand with the risks of abusing these technologies for other less desirable purposes. One such negative usage of ICTs is cyberbullying, which emerges as a result of the transfer of traditional bullying to the virtual realm with the penetration of ICTs into human lives.

Belsey defines cyberbullying as a form of intentional, repetitive and hostile behaviour by a single person or a group of persons through the use of information and communication technologies (Belsey, 2019). Patchin and Hinduja observe that cyberbullying constitutes acts of online

aggression that are carried out repeatedly by persons, who perceive themselves to be in positions of power and derive personal gratification from mistreating the victim, who finds it hard to defend him/herself (Patchin and Hinduja, 2019, p.342). According to Ariack, cyberbullying can be understood as a scenario where an individual is tormented, threatened, harassed, humiliated, embarrassed or otherwise targeted by another individual via any digital device such as a computer or mobile phone, and most commonly occurs within social media environments, discussion forums and gaming environments, as well as through text messaging and email (Ariack et al., 2008, p.58). There is no single standardized definition of cyberbullying. However, when the above definitions are examined, cyberbullying can be generally characterized as a deliberate, repetitive and aggressive activity carried out through electronic means of communication in order to intimidate, humiliate and embarrass the targeted individual. There are numerous subtypes of cyberbullying such as flaming, outing, trickery, sexting, cyberstalking, catfishing, impersonation, denigration and exclusion (Khan et al., 2020).

Cyberbullying has become an alarmingly increasing issue across the globe. The Pew Internet and American Life Project on Cyberbullying, conducted in 2006 using a sample of 935 teens (age 12 -17) in the United States, revealed that one out of three teens have been bullied in the preceding year (Li, 2010). Selkie's study, which systematically reviewed cyberbullying among American middle and high school students (age 10-19) in 2015, revealed that the prevalence of cyberbullying victimization ranged from 65 percent to 72 percent (Selkie et al., 2015). A cross-sectional study conducted among 2338 youth in Australia between the ages of 12 and 18 revealed that 27.7 percent of respondents reported being cyberbullied at least once in 2015 (Klettke and Howard, n.d.). In Canada, one in three Canadian youth report having been bullied in the recent past, and 10 percent of individuals report being bullied on a daily basis (Steeve, 2014). Further, 47 percent of Canadian parents report having a child who has been bullied (Steeve, 2014).

Existing research reveals that cyberbullying can have extensive and debilitating psychological, physical and social impacts on victims (Okumu et al., 2020; Fisher et al., 2016). These include loneliness, anxiety, depression, low self-esteem, sleep deprivation, suicidal ideation, broad-line personality disorder, eating disorder, rape, suicide, disruptions in education and employment and marital discord (Nixon, 2014). Cyberbullying is regarded by many as being more pernicious than traditional bullying, as it enables the bullying of a large number of people relatively effortlessly and anonymously, irrespective of the time of the day and geographic location (Kowalski et al., 2014, p.1078). Unlike victims of traditional bullying, victims of cyberbullying have no escape and respite from the bullying even within their own homes (Khan et al., 2020).

High prevalence rates and serious negative impacts of cyberbullying on the physical and mental well-being of individuals warrant the implementation of effective countermeasures and preventive measures. To that end, gaining a comprehensive and methodical understanding of predictors of cyberbullying victimization is vital, as it can assist in tailoring cyberbullying prevention and intervention strategies in line with the needs, abilities and interests of the target groups.

## METHODOLOGY

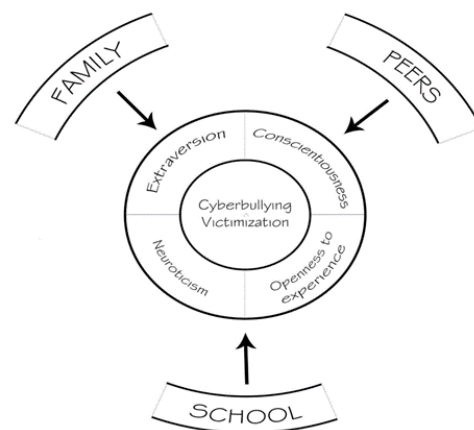
This study is a qualitative study, as it seeks to understand connections among variables, which drive people to behave in a certain way that increases the vulnerability to cyberbullying. The nature of the research is analytical and the research design is exploratory; instead of testing a hypothesis, this study focused on increasing the understanding on cyberbullying victimization by bringing together past qualitative research data, analysing and interpreting information, and examining if social structures do truly have an effect on personality traits of victims, thus, formulating a conceptual framework on predictors of cyberbullying victimization. To that end, this study utilized secondary data sources such as research papers and scholarly articles. Researchers explored literature on cyberbullying, cyberbullying victimization, factors motivating cyberbullying victimization, theories on cyberbullying victimization and theories on human development. The literature was extensively analysed using meta-synthesis; researchers brought together studies related to predictors of cyberbullying victimization, categorized the findings into personal factors and social structural factors, examined them and discovered linkages, and drew conclusions, which led to formation of the conceptual framework.

### THE CYBERBULLYING VICTIMIZATION CONCEPTUAL FRAMEWORK

This framework (see Fig.1 below) is founded on the Big Five Personality Traits theory originally developed by Ernest Tupes and Raymond Christal (Tupes & Christal, 1961) and the Bio-ecological Framework of Human Development theory proposed by Bronfenbrenner (1997). The five broad human personality traits described by the Big Five Personality Traits theory are extraversion, agreeableness, conscientiousness, neuroticism (or emotional stability), and intellectualism (or openness to experiences). This theory is popularly utilized by researchers to better understand the relationship between personality traits and cyberbullying. This framework excludes the trait of agreeableness because it is proven that agreeableness does not play a major role as an explanatory factor of cyberbullying victimization (Alonso & Romero, 2017; Antoniadou & Kokkinos, 2018). The dimension of extraversion includes traits such as sociability, enthusiasm, assertiveness and self-confidence; conscientiousness includes traits like order, precision, and responsibility; neuroticism includes traits like feelings of anxiety, fear, worry, low self-esteem and depression; intellectualism includes creativity, curiosity, being imaginative and insightful (Escortell et al., 2020). Scholarly efforts at examining the impact of personality traits on cyberbullying victimization confirm that the probability of being a victim of cyberbullying increases as the levels of extraversion, neuroticism and openness to experience increase, while the conscientiousness personality trait is a protective factor against being bullied (Rodríguez-Enríquez et al., 2019, p.5; Escortell et al., 2020).

The Bio-ecological Framework emphasizes that the personal development of a human is influenced by his/her interactions with social structures in the microsystem, the mesosystem, the exosystem, the macrosystem and the chronosystem. The microsystem is the smallest and most immediate environment in which children live. It comprises the home, school or daycare and peer group (Goerzig & Machakova, 2015). The mesosystem encompasses interactions between different microsystems in which

children find themselves in. It involves linkages between home and school, between peer group and family, and between family and community (Goerzig & Machakova, 2015). The exosystem contains social settings which do not directly contribute to the development of children but affect them indirectly such as the workplaces of parents, extended family members and the neighborhood the children live in (Goerzig & Machakova, 2015). The macro system in Bronfenbrenner's ecological model comprises the most distant collection of people and places to the children that still have significant influences on them. This ecological system is composed of the cultural patterns and values of children, specifically their dominant beliefs and ideas, as well as political and economic systems (Evans, 2020). The chronosystem demonstrates the influence of both change and constancy in the environments of children. The chronosystem includes a change in family structure, and the employment status of parents, as well as immense changes in society such as economic cycles and wars (Evans, 2020). This conceptual framework only considers structures in the microsystem, because microsystem is the most influential level of the ecological systems theory with regard to human development (Ashiabi & O' Neal, 2015).



According to the above-stated theories, the authors posit that structures in the microsystem influence the development of personality traits in individuals that either mitigate or increase their vulnerability to cyberbullying. This framework (see Fig.1. above) unfolds how parents, school and peers in the microsystem influence personality traits of extraversion, conscientiousness, neuroticism and openness to experience, which form the basis of behaviours that affect the likelihood of being cyberbullied.

The relationship between social structures and individual characteristics illustrated by this framework can make a significant contribution to the design of cyberbullying prevention measures, in particular among children and adolescents, as they pass through various phases of personality development in which social structures play an essential and specific role. Moreover, this conceptual framework would be a vital source of knowledge for policymakers to customize preventive measures in line with risk and protective factors related to cyberbullying victimization and the role of social structure agents in shaping personality traits underlying cyberbullying.

## CAUSAL RELATIONSHIP BETWEEN PERSONALITY TRAITS AND SOCIAL STRUCTURES

This section explores the nature of the influence of family, school and peers on each personality trait in the inner circle of the framework in terms of enhancing or inhibiting experiences of cyberbullying victimization.

### Family

A growing body of literature investigating how dynamic family variables affect cyberbullying victimization suggests that family communication, family cohesion and parental control strongly influence personality traits (Osion, 2000; Buelga et al., 2017), which form the basis of behaviours increasing or decreasing the likelihood of cyberbullying victimization.

Emotional loneliness is the subjective feeling of disconnection in a relationship (Jattamart & Kwangsawad, 2021). It is a trait captured by the neuroticism personality of the Big Five Personality Traits Model. Studies of Sahin and Russel reveal a strong positive correlation between emotional loneliness and cyberbullying victimization (Sahin, 2012; Russel, 2017, p.65). To reduce feelings of loneliness, youngsters actively use social networking sites, which provide more opportunities to be connected with others to feel cared and valued. The more time an individual spends on social networking sites, the more he/she is likely to experience cyberbullying, because users usually disclose large amounts of personal data through online chats, by sharing pictures and videos and updating statuses (Rodríguez-Enríquez et al., 2019; Won & Seo, 2017). Moreover, adolescents use gaming sites and entertainment sites more actively to help reduce their loneliness (Deters & Mehl, 2013). Results of the studies by Hao and Zheng indicated that lingering on leisure sites makes adolescents more vulnerable to mental, emotional and moral erosion through misinformation and disinformation on the internet and thus develop negative behaviours, which lead them to be bullied (Chang et al., 2015, p. 25; Hao, 2014). Accordingly, it is evident that higher degrees of cyber dependency to quell loneliness result in higher probabilities of adolescents being cyberbullied. A low level of family cohesion is a major contributing factor of emotional loneliness among youngsters (Arato et al., 2021, p.169). Frequent and intense family conflicts and absence or avoidance of communication result in weak emotional attachments among family members. Results of the study by Ybarra and Mitchell finely portray this causality between family cohesion and loneliness. They find that cyber victims had lower emotional bonds with their families and lower parental control compared to those not involved in such behaviours (Ybarra & Mitchell, 2004, p.322).

A great number of studies confirm that the highest predictor of being a cyber-victim is neuroticism and there is a positive relationship between being a cyber-victim and neuroticism (Celik et al., 2012, p.140). Neurotic individuals are more likely to experience negative emotions such as anxiety, anger, depression, and low self-esteem (Ruiz et al., 2018). Youngsters with neurotic traits indicate a high inability to rationally cope with these emotions, as adolescence is a period of growth; they do not possess well-developed cognitive, emotional and social skills (Kowalski et al., 2018). Therefore, they opt for, as a coping mechanism, depicting their emotional instabilities in online platforms. Cyberbullies could easily exploit these disclosures of discomfort and harass these individuals (Rodríguez-Enríquez et al., 2019, p.4), because online aggressors usually seek out victims who

are disadvantaged and insecure (Rodríguez-Enríquez et al., 2019). Parental support is proven to be of considerable importance to the proper regulation of negative emotions experienced by neurotic individuals, and thus making them more resilient to cyberbullying (Marín-Cortés, 2019; Patchin & Hinduja, 2010). Parental support functions as a significant external emotion regulation strategy, to which adolescents can resort in order to monitor, evaluate and appropriately change their responses to emotionally distressing situations. Studies by Ruiz and Solecki confirmed this significant link between parental support and neuroticism (Ruiz et al., 2018; Solecki et al., 2014). The study conducted by Solecki involving individuals between ages 10-24 in the USA demonstrates that strong parental support decreases the possibility of youngsters with neuroticism personalities being victimized because proper parental guidance on formulating psychological and behavioural adjustments provides adolescents with a secure framework to respond to negative emotions effectively (Solecki et al., 2014). Based on the same reasoning as Solecki's study, Ruiz concludes that parental support coupled with open, unbiased and empathetic parent-child communication and warm and affectionate parent-child relationship operates as a protective factor against cyberbullying (Ruiz et al., 2018; Kostas et al., 2012). Moreover, there is a vast amount of evidence indicating the strong influence of parental support in mitigating associated harmful consequences of cyberbullying, which takes the form of anxiety, depression, anger, low self-esteem, alcohol use, substance abuse, smoking, suicidal ideation, sleeping deprivation, aggression etc (Kokkinos et al., 2013; Gunthert et al., 1999). A study by Schwartz found that victimized students receiving strong parental support indicate lower levels of anxiety and depression and greater self-esteem than victimized students with limited or no such support (Schwartz et al., 1998). Accordingly, it is evident that effective parental care and support can decrease the danger of becoming a recurring victim of cyberbullying by empowering the victim with better-coping capabilities.

According to a growing body of studies on the effects of personality on cyberbullying victimization, the probability of being a victim of cyberbullying increases as the levels of extraversion and openness to experience increase (Escortell et al., 2020). Individuals with extraversion and openness to experience personality traits are energized, talkative, enthusiastic, sociable and inquisitive. They are more prone to voice their opinions and ideas online, openly share their thoughts and emotions through social networks and take pleasure in participating in virtual social activities. Increased exposure to the internet and social media renders these extrovert individuals more vulnerable to suffering from cyberbullying episodes (Escortell et al., 2020); cyberbullying perpetrators have great opportunities to bully, as extrovert individuals are more prone to directly (e.g. - updating status, textual messages) or indirectly (e.g.- tagging, liking, sharing posts) expose their own information fully on the internet (Jattamart & Kwangsawad, 2021).

There is evidence that suggests that this situation becomes even more serious when parents do not or inadequately mentor on healthy usage of information and communication technologies and monitor online behaviours of their kids (Sampasa-Kanyinga & Hamilton, 2015). In a study conducted by Ybarra and Mitchell in 2004, they found that individuals with low parental mentoring and supervision on the social networking time, safe data sharing and usage of software are 54 per cent more likely to be cyberbullied when

compared to individuals with normal or high parental monitoring (Ybarra & Mitchell, 2004; Padir & Horzum, 2020). Parental supervision style and parental knowledge on the digital world can be identified as predominant determinants of the role of parental mentoring and monitoring in preventing extravert individuals from being victims of cyberbullying. Agreements on the usage of electronic devices and information and communication technologies reached through unbiased and open parent-child communications, as opposed to verbal coercion, physical coercion and privation practices, act as a protective factor against cyberbullying victimization (Lee, 2017). Knowledge and training on information and communication technologies, the internet and technical etiquette are necessary to effectively monitor the use of technology by youngsters. Studies indicate that the education level of parents has a large impact on the cyber victimization of adolescents. A study on cyberbullying among students between the ages of 15 to 18 in Sweden found that children with at least one parent who had a college education were less likely to be victims than children whose parents did not have a college education, because higher the educational level of parents, greater the awareness on the safe use of new technologies and adoption of this knowledge in supervising online behaviour of children (Läftman, 2013).

A high score on conscientiousness indicates a serious, formal, cautious, motivated, organized and resilient individual with a great sense of responsibility and self-control. The conscientiousness personality trait is a protective factor against being bullied; this may be because conscientious individuals are more cautious about the types of information they share online and patterns of using digital applications, which in turn provides limited opportunity for cyberbullying perpetrators to bully (Sampasa-Kanyinga & Hamilton, 2015). Moreover, conscientious individuals possess a high level of social-emotional intelligence and good emotion regulation skills. It contributes to better social competence and functioning, maintaining psychological well-being, to strategically processing and expressing emotions during disturbing situations (Morris et al., 2007). Parents do the groundwork with regard to inculcating the above qualities embedded in this trait. Studies by Rutherford and Eisenberg report that children who grow up in a dysfunctional family with low emotional communication are not given a model of how to accurately understand and respond to emotional situations (Rutherford et al., 2015; Eisenberg et al., 1998); these children are not encouraged to verbalize and display their feelings in an adaptive way; therefore, they lack the necessary cognitive and emotional maturity to better cope with their negative emotions and confidence to defend themselves against recurring situations of cyberbullying. A study by Zhong conducted including 947 Chinese college students highlights that, as opposed to inadequate and inconsistent parental supervision, students with moderate and consistent parental mentoring and monitoring on the use of the internet have high scores on personal skills, moral awareness and technical skills required for to use technology in a safe, responsible, and ethical way (Xu et al., 2020). It shows the critical role parents play in producing competent citizens capable of successfully facing the challenges in the information age.

### Peers

Unlike in childhood, when most social support comes from parents and family, during adolescence, most social support comes from peers (Olenik-Shemesh & Heiman, 2017, p.29).

Existing research shows that the absence of peer acceptance and group belonging during adolescence is associated with a high sense of loneliness and psychological distress (Holt & Espelage, 2007). In order to reduce loneliness, adolescents tend to linger on social networks and leisure sites, which makes them more susceptible to cyberbullying victimization (Deters & Mehl, 2013).

Peer support is an effective external source of emotion regulation strategies for individuals during emotionally distressing situations. The findings of the study by Dunn and Brown suggest that peer support enables neurotic individuals to regulate the intensity and timing of emotional and behavioural responses appropriately (Dunn & Brown, 1991). Accordingly, receiving support from peers to confront stressful situations prevents individuals from being cyberbullied as it deters individuals from exposing their emotional state in digital space, which makes them easy targets of online aggressors.

Moreover, positive and quality peer association protects youngsters from suffering from poorer physical and psychological health conditions following cyberbullying victimization, and thereby closing opportunities for recurring victimization. Research on the effects of peer and teacher support in mitigating the negative impacts of cyberbullying reveals a significant difference in the case of peers. Although both types of support contribute to mitigating the negative effects that adolescents might experience when exposed to cyberbullying, in the presence of peer support, victims are less likely to resort to emotional and behavioural maladaptive coping strategies such as depression, substance abuse, etc (Hellfeldt et al., 2019; Flaspohler et al., 2009).

### School

School is the social setting, next to the family, where individuals spend most of their lifetime and learn a large part of basic life skills that are required to manage their lives in a healthy and productive manner. Therefore, school connectedness and a positive school climate contribute to lessening cyberbullying experiences among children and adolescents (Kowalski et al., 2014).

A supportive and trusting relationship between students and teachers protects children and adolescents from cyberbullying victimization. Social support originating from teachers is a useful coping source, which can help students endure stressful situations, and can act as a buffer against the negative effects of cyberbullying. In particular, it encourages neurotic individuals to seek assistance and advice in regulating negative feelings and coping with recurring victimization (Ruiz et al., 2018). Findings of the longitudinal study on loneliness and its impact on well-being of girls in grades 1 to 8 in Norway by Lohre, Kvande, Hjemdal, and Lillefjel support this link between positive school climate and cyberbullying victimization (Kwande et al., 2014; Ruiz et al., 2018). Among the girls with a high level of loneliness, girls who sought advice from class advisors appeared more resilient and reported a low likelihood of being cyberbullied (Kwande et al., 2014). Further, Lohre and others found that passive teacher interventions such as taking no action or normalizing complaints of cyberbullying created frustration and discomfort among the girls, and in response to these feelings, girls engaged in online self and emotional disclosures, which rendered them prey for cyberbullying (Kwande et al., 2014).

Not only neurotic students, a positive school climate also contributes to lessening cyberbullying victimization among

students with the personality traits of extraversion and openness who are fond of trying new things, and thus, more prone to be involved in internet events and interactions. Researchers posit that fluid cognitive ability, high social competence, mastery of using technology legally and ethically, and active practice of the internet and technical etiquettes effectively reduce the probability of being cyberbullied and allow extrovert individuals to enjoy the convenience and joy brought by digital technology (Romera, 2016). Zheng, Zhong and Huang reveal that school, as the prime formal learning platform, plays a critical role in inculcating and strengthening values, necessary qualities, key abilities, and behaviour habits for using technology safely, legally and ethically among children and adolescents (Zhong et al., 2020).<sup>2</sup> Thus, by inculcating in children and adolescents the competencies required to use technology safely, schools can play a major role in lessening cyberbullying victimization among youth.

#### **IMPLICATIONS OF THE CONCEPTUAL FRAMEWORK FOR PRACTICE AND POLICY**

This study revealed that a positive family climate characterized by open parent-child communication and parental warmth contributes to lessening neurotic traits among teenagers, and thus making them resilient to cyberbullying. Active parental mentoring and monitoring of usage of electronic devices and digital technology assist extroverts to avoid cyberbullying victimization. Moreover, this study indicated that family has a greater responsibility in inculcating qualities embedded in conscientiousness personality, which is a protective factor against cyberbullying victimization. The findings of this study highlight the protective function served by positive and quality peer association; it acts as a buffer against cyberbullying victimization and recurring victimization, in particular among neurotic individuals. Further, this study shed light on the responsibility of educators to create safe and connected school environments to reduce cyberbullying victimization among neurotic and extroverts.

The above-mentioned results of this study support the significance of joint efforts between parents, schools and communities to protect adolescents from cyberbullying. These stakeholders cannot work in isolation. Rather, they need coordinated approaches to share the responsibility as cyberbullying is not restricted to the classroom or school grounds. It will enhance the effectiveness of cyberbullying prevention measures. For example, given the responsibility of parents to ensure the correct use of cyberspace and electronic devices by their children, the involvement of parents to digital literacy enhancement programs conducted in the school context is useful, so that parents can monitor youngsters' compliance with safety measures.

It is evident from this framework that cyberbullying victimization can be best addressed through family, school and centric-peer-centric preventive efforts that are tailored to the needs of teenagers, which are largely determined by their personality traits. Prefabricated programs rarely yield effective results. For example, to meet the needs of more extroverted students, schools can increase the weight allocated for promoting healthy social leisure activities in their curriculum.

This study indicated that parental support positively influences the likelihood of cyberbullying victimization. To

enhance the capacity of parents to adequately support youngsters, positive parenting training and digital safety training should be provided. This study revealed the immense use of social and emotional skills in reducing experiences of cyberbullying victimization. Therefore, prevention and early intervention programs should be introduced at the school level aimed at resilience building, moral and positive value promotion, age-appropriate emotional skills training and social skills development. Moreover, programs should be introduced to enhance the understanding of teachers on social and emotional intelligence and techniques of developing these capabilities in students. In this way, they can be alert to negative emotions experienced by young people and help them mediate negative emotions, thereby avoiding risky behaviours for cyberbullying. Further, educational and social practices should focus on promoting responsible and safe use of electronic devices and digital technology through school and peers, so that teenagers are able to make full use of cyberspace while learning to navigate through risks and potential cyber aggression.

#### **CONCLUSION**

The existing literature identifies various individual (personality) and social factors as increasing or decreasing one's vulnerability to cyberbullying. However, they fail to examine the relationship or interplay between these social and individual factors. In this context, the objective of this paper was to examine how factors related to social structures such as the family, peers and school influence the personality traits of individuals, which in turn determine their vulnerability to cyberbullying victimization. A conceptual framework was built to depict the interplay between social structures and personality traits based on the Big Five Personality Traits theory on cyberbullying and the Bio-ecological Framework of Human Development theory. The Big Five Personality Traits theory identifies certain personality traits such as extraversion, conscientiousness, neuroticism and intellectualism as determinants of one's vulnerability to cyberbullying while the Bio-ecological Framework explains the influence of social structures in the microsystem, mesosystem, exosystem, macrosystem and chronosystem on human development. This study combines elements of the two theories and demonstrates with reference to secondary sources and existing literature, how social structures such as the family influence development of personality traits and thereby can increase or reduce one's vulnerability to cyberbullying. The study reveals that factors such as poor parental support, poor parental monitoring and supervision, emotional loneliness and lack of social cohesion in a family, poor peer support and lack of supportive and trusting relationships with one's teachers lead to the development and perpetuation of personality traits such as neuroticism and extraversion that increase vulnerability to cyberbullying while existence of family cohesion, positive peer support etc can reduce vulnerability to cyberbullying by inculcating personality traits such as conscientiousness, and reducing neuroticism etc. Based on these findings, cyberbullying prevention and intervention programs should focus on fostering positive and supportive relationships between parents-children, teachers -students and peers to enable adolescents to acquire and develop personality traits that

increase their resilience to cyberbullying. The review of the present study is limited to social structures in the microsystem, on account of the fact that the microsystem is the most influential level of the ecological systems theory for human growth and development. Further inquiry into the influence of social structures in the exosystem and macrosystem on the above-mentioned personality traits and empirical testing of the conceptual framework proposed herein can be identified as areas for future research.

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## No Conflict

The authors declare that there is no conflict of interest.

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# Managing Ethnic Conflicts: A Critical Analysis of the Orthodox Solutions and the Specificity of the African Situation

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## Abstract

*Africa's ethnic conflicts and crises have embedded in them catastrophic consequences and effects, especially with particular regard to the loss of lives and properties and the disruptions of governmental and political arrangements. The discourse in which the conflicts are embedded is further enveloped in all kinds of proposals such as outright dismemberment of some of the existing political and administrative units, the implementation of political reforms, and fundamental restructuring of the entire social settings in favour of accommodation of the minorities in particular. Against the backdrop that these conflicts and crises require management as a way of averting the aforementioned consequences, the article seeks to undertake a critical evaluation of the existing ethnic management models, theories and solutions in extant literature within the context of the prevailing African circumstances and conditions. Its central goal is to determine the extent to which these solutions and the contained technicalities in which they are expressed can indeed provide the much-needed frameworks for permanent political stabilities in the continent. The qualitative methodology seeks to question the existing assumptions in which these ethnic solutions are defined and their theoretical properties further amplified. With the additional use of critical analytical tools, the article finally seeks the re-formulations and refinements of the ethnic solutions as being referred to in extant literature. The findings revolve around the inappropriateness and lack of applicability of some of the embedded concepts and solutions to the perennial crises as a result of the lack of focus on the uniqueness in which the crises remain defined. The conclusion is hence that the solutions to the crises in the continent should not be wholly generalistic but rather situated within the local peculiarities of the divergent political systems of Africa.*

**Keywords:** Ethnic Conflicts, Ethnic Management, Ethnic Management Models.

## INTRODUCTION

Over the years, the understanding and consequent analysis of Africa have both received quite competing methodological frameworks of accomplishment that are often nauseating, at least going by the racist undertone of some of the much-celebrated explanations. However, following the appearance of the authoritative and incisive piece of Coleman and Almond (1963), the analysis of the African predicament has thus witnessed a developmental, analytical stint, especially with the emergence and further facilitation of quite remarkable theoretical formulations. An extension of the developmental influence (though couched in class analysis) which for example Nnoli (1978) provides in his groundbreaking work on the Nigerian political environment, coupled with that of Mazrui and Tidy (1984), Smoch and Bentsi-Enchill (eds.) (1976) in wider continental terms, and that of Chazan, et.al (1992), among others, still suggest the indispensability of the ethnic framework in both the understanding and analysis of modern African politics, thus further reinforcing the ethnic competition thesis provided by Barongo (1983). This is however little recognized by students of African politics perhaps because

of the overwhelming influence of class analysis which unfortunately beclouds the foundation of the main thrust of Barongo's thesis, which, by all indications, is an extension of O'Connell (1967).

Perhaps because of the intractable and protracted nature of the ethnically galvanized civil wars and the general recognition by researchers of the need to accommodate the escalating inter and intra-ethnic accusations of various forms within the framework of 'good governance' being proposed by the Carter Centre in the wake of Africa's "second chance" which some scholars have aptly described as the "second independence", there is that intellectual shift (though generally unknown) to the 'core-aspect' of ethnic management especially following the pioneering works of Ekeh and Osaghae (eds.) (1989), and Osaghae (1992), thus questioning very accurately and boldly to the continued relevance of *developmentalism* in the contemporary analysis of African government and politics. And this no doubt brings to sharp focus a critical analysis of the existing formulas and models of ethnic management, and by implication questioned the assumed theoretical validity and

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pragmatic relevance of the models of ethnic management provided by Lijphart (1977), Enloe (1977), Duchacek (1977), Horowitz (1985), Diamond (1990), and Henze (1990), among others. The main objective of this article is therefore to further situate the bearings of these theoretical formulations within the context of the specificity of the African situation. The general approach employed in this task is a theoretical extrapolation of the main components of the models vis-à-vis the actual situation of Africa.

Towards this end, the article is divided into three sections excluding the introduction. Section one address the embedded concepts within the context of African realities and historiographies with the view to engaging problems and issues in relation to the standardization of knowledge. Section two examines models of ethnic management of selected Africanists by questioning their pragmatic relevance within the broad framework of the peculiar features of African government and politics. The critique of each of the models is also examined within the context of the emerging global developments which undoubtedly have far reaching implications for social science research. Section three provides the conclusion to the article.

## LITERATURE REVIEW

### ***Models of Ethnic Management: A Critical Examination of Selected Works***

The literature review here presented focuses on carefully chosen ethnic management models and further examined, discussed and analyzed within important knowledge parametres of assessment and evaluation in relation to the defining elements and properties in which the models in their individual and collective existence remain labelled and characterized. The knowledge parametres provide in clear terms the thematic framework of organization and scrutiny with the view to aiding the knowledge and understanding of the models for in-depth study and comparison.

### ***Multi-Level Federalism Model - Ivo D. Duchacek (1977)***

What is this model all about and particularly in relation to the management of ethnic conflicts? This immediately requires careful and painstaking examination and analysis of the embedded concepts/ideas that help to give the model its identity. And the concepts include: (1) "federalism", (2) "elimination of poly-ethnicity", (3) "discriminatory regulation", (4) "communal or quota systems", (5) "quasi-federal solutions", and (6) "international inspection and supervision". What really are they in relation to the model? Their understanding, as usual, should be placed within the author's idea and other ideas in literature. The submission, in the standard practice of scholarship, does not require any further debate and controversy.

Federalism, in the opinion of Duchacek (1977), is the adoption of federal principles and practices. His lack of specific understanding and meaning of "federal principles and practices" compel the question: What are federal principles and practices? Federal principles and practices can be broadly interpreted and explained to refer to: (1) a written constitution whose procedure of amendment is both rigid and complex, (2) structural arrangement of government into tiers, (3) division of powers between and among the tiers/levels of government and this codified in the constitution.

Elimination of poly-ethnicity, according to him, involves deliberate and conscious application of policies of politics,

law and administration targeted at eradicating the most likely consequences and effects of poly-ethnicity. And poly-ethnicity is the existence of multiple and plural groups and variegated interests along cultural divides relating with one another under the same political system of administration. The policies, according to him, take the following methods: (1) assimilation- such as denying the use of minority languages in schools, administration, courts, and mass media; (2) genocide- the physical elimination of a racial/ethnic group; (3) unilateral mass expulsion; (4) the exchange and swapping of ethnic minorities between and among poly-ethnic states and borders; and (5) the adjustment of existing state borders to allow for homogeneity.

Discriminatory regulation is the deliberate act of making some citizens to feel that they are either second or third class especially in the form of apartheid. It is a kind of institutionalized policy of discrimination and segregation foisted on some citizens on the ground of either ethnicity or racism. The fact that it is institutionalized and further backed with an enabling law makes any resistance against it illegal and punishable within the same provisions of the law. Communal or quota system is both the allocation and guarantee of a particular percentage of representation and placement of citizens in the composition of the decision-making processes and machineries of the state and other agencies and institutions in relation to its mandate and usually with nomenclatures such as federal character, ethnic balancing, etc.

Quasi-federal solution is a collective of policy: administrative, political, tactical, strategic and legal initiatives targeted at enhancing the continued existence of poly-ethnic groups by granting the right to self-rule/determination especially to the minorities. It is further a kind of semi-autonomous political and administrative arrangement allowing ethnic minorities in particular the opportunity for limited political independence with the understanding that they could, in the future, be autonomous unity. International inspection and supervision as a method of ethnic conflicts management encapsulate the accepted principles of international law especially the Universal Declaration of Human Rights as being espoused in the Charter of the United Nations Organization. It entails further passing of resolutions and the implementation of same especially in relation to the protection of ethnic minorities against massacres, physical liquidation, etc., in poly-ethnic states and systems of government.

Of what pragmatic relevance are the models of ethnic management being proposed by Duchacek to Africa and the peculiarities of her condition? This leads us to a critique of Duchacek's view-points. In the first place, Duchacek assigns too much responsibility to the ruling elites as the vanguards of the resolution of ethnic conflicts. This is no doubt understandable going by the character of the *dramatis personae* involved in ethnic conflicts worldwide. But the African elites are unable to channel irreconcilable conflicts to reconcilable ones. This further compounds and aggravates ethnic conflicts in the continent. There would not have been ethnic conflicts in the first instance if they were able to manage the stresses and strains of the different political systems that make the continent of Africa. His placement and assignment of too much trust and confidence in the elites on the subject matter of ethnic management help in the appreciation of the argument in relation to the peculiarities and uniqueness of Africa. The elites of Africa, the political elites to be specific, lack the

understanding of the essentials of modern day governance architecture and the associated basic rules, policies, processes and practices. Their behavioural traits are at variance with the democratic norms and are lacking further in political accommodation practices and other requirements of peace and stability especially in plural societies. Though united by corruption and the pilfering of state resources, they have, over the years, perfected themselves in strategies and tactics aimed and targeted at the entrenchment and institutionalization of authoritarianism through skillful manipulations of the agencies and institutions of government and politics for the elongation of their tenures. Constitutions have become amended and adjusted to give legal supports and backings to personal rule; and under the guise of stimulating and attracting foreign direct investments, Africa's domestic economies have become permanently tied to the metropolitan headquarters and the vicissitudes of international capitalism, just as multinational companies now provide intelligence and security services to regimes so as to be able to further cement the pilfering of state resources for the advancement of international capitalism.

Secondly, and if indeed the purpose and fundamental essence of ethnic management is to lessen ethnic conflicts and thus creates the basis for national integration, it is doubtful if, and as suggested by Duchacek (1977) whether: "genocide", "assimilation", "unilateral mass expulsion", among others, can help in the realization of the goal of ethnic management within the context of Africa. "Genocide", "assimilation", and "unilateral mass expulsion", among others, as suggested by him, are, in themselves, explosive devices in the multi-cultural and plural societies of Africa. Ethnic management models, properly labeled and described, should be capable of reducing tensions and the predisposing factors to violence and conflicts. Sub-ethnic nationalities as identity groups and para-political units would ordinarily resent attempts and policies aimed at wiping them off. The options, as put forward by Duchacek (1977), are recipes for permanent skirmishes and disasters and therefore lack the capability to reconcile the irreconcilable.

Third and final, it is here further being argued that the model with perhaps the possible exception of federalism inherently lacks democratic parameters and requirements of assessment and evaluation. Models, especially in relation to political organization, should, as designed, be capable of ensuring the much-expected harmony between and among the multicultural forces and factors in the existing competition for power. The requirement of democracy has the important advantage of ensuring that the competition takes place within the rules as specified in laws and acts. A constitutional democracy as an element of the design unarguably provides the required political and institutional mechanism for ensuring that the rules of engagement and competition between and among the multi-cultural groups are open and known and are further guided by the principle of equality of application. The inherent advantage is that it provides ample opportunities for negotiations and cross-cutting cleavages as political parties are formed and organized ideologically to capture political power by first and foremost winning elections.

#### ***Divide and Rule Model - Cynthia H. Enloe (1977)***

The scrutiny of the model is here commenced by seeking first the meaning and understanding of the embedded ideas and concepts. So, what are these ideas and concepts? Divide

and rule as a model of ethnic conflicts management revolves around what Enloe (1977) identified as: (1) "displacement", (2) "political leaders", (3) "consociational democracy", (4) "federalism", and (5) "vanguard assimilation". As terminologies, how are they related to the explanation and analysis of "divide and rule model"? Before attempt is made to answer the question, there is the urgency to scrutinize Enloe's understanding and meaning of "divide and rule" and further in relation to the model.

According to Enloe (1977), "divide and rule" has its understanding and meaning as a basic political formula for the management of political tensions arising from ethnic skirmishes and antagonisms. It is a strategy and tactic which the "central elites" make use of "...not to isolate the several communities from one another, but to encourage them to think of themselves as fundamentally different in values and goals when they do interact with one another" (Ibid:148). What the latter suggests as a model of conflict management of the ethnic brand/type is that it is a deliberate and conscious effort of the "central elites/political leaders" to ensure that ethnic groups of the same political system and who further compete for the allocation of scarce resources under the same arrangement of political authority, are permanently maintained under a circumstance that both allows and sustains fundamental distinctions in terms of value orientation and political dispositions. The effort eventually becomes permanently institutionalized and embedded in the totality of interactions and political relationships of which the groups remain divided along ethnic considerations. "Political leaders" are simply the power elites, politicians and gladiators who assume the formal responsibility and duty of the organization of the state along the supposed principles and *raison d'être* for its existence

"Displacement", according to her, is a strategy used effectively against the most vulnerable ethnic groups and takes different forms including physical movement of the victims from their original locations, structural integration/"internal colonialism", etc. "Consociational democracy" means an instrument or formula of ethnic management that is capable of integrating politically competing ethnic groups into a framework of national consensus on extremely divisive matters.

"Federalism" as ethnic conflicts management formula takes the form of a political system that allows for ethnic groups to have control and authority over their territorial jurisdictions. And "vanguard assimilation" is the use of one ethnic group in a multi-ethnically segmented setting to perform the role of a standard bearer which the rest should emulate.

At this juncture, the question can now be asked: How useful are the models of ethnic management formulated by Enloe to Africa? In other words, to what extent can the models help in the amelioration of ethnic conflicts in Africa? The answer to the questions obviously leads us to a critique of the model whose accomplishment ordinarily should have been the identification of each of the models and giving them thorough and intensive examination and analysis. This is however compounded by the fact that a relationship exists between and among them and therefore has the potentiality of reducing the appreciation of the relationships because Enloe herself recognizes the existence of an embedded relationship between and among the models which she aptly described as: "The Coexistence of Multiple Formulas" (Ibid: 155).

The embedded assumptions and pre-suppositions lack direct relevance to the peculiarities of ethnic conflicts in Africa and the entire characterization of the constituting political systems. The political systems of Africa are so diverse and plural to the extent that the seemingly dominant ethnic groups can only deploy/utilize their dominance when they are ready to enter into alliances with the other lesser groups. This particularly suggests that the dominant group lacks all the requirements of full domination to the extent of being able to downplay the counterbalances and counter-reactions of the lesser groups. The assumptions and pre-suppositions have only succeeded in over-blowing out of proportion the capability of the dominant group, politically speaking. The implication further is that it creates and sustains a generalization that is lacking in comprehensiveness of knowledge about the subject matter thereby making the attendant theory-building deficient in precision and adequacy of prediction.

In addition, her uncritical acceptance of the embedded presumption as contained in the theory of consociationalism that politicians/rulers seek consensus among themselves as a way of accommodating the differences arising from their ethnic backgrounds lacks a practical and pragmatic relationship with the realities of African politics. The assumption by the proponents of consociational democracy that: "...the various ethnic groups are indeed communal enough, that they have internal consensuses and internal mechanisms for generating leaders with sufficient intra-communal support, that they can speak for the group at large in state affairs..." lack empirical validation. It is wrong to continue to assume that African ruling elites are leaders. They are indeed rulers that are only interested in predatory and primitive accumulation of capital. The experiences of Burundi, Angola, Mozambique, Liberia, and Nigeria especially following the annulment of the June 12, 1993, Presidential Election negate the description and characterization of African rulers as leaders. The African ruling elites lack consensus on important matters especially in relation to the organization of individual political systems and in the accomplishment and realization of the fundamental and secondary purposes of the state. The only thing that they share in common which should not be mistaken for consensus is the desire to wanting to loot on a permanent basis the resources of the state. It is puzzling to see African ruling elites openly attacking themselves and yet engage in banter during the board meetings of companies and other enterprises. The signal emanating from this is that politics rather than being an avenue for service to one's community and fatherland, is instead an arena for negotiating booties in both money and capital markets. Consociationalism cannot, therefore, be a reliable ethnic management model.

Furthermore, the argument can be made that Enloe's ethnic management model from the perspective of consociationalism has inherent in it some elements of incoherence, contradictions, and inconsistencies and therefore lacking in dependability and reliability especially within the context of Africa going by this important observation made by her. She noted that: "...it (consociational democracy) is an admittedly elitist formula. Its durability depends not only on the continuing ability of elites from the several communities to share enough in common to maintain a top-level coalition. It depends also on each ethnic group remaining immune from fragmentation..." (Ibid: 152). The conclusion emanating from the observation either indicates the lack of profound

reflection on the workability and relevance of consociationalism by Enloe, or the lack of profound appreciation of the realities of Africa especially in relation to the suitability of consociationalism as a reliable political mechanism for managing the skirmishes and conflicts that do regularly define and shape the allocation of scarce political resources.

### ***The Democratic Model - Larry Diamond (1990)***

The inclusion of the work of Larry Diamond in this article demands instant justification. The article of Diamond of which a critique of his work is based contains useful information that is crucial if we really want to understand what is here called the 'democratic space of ethnic conflicts'. Apart from Larry Diamond, there is no any other work of Western Africanist known to this author that treats or examines the management of ethnic conflicts within the overall framework of the global democratic establishment, consolidation, and sustenance of the 1990s. This is because apart from addressing himself with the problem of accommodation of ethnic cleavages which is the central preoccupation of ethnic management, he examines along with the above what he referred to as the "three paradoxes of democracy", which he identifies further as (1) the tensions between conflict and consensus, (2) the tensions between representativeness and governability, and (3) the tensions between consent and effectiveness. These contradictions have far-reaching implications for ethnic contestation and thus ethnic management. The implication perhaps made him suggest four principal mechanisms for managing ethnicity politically and within a democratic framework to include: (1) federalism, (2) proportionality in the distribution of resources and power, (3) minority rights (to cultural integrity and protection against discrimination), and (4) sharing or rotation of power, in particular through coalition arrangements at the center.

Larry Diamond's understanding of federalism as an instrument of ethnic management bears semblances with that of Ivo D. Duchacek and Cynthia H. Enloe. However, Diamond adds a more elaborative dimension to his analysis. According to him, federalism is particularly effective in managing ethnic tension because it makes use of varieties of mechanisms for reducing conflicts; and this includes (1) dispersion of conflict by transferring much of it to state and local levels; (2) fostering of inter-ethnic cooperation as states find the need to coalesce with one another in several ways depending on the issue at the center; (3) generation of cross-cutting cleavages; and (4) reduction of disparities by enabling backward and minority peoples to rise within their own state bureaucracies and educational systems, among others. Diamond further asserts, and quite categorically, that: "In principle, the purest way to present diverse social groups and interests, especially in deeply divided societies, is through proportional representation (PR)" (Ibid: 55).

Quite aptly, how does the idea of the "democratic space of ethnic conflicts" present itself as an ethnic management model? The question is important to enable us to undertake a critique of the model. The starting point obviously requires placing the model within the exigency and circumstances of Africa. Federalism and proportionality in the distribution of resources, within the context of Africa, require further detailed specifications beyond the stated accompanying preconditions and requirements as ably formulated by Larry Diamond. Consequently, what are these detailed specifications that Diamond (1990) either ignores or fails to provide? Federalism and proportionality as principles of

state organization and arrangement in Africa's plural societies are already duly recognized by virtually all the constitutions. The issue is not therefore about the absence of relevant constitutional frames. It is about the absence of the relevant behavioural traits on the part of politicians/state actors essential for building consensuses and forging alliances on a permanent basis. What therefore are these behavioural traits? What they require is both detailed specification and itemization, especially as a model for managing ethnic conflicts which Diamond either ignores or fails to appreciate. Again, the principle of proportionality, when carefully applied, has the potential of helping to address accusations and counter-accusations in relation to ethnic imbalances. There is, however, the assurance that the tendency for one ethnic group to dominate others is drastically reduced. But in reality, the political dynamics of the African situation are such that proportional representation can be abused or bastardized. Difficulties will arise from establishing the criteria that will in turn be used to determine the basis of representation. If for example, population is to be used, should majority and minority ethnic groups share the same number of representatives? This is further compounded by the absence of reliable census figures and their distribution across the composing ethnic groups.

## **MATERIALS AND METHODS**

The qualitative methodological orientation of the article compelled its application within the subject matter of the article's engagement. The particular focus on ethnic management models consequently necessitated the initiation and accomplishment of the following steps in which the data collection procedure remains embedded: (a) a survey of extant literature on the broad examination and analysis of ethnic management models especially from the perspective of the ideas in which their existence remain defined as both conceptual and theoretical formulations; (b) a careful selection of the models that were considered close to the understanding of the realities of Africa particularly from the dimension of their relevance as explanatory and analytical frameworks of intellectual disquisitions; (c) a systematic critique of the contents of the models approached from both critical and rigorous determination of their usefulness within the larger framework of their contained advantages and disadvantages; (d) a comparative, step-by-step examination and analysis of the models with the view to determining their differences and similarities and the further study of the contained implication for scholarship particularly in relation to the subject matter; (e) the formulation and development of generalizations in relation to the identified differences and similarities; and (f) individual scrutiny of the properties of each model within the embedded peculiarities of Africa.

## **RESULTS AND DISCUSSION**

The materials and method in relation to the amplification of the methodology of the article both compel the equal amplification of the results and their discussion within the framework of the qualitative research genre. The results and their discussion are hence here accomplished from the dimension of situating the concepts of ethnic management and ethnic management models within the context of African realities and historiographies. The choice has its justification within the broad critical issues in the standardization of knowledge from the perspective of

critical social science analysis. In social science theorization and philosophy, the critical role of concepts as essential building blocks is what has been generally consented to as being primary and fundamental. It is not surprising therefore that the entire social science lexicon is loaded with concepts of varied manifestations and serving also diverse and quite often conflicting purposes and uses. With particular reference to political science, the use of appropriate and relevant concepts has not only been accepted as crucial to contemporary epistemological research endeavour, but specifying and defining what they are from the onset of any research undertaking has equally been made compulsory by the indispensability of conceptual framework of analysis, without which, research accomplishments or agenda risk epistemological collapse. Therefore, providing clear-cut definitions of concepts has assisted generally in the clarification of topical issues of global intellectual concern and critical value. Such a clarification also enhances the sophistication, theoretical elegance, and ebullience of research papers made possible through the process of concept operationalization. Concept operationalization is therefore a way of detaching prejudices (in wider terms) from associated or implied meanings. And because researchers and authors generally consider their works as being value-free and therefore make an implied claim to objectivity, there is that lack of general consensus on what concepts, strictly speaking, are, not only in different research purposes and agenda but also within the same paradigm of study. Consequently, democracy for example, means different things to different people. For this reason, researchers are usually empowered to let the whole world know what they mean by certain terms or expressions. Apart from serving the purpose of clarity of thought as earlier mentioned, defining or operationalizing terms also provides the basis for measurement or evaluation of concepts, and through this, the behaviouralists argue that precision can be attained leading then to reliable generalization and in turn to good theory.

But for the purpose of the article, what is ethnic management? Before any elaboration will be made, it is important to point out something that is hidden, but of stimulating interest. Two words make up this concept. And these are: (1) ethnic, and (2) management. It suggests therefore that any attempted definition should recognize the distinctiveness of the two. The word: ethnic, is suggestive of a myriad of things. At least four are important for the purpose of the article. And these are (1) ethnicity, (2) ethnic group, (3) ethnic groupings, and (4) ethnic competition. The second category of word i.e. management, is however open-ended. It happens or takes place in the entire space of social interactions. But for the purpose of the article, it is limited to social organizations. Something is further important to stress. Any conceptualization and consequent operationalization of management to refer to the outright absence of strains or stresses in social organizations is out of it. Therefore, it should be understood from the viewpoint of systemic sustenance. Meaning that it indicates not the absence of dysfunctionalities or abnormalities within systemic operations, but how such a system can progress given the presence of any associated lapses, real or imagined. In other words, the purpose of management is to ensure that system operation does not disintegrate or collapse. Notwithstanding the strength of the above, research neglect of an antecedent concept (ethnic conflict) is epistemologically dangerous. This is because if ethnic management is concerned with the resolution of

ethnic conflicts, how does it evolve? What informs its necessity? In other words, what are ethnic conflicts? An immediate research preoccupation with this will further assist in having a proper grasp of what ethnicity, ethnic group, ethnic groupings and ethnic competition are in interrelated terms. This is because knowing the social space of ethnic conflicts will assist us in knowing the character of the personalities involved and the specific historical circumstances under which ethnic conflicts take place. Before then, what are conflicts?

The Webster's Ninth New Collegiate Dictionary defines conflicts as: "competitive or opposing action of incompatibles: antagonistic state or action (as of divergent ideas, interests, or persons)"; "mental struggle resulting from incompatible or opposing needs, drives, wishes or internal demands"; "fight, battle, war"; "to content in warfare"; "to show antagonism or irreconcilability". In political science, what constitutes conflicts is a primary preoccupation of its scope. This is why political science is often defined as the study of conflicts. This pre-occupation of political science is very crucial to it if the science of politics is to really worth its place as an academic field of study. This is because the entire process of authoritative allocation of values takes place within limited opportunities, restricted and confined scope. Hence the determination of who gets what, when and how is always crisis-ridden. And conflict, one should add, is usually multi-dimensional in scope and focus. It cuts across all facets of human development and interactions. For this reason, while some conflicts are religious and political, others are class-based, and the rest are ideological and or ethnic. It is here further added that the distinction offered above, in practice, might not be necessarily so. This is because any society is usually composed of overlapping or cross-cutting cleavages; therefore conflicts need not be entirely class-based or ideological. Ethnic conflicts, the concern/focus of the article, do hence acquire political and religious colouration. What then is ethnic conflict or what are ethnic conflicts?

According to Osaghae, (1992: 218): "Simply put, ethnic conflicts refer to conflicts between people from different ethnic groups which may arise from competition for control of State power, distribution of resources or non-material struggle for supremacy". He continues: "By their very nature, ethnic conflicts are exclusionary and zero-sum, even when coalitions and alliances are formed" (Ibid: 218-219). Brass (1985) has argued forcefully too that ethnic conflicts exist at individual, sub-group, and group levels, all of which are mutually reinforcing (cf. Osaghae, 1992). What is being described above no doubt captures the essence of ethnic conflicts, but in situations where there exists a lack of consensus on associated concepts, the simplicity and explicitness of what is being described becomes blurred. This is common in literature generally. This thus marks the distinction in and superiority of, Osaghae's definition over existing definitions in the literature. If really ethnic conflicts are conflicts that do happen or occur among ethnic groups, the most relevant question then is what is an ethnic group? Osaghae (1992: 218) observes further: "An ethnic group itself is a distinct human category whose members define themselves as different from others on the bases principally of language, the myth of common origin, territory, and culture". However, notwithstanding the outstanding nature of Osaghae's definition, his definition introduces through the backdoor a very fundamental epistemological issue. And that is: can description serve the purpose of definition? This is not an easy question simply because of the associated

research implication of what is being asked. Attempt to provide an answer to this question, therefore, brings in forms and purposes of definition.

The essence of definition, here recalled, is to ensure clarity of meaning and understanding, and to also ease the problem of categorization or classification. With particular reference to ethnic conflicts, what are the variables involved, how can they be grouped, and how can they be measured as well? These are no doubt intellectually tasking questions whose answers are difficult to attempt going by the scope of the existing article. On conflict, what are its universal characteristics? Though the above-cited Webster's Dictionary definition appears to be unambiguous, self-explanatory, and therefore convincing when given a social interpretation, problems of note emerge. Is it always true (especially as made to be believed by Osaghae) that ethnic conflicts are more often than not facilitated by the competition for state resources among the multiple ethnic groups? Can't ethnic conflicts occur without recourse to materialist gains? The question is no doubt philosophical. This is because a study of the history of ethnic conflicts worldwide, especially of the Third World experience, might validate the raised question. Interestingly too, when we study the genocide of the then Yugoslavia, the various skirmishes within the then Soviet Union, and currently that of the Russian Federation, and of the 2022 invasion of Ukraine, the validity of Osaghae's submission becomes questionable. It does appear that what is currently happening in the former Eastern bloc is more nationalistic than a struggle for the resources of the state. However, this is subject to further probe and inquiry. What is being pointed out is not entirely Osaghae's, but goes to confirm the wrongly held impression common in the literature that ethnic conflicts occur out of the struggle for the control of state resources. This is likely to be a Third World phenomenon. But the question still remains: can the Third World experience provide the basis for the emergence of a universally accepted definition? The latter is further justified by the recognized differences and distinctions between definitions and theories especially within the context of modern-day social science analysis.

As to forms of definitions, Hospers (1967: Cf. Jinadu, 1979: 14) has distinguished very brilliantly the differences between stipulative and reporting definitions, especially with particular reference to federalism or federal arrangements which, studies have confirmed, are more prone to ethnic conflicts. This is not to say that unitary systems or states are free from ethnic conflicts. The contrary is the case. The relevance of forms of definitions to the argument that is being raised in the article is to call attention to the fact that the existing definitions of ethnic conflicts in extant literature are essentially reportive in the sense that they serve just a segment of what definition is, and what its purposes are in relation to knowledge advancement. This is however excusable on the ground that a definition of ethnic conflicts that will encompass or satisfy both the reportive and stipulative requirements are very difficult to come-by simply because the presence of State resources is not a sufficient condition that people will have to compete for on ethnic grounds. If this were to be the case, ethnic conflicts would have been most likely limited only to the Third World. But the fact that ethnic conflicts occur as well in the developed political systems of the world, explains and justifies the basis for the argument. The imposed limitation is therefore that no author can scientifically specify or provide a universal condition that could warrant the

occurrence of ethnic conflicts. This is what perhaps explains the limited utility of what authors consider/describe as models of ethnic management. This shall be discussed fully in subsequent parts of the article. Furthermore, is it always a given condition that all conflicts have to involve the display of physical aggression either at the individual or group level? This question has become crucial due to the sophistication of ethnic conflicts in relatively advanced social organizations of the Third World, in particular the academia. It is incorrect, presumably, to describe what happened in Rwanda, Burundi, Liberia, etc., as ethnic conflicts, and dismiss the succession crises in universities, polytechnics, and colleges of education, especially in relation to the appointment of Vice-Chancellors, Rectors, Provosts, Deans, or Students' Union Offices as an internal struggle for power! It is for this reason that Osaghae's observation is worth citing here. According to him, "Ethnic conflicts may take several forms which can be classified as violent or non-violent. Non-violent conflicts include the articulation of charges of discrimination, neglect or domination, demands for redress through the press, ethnic leaders, political parties, law courts, and other civil methods of articulating demands. Violent ethnic conflicts erupt in places where the channels for articulating demands are closed. These forms range from riots to secession and civil wars which have been experienced in most parts of the continent, notably in Congo, Nigeria, Liberia, Sudan, Ethiopia, Rwanda and Cameroun" (Osaghae, 1992:220).

How have ethnic conflicts conditioned the political systems that are so characterized? Engaging the question will further assist in clarifying what ethnic management is and why it has to be a deliberate or conscious social policy meant to guide against the extinction of the human race from the globe. All political systems, whether developed, developing or underdeveloped, are characterized by two dominant and distinct features. And these are: (1) all political actors struggle for one thing or the other, and (2) they are of different ethnic backgrounds. However, where differences can be observed only in the means of competition which lead to differential degrees of consequences. The degree of consequence is generally high in areas of intense competition, especially in social organizations or societies where the state determines everything, and for this reason, the struggle for the paraphernalia of the state becomes a life-and-death battle. The reverse is the case where competition for the goodies of life is determined greatly at the individual level, with the state just providing regulatory guidelines.

The concern to set broad standards with respect to the discourse on the knowledge and understanding of ethnic conflicts and the associated concepts further requires relating the ongoing critique of the definitions so far provided to the African political systems for the thoroughness of examination, discussion, and analysis. To start with, it is here assumed as given the existence of a political system be it unitary, federal, military, or democracy, etc. In other words, the section of the article will not concern itself with those historical circumstances and conditions that informed whether a political system should be unitary or federal, military or democracy in Africa. Rather, the article's preoccupation shall be how ethnic conflicts have conditioned the developmental processes of political systems that are so characterized. Since the focus is on Africa, the section shall limit its analysis to the same. Contemporary Africa i.e. post-colonial Africa, it is hence observed, is generally a theatre of large-scale ethnic

conflicts and crises. Surprisingly, both federal, unitary, military and democracies of the continent are affected by ethnic conflicts in different degrees of potencies, intensities and consequences. In some areas, ethnic conflicts have led to secessionist agitations, successful and unsuccessful ones. Among the successful ones, the case of Eritrea is outstanding. In Nigeria, secessionist agitation led to an unsuccessful civil war between 1967 and 1970. Secessionist agitation was equally successful in Sudan with the excision of South Sudan, while the war in Ethiopia is still ongoing as secessionists wanted an independent Tigray Region.

Due to the ravaging consequences of ethnic conflicts or threats of ethnic conflicts, Africa has witnessed all forms of political arrangements meant for preserving, sharing or managing the exercise of political power. Especially following the emergence of the wars of democratization thus leading to the institutionalization of projects of democratic transition, Africa has thus witnessed novelties unheard-off or least anticipated in the history of political organization of societies and in particular, political theory. In Nigeria, such include transitional council, interim national government, diarchy, or 'doctored' democracy. In Chad, the memory of the government of national unity can be instantly recalled here. In West Africa as a whole, we have seen an essentially economic grouping being transformed into a form of military outfit for the sub-region. In Southern Africa, particularly in Angola and Mozambique, we see a marriage of incompatibles being solemnized and institutionalized. With special reference to South Africa, a national government backed up with social welfare provisions was instituted. In short, in Africa, we see "power maps" of various decorations, legally, socially and politically speaking.

The overwhelming consequences and critical nature of ethnic conflicts have in turn led to what has been termed as "mal-development" (Anise, 1993). According to him; "... mal-development, like its earlier parent, underdevelopment, is no more than African existential and experiential figments of imagination and psychic dissonance" (Ibid: 81). Therefore, a thorough and critical understanding of the implication of mal-development for the African existence can be accomplished, argues Anise, within the operations and dynamics of the triple imperatives of current African governance predicaments: (1) high debt burdens, (2) evangelical, western directed, democratic movements and reforms, and finally (3) the African economic recovery programs (Ibid: 81). The adoption of Anise's approach is informed by the widely known logic that ethnic conflicts create the feeling of insecurity on the parts of both the governed and the governor, hence the need to reinforce national security systems thus leading to the acquisitions of arms and the commitment of scarce resources to the neglect of agriculture and social services, among others.

The need to further situate the knowledge and understanding of ethnic conflicts within the context of Africa makes imperative the need to in turn situate such understanding and knowledge within the emerging global events beginning from the 1990s. Therefore, and arising majorly from the prevailing norm in the international system, especially following the demise of the cold war, the thriving structural adjustment regimes led in turn to the resuscitation of the age-long debate focusing on the democracy/development nexus, among others, now compel the imposition of Western directed conceptions of political liberalization as a way of resolving ethnic conflicts and other crises of note afflicting Africa. The technical point that is

being made is that contemporary Africa's predicaments emanate partly from the ravages of ethnic conflicts either existing alone or in combination with the threats made possible by the earlier identified factors which Anise (1993) described as the "governance predicaments". The events, altogether, continue to shape and influence the existing character of Africa's political systems. The consequences of the colonial integration of Africa into the framework of international capitalism created massive debt burdens which further translated to economic dissatisfactions and much later to ethnically inspired violence and conflicts. According to Anise (1993:81), the: "...magnitude of Africa's external debt in 1992 was between \$250-300 billion, and owed to Western governments, private investment and financial institutions, and multi-national corporations in addition to the Western controlled twin institutions of the World Bank and the International Monetary Fund (IMF)". A further exacerbation of the violence and conflict is the existing cost of servicing these debts. Most affected countries expended between 40 and 50 percent of their foreign exchange earnings to service these debts. By implication, limited resources are now made available for capital projects and the sustenance of inherited recurrent expenditures. The inability of African governments to continuously maintain and service the existing deplorable conditions of social services further compounds the problem of acute shortage and epileptic performance of this social infrastructure thus the frequent violence, demonstrations, strikes, etc. The failure further helps to ignite the potencies of ethnic conflicts especially between and among the tribes engaging in competitions for political power and authority.

The disintegration of the then Union of the Soviet Socialist Republic (USSR) and the attendant collapse of socialism in the then Eastern bloc compounded the fear that the favourable investment conditions in these countries might favour the attraction and stimulation of foreign direct investments. The Bretton Woods Institutions (BWI) therefore advised African countries to pursue along with the existing programmes of economic recovery a deliberate programme of political liberalization of their entire socio-economic and socio-political settings. This perhaps informed the emergence of pro-democracy movements and the attendant democratic transition projects that were then implemented. And since most of the African countries on the threshold of democratization were hitherto dictatorial and authoritarian, the programmes of democratic transitions that were put in place failed to democratize access to political power along established rules of contemporary democratic ethos. The programmes only succeeded in the accomplishment of power-sharing arrangements between and among the elites, with either the inclusion or exclusion of one ethnic group against the other. So, rather than democratization leading to the building of hope and the encouragement of broad-based political participation, it has further dampened it by sustaining separatist agitations. As thus suggested by Anise (1993), the triple imperatives of current African governance predicaments have ethnically conditioned the political systems of contemporary Africa to the extent that all forms of formulas, models and frameworks of ethnic accommodation have been suggested as a way out.

Examining what these models, formulas, and frameworks are, necessitates critical discussion and analysis of what ethnic management is all about. And to have a proper grasp of what ethnic management is, it has become imperative that we first examine what management is within the

context of political science, and within the entire framework of authoritative allocation of values. What therefore, is management? To begin with, it has become important to note that the term has been so much over-used that there may not be a generally acceptable definition of it. But for the purpose of the article, management can be considered as both *art* and *science*. As an art, it simply refers to those processes of human relations which top-level managers use to make things happen; as a science (theory of management), it deals with the body of knowledge and the systematic study of the practice of making things happen (Obasanjo and Mabogunje, 1991: 76). Before a critique of this definition is ventured into, it has become important to identify the objectives of management. By objectives, we refer to both stated and unstated goals of management. With particular reference to African politics, the central objective of management includes the satisfaction of the needs of the multiple nationalities making up the political space of Africa. These needs can be categorized into two. They include physical or tangible needs such as food, shelter, health, infrastructure, education and training, employment, water, etc. While these needs are quantifiable, the second category of needs, the psychological or intangible needs are unquantifiable. They are mainly emotional and spiritual needs such as security, mutual respect, identity, freedom, and political will (Ibid: 77).

The above-cited definition, however, serves limited utility. In the first place, it limits or confines management to something that is essentially businesslike. This need not be the case always. Secondly, the impression being created that management deals with how to make things happen is mechanistic. Interestingly, these shortcomings are its strengths. As both art and science, management connotes a specific and conscious process of ordering of resources and accommodation of differences in order to achieve consensually agreed and collectively determined goals of societies. Here lies the political relevance of this definition. Ethnic management, therefore, involves the channeling of irreconcilable conflicts into conciliable ones, or keeping conflicts in check by eliminating conditions that bring them into being or heighten them (Osaghae, 1992: 220). Ethnic management has therefore become indispensable especially in multi-ethnically segmented societies simply because, according to Larry Diamond: "...ethnic cleavages do not die. They cannot be extinguished through repression or assimilation; however they can be managed so that they do not threaten civil peace and people of different groups are able to coexist in tranquility..." (cf. Osaghae, 1992: 220).

The concept of ethnic management has been attacked by critics of various persuasions. One overriding point that is being raised or that is common in most of the criticisms is that the concept negates social dynamics because it seemed to assume that ethnic conflicts are sacrosanct (Osaghae, 1992: 220). However, such an argument fails to see that ethnic conflicts in themselves are variable, ranging from complete disappearance at one extreme to all-pervading at another, that their *hows* and *whys* change quite often, and that a good measure of ethnic management is not how much it solves the problem once and for all which is impossible, but how adequately it responds to the changing character of ethnic conflicts (Ibid: 220-221). Ethnic management has been approached from the viewpoint of models, formulas, and framework construction. In some societies such as Nigeria, it takes both political and legal forms. Zoning and rotation of political offices are good examples of political practices, while the federal character principle is



incorporated in the 1999 Constitution (as amended) as a legal model of ethnic management. As here being approached, the presentation and analysis of the accompanying critique of selected ethnic management models require the mentioning of, and reflection on, the character of the average African. What therefore it is that characterizes or dominates the average African outlook? Providing an answer to this has become inescapable since in the informed opinion of Osaghae (1992: 222): "The essence of ethnic management is not however to merely prescribe models and formulas. To do so at the expense of an examination of the actual circumstances requiring management, especially of materialist bases of ethnic conflicts, is to be both mechanistic and spurious".

It is therefore natural to begin the aforementioned intellectual responsibility/assignment by raising the question: How was the emphasis on "self" incorporated into the social fabric of the African settings? Again, providing a useful and appropriate answer to the question requires researching into the history of the contemporary African setting. Even though there were scattered cases of pre-capitalist social formations such as the feudal mode of production that covered the entire Sahel region of Africa, such a mode of production was however pursued within the idea of being a brother's keeper (service to humanity). For example, the Islamic provision of *sakkt*, an injunction that says that all Muslims are brothers and sisters and should therefore take care of one another. However, with the advent of colonialism and the attendant introduction or establishment of colonial rule, the entire African setting was disrupted and polluted through the commoditization and monetization of the African economy. The policies had attached the consequence of having to place one-self and possibly immediate family members above matters and issues concerning the many. The leftovers from the subsistence economy which were originally distributed to clan members, friends, and neighbors were now offered for sale within what was originally a community. Colonial policies were thus patterned along liberalism, a focus on the individual rather than the entire society.

African elites who later became nationalists by virtue of their exposure to the colonial instruments of education both at home and abroad imbibed very profoundly liberal philosophical thoughts whose fundamental economic component emphasizes unrestricted individual access to both the means of production and that of distribution of goods and services. And for this reason, profiteering or profit seeking became the guiding principle of social conduct. The quick appreciation of the magnitude of resources which African countries are endowed with, and the realization by the nationalists that the accumulation of money is crucial to the tasks of social mobilization and the sustenance of the whims and caprices in their respective regional spheres of influence, led to a situation, especially after independence, where services to the community were turned to personal pursuits. The primacy of self therefore overshadowed that of the entire society. Predatory and primitive accumulation of capital became the order of the day. The conduct of the African political process therefore became a competition among groups and individuals for the resources of the State and the attendant institutionalization of corruption. Since winning of elections is necessary so as to be able to gain access to the State, perfection in electoral instruments of jobbery such as gerrymandering, disqualification of candidates without explanations, issuance of ballot papers and boxes before election dates,

falsification of election results, thuggery during election periods, etc., jointly become the accepted political virtues/norms. Control of the judiciary especially Elections Petition Tribunals, turns out to be a game that professional politicians have to master. And this they did (and still continue to do) through all forms of associational relationships based on class, religion, political and ethnic groupings. One thing that we must not fail to mention is the fact that since political legitimacy or support is crucial in the entire struggle, there was (and still is) the deliberate reliance on ethnicity to garner support. The end result has been the politicization of competition along ethnic lines and the consequent enthronement of ethnic antagonisms which later turn into a kind of "ethnic cleansing" of the apparatuses of the State by the new regime holders.

Scholars, especially Africanists, disturbed by the ravaging and damaging consequences of ethnic conflicts in the Third World have overzealously constructed models and formulas of ethnic management which, quite regrettably, lack bearings with the specific African social reality. And it is argued here that any model which fails to consider the specific condition that informed its construction should not in the first place be regarded as a model because models by any standard are depictions of social realities. What are these models and formulas that are common in literature? They are multitudinous, and for this reason, a decision is made to limit what these models are to three selected works of very outstanding scholars. The criteria for their selection are hinged on the comprehensiveness of issues raised, and the theoretical relevance of their works to the article.

## CONCLUSION

The article has no doubt engaged itself with the problems and issues in relation to using African peculiarities to construct a framework for the proper understanding of the embedded concepts in relation to the academic discourse on ethnic conflict management and the associated models. Because ethnic conflicts have equally assisted in the accentuation of the various problems associated with contemporary governance in Africa, and further because the three selected works have revealed the lack of congruence between these orthodox models and the specific condition of Africa, there is therefore the imperative need to either ensure their re-formulation or complete rejection in line with the reason adduced above. The challenge therefore focuses on how to construct models that best reflect the specific historical, material condition of the African political environment. This is no doubt a difficult task perhaps because of the fluidity in the causes of ethnic conflicts, fluidity in the sense of variations in the potencies of the popularly identified factors, potencies which of course change from time to time and place to place. But the fact that the causes of these ethnic frictions and acrimonies are largely similar regionally suggest that the factors precipitating ethnic conflicts should occupy recognizable positions in any attempt at constructing models of ethnic management, and also that specific national models should have sub-regional and regional usefulness. However, the fact that there are profound national and sub-regional variations in political systems of Africa makes the imposition of particular models authoritarian and intellectuality risky. Be that as it may, the construction of ethnic management models should recognize the "democratic space of ethnic conflicts" as espoused by Diamond (1990). In other words and as brilliantly posed by Osaghae (1992: 228): "The

question that arises then is: how does it (democracy) facilitate ethnic conflicts and how best can it (democracy) facilitate their management?" Extended further, how can we strike a balance between conflict and stability? This suggests further that models of ethnic management should be able to strike recognizable balance between ethnic conflicts on the one hand, and the stability that they must engender on the other.

Accepted that there are sharp disagreements on the workability of federalism as an ethnic management model, evidence from the continent however still confirms its superiority by the simple reason that it accords the minorities their right to existence. It in addition allows and encourages cross-cutting cleavages and inter and intra-ethnic cooperation. Federalism, notwithstanding, still faces in Africa, the problem of political manipulation of the composite ethnic units because of the high premium being placed on the state as the facilitator of all kinds of political jobbery. Even though minority rights are well incorporated into the various constitutions, illiteracy however makes the usefulness of such incorporation insignificant. Apart from this, there is the lack of independent judiciary due to the increasing power of the executive arm of government which is not peculiar to Africa alone. What is remarkable in the African experience is that the state is still the facilitator of development, and for this reason, such a role confers on the executive unlimited power, at least politically speaking. What is important for scholars to focus their research energies on is how to ensure equal and adequate representation of the various composite nationalities making up various Africa's national political systems in the areas where public goods are being processed so that even if representatives occupying the decision-making apparatuses are apparently embezzling public funds, all ethnic groups must see themselves as participating in it, thus representing the peculiarities of Africa/the African situation that was earlier referred to.

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# Exploring the Linkages between Parenting Styles, Self-efficacy, and Self-employment Intentions: A Comprehensive Literature Review

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## Abstract

*Existing literature lacks a comprehensive systematic review investigating the relationship between parenting styles, self-efficacy, and self-employment intentions, highlighting a notable research gap. This review is aimed to explore the association between parenting styles, self-efficacy, and the self-employment intention of youth. The search strategy employed in this review encompassed reputable electronic databases, academic journals, and a wide range of quantitative and qualitative research studies exploring the domains of parenting, self-efficacy, and self-employment intention. To bring coherence to the diffuse body of literature, this study reviews 141 scholarly papers and analyzes content analysis. The included studies were categorized into three topics including parenting styles, self-efficacy, and self-employment. The styles of parenting were found to be positively associated with the self-efficacy of youth, which influences their self-employment intentions. The evidence was most robust concerning the association between a high level of self-efficacy and an authoritative parenting style, with the findings of 16 included studies. Though the study acclaimed that self-efficacy is positively related to self-employment intention, research to date has not focused on the influence of parenting styles on self-employment intention. The findings of this study offer valuable insights for policymakers and provide direction for future research, highlighting the importance of fostering self-efficacy through parenting styles to promote self-employment.*

**Keywords:** Entrepreneurship, Parenting Styles, Self-efficacy, Self-employment Intention

## INTRODUCTION

Unemployment is a common concern for all the nations around the world. Therefore, self-employment plays a crucial role in national plans to effectively and efficiently address unemployment, poverty, and labor market demands. According to previous literature, self-employment significantly affects a country's growing economy by helping to create employment possibilities, foster innovation, and propel GDP growth with the use of existing natural resources and local materials (Rachmawan, Lizar, & Mangundjaya, 2015). Self-employment is essential for economic prosperity and plays a critical role in societal development (Nishantha, 2009). Research studies reiterated the importance of self-employment and entrepreneurship as efficacious mechanisms to increase youth employment, economic justice, and engagement (Demirgüç-Kunt, Klapper & Panos, 2007; Partheeba, 2014). Yet, there is limited literature based on self-employment, since most studies favouring entrepreneurship.

Parenting styles were first shown experimentally by Baumrind (1967) in her seminal study on the influence of parenting styles on preschool behaviour. Baumrind (1971) acknowledged three parenting styles: authoritarian,

authoritative, and permissive, which influence children's behavior. The authoritative style has accompanied by the children's behavioral outcomes of assertiveness and self-reliance. The withdrawn and discontented children's behaviours were associated with an authoritarian parenting style (Baumrind, 1967). The children's behaviour of low self-control and low self-reliance was accompanied by a permissive style. Authoritarian parents can control, shape, and evaluate their children's behaviour based on set parameters, while permissive parents lack parental control and grant autonomy to their children (Kuppens & Ceulemans, 2019). Authoritative parents are warmer to their children and use moderate demanding controls (Joseph & John, 2008). Later, Maccoby and Martin (1986) introduced the fourth style for the low responsiveness and low demandingness category, which is named 'uninvolved'. Similarly, the self-efficacy theory has become popular based on the research of Baumrind, which analyses confidence in accomplishing set goals (Bandura, 1977). He has identified four primary bases to influence the self-efficacy level of individuals, such as mastery experience, vicarious

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experience, verbal persuasion, and physiological indexes (Bandura, 1977).

A growing body of research examines numerous factors that influence an individual's self-employment intention. There is a need for a comprehensive synthesis of existing literature to examine the association between parenting styles, self-efficacy, and self-employment intention. Previous studies have suggested that parenting style can significantly impact children's self-efficacy (Macmull & Ashkenazi, 2019), which can impact self-employment intention. Many studies that have been published before assessed individual factors such as personality and motivation on entrepreneurial outcomes. The existing literature relevant to parenting styles, self-efficacy, and self-employment is fragmented. There is a lack of consensus on the relationship between parenting styles, self-efficacy, and self-employment intention. Therefore, a systematic literature review is required to explore these concepts and to synthesize existing research knowledge, and the paper aims to conduct a systematic review to examine the association of parenting style, self-efficacy, and self-employment intention.

Hence, this systematic literature review will recognize gaps in the existing knowledge and provide a valuable foundation for future research in examining the relationship between parenting styles, self-efficacy, and self-employment intention. Thus, this study will ensure that future research is well-informed and contributes to the advancement of knowledge in this area. It also helps to develop interventions to encourage self-employment among young people by creating an enabling environment for entrepreneurial endeavors. The findings will have practical implications for educators, policymakers, and parents by educating parenting practices and educational programs to foster entrepreneurial skills and mindset in children. Hence, this systematic literature review would be a valuable resource for researchers, industry practitioners, and policymakers who are interested in this area.

## **MATERIALS AND METHODS**

The study defines the eligibility criteria before starting the literature search and the inclusion criteria are those that every study needs to meet to be included in the systematic review, while the exclusion criteria are the factors that would make the study ineligible to be included. The initial eligibility requirements were created utilizing both inclusion and exclusion criteria. Inclusion criteria include report characteristics such as population and research design, while report characteristics such as time period, publication status, language, and geographical location. Studies that investigate the relationship between parenting style and self-efficacy, parenting styles and self-employment

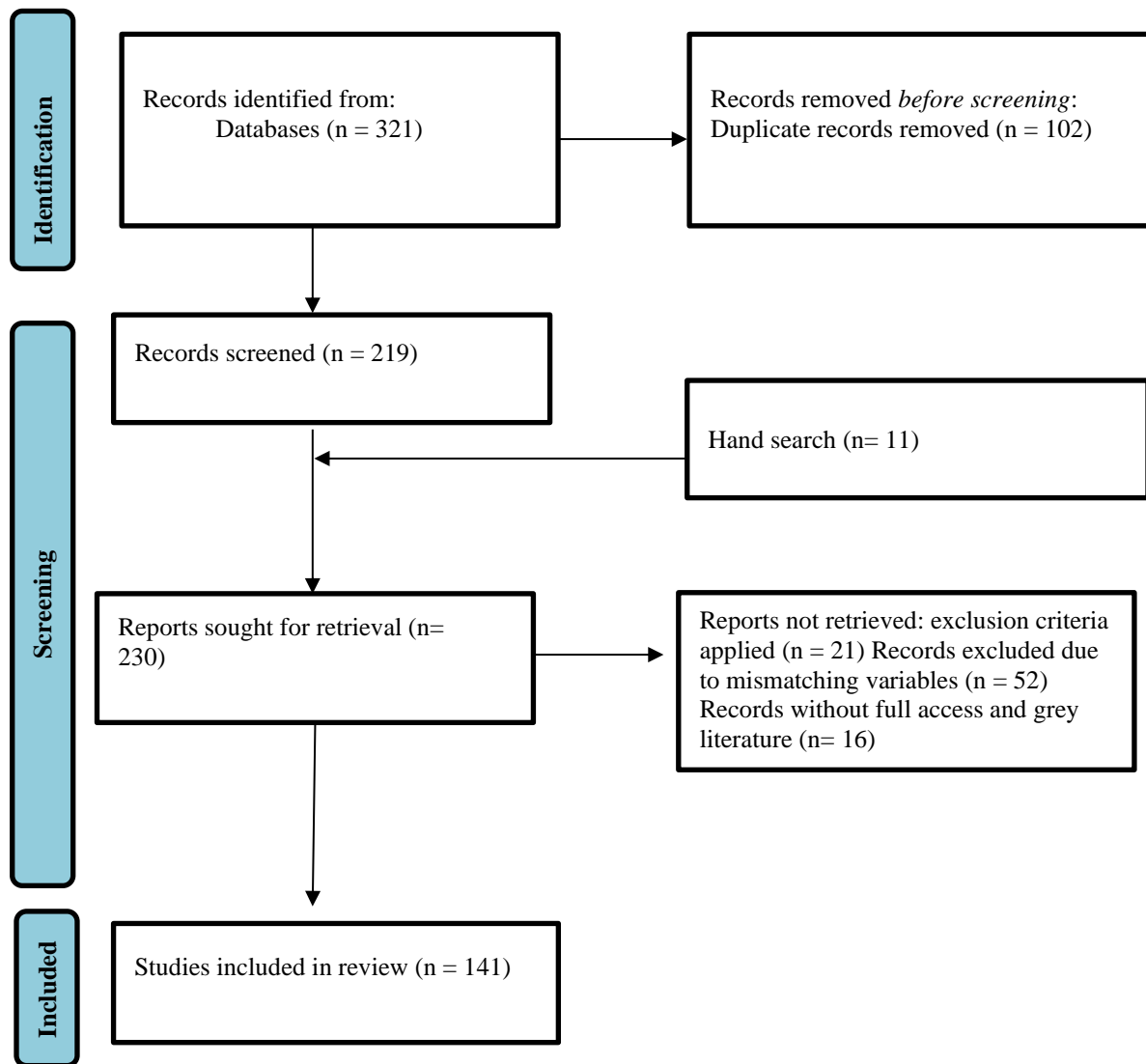
intention, self-efficacy and self-employment intention, or parenting styles, self-efficacy, and self-employment intention were selected. The time was not included because of the limited literature on the topic. Full-text journal articles were included while omitting unpublished grey literature because of concerns about its quality. Studies that followed both quantitative and qualitative analysis were included.

Databases such as Emerald, Wiley Online Library, Oxford, Taylor Francis Online, JSTOR, ProQuest, EBSCO, Science Direct, and Google Scholar were used as information sources for the study. Renowned publications like *Frontiers in Psychology*, *Child Development*, *Procedia*, *Social and Behavioural Science*, *Journal of Small Business and Entrepreneurship*, *Entrepreneurship*, and *Regional Development*, *Quarterly Journal of Economics*, and others were cited.

Boolean operators and wildcards were added to further filter and locate journal articles. The search strategy includes keywords such as "Parenting Styles AND Self-efficacy AND Self-employment OR Entrepreneurship". 118 search results yielded from Google Scholar. 203 results were found from Emeralds and eleven journal articles were found using backward and forward snowballing techniques.

Using the PRISMA flowchart (See figure 1) After discarding 102 publications owing to duplication. After applying exclusion criteria, mismatching variables, restricted access, and unpublished grey literature, this review removed 89 articles. Finally, 141 articles were found for this systematic review. Zotero software is used to organize references and get rid of any duplication. Content analysis will be used to analyze 141 articles and to examine the association between parenting styles, self-efficacy, and self-employment intention.

Data synthesis is the process that included studies to conclude a body of evidence. After following the study selection criteria, and data extraction of the included study this research is ensuring the risk of bias by choosing peer-reviewed articles and full-text articles from prominent databases. Content analysis is chosen as the data analysis technique in this study since content analysis is used to interpret both quantitative and qualitative secondary data in a systematic literature review (Elo & Kyngäs, 2008). Using content analysis, data extraction, and coding specific variables and information can be undertaken for quantitative data. This may include coding numerical data, quantitative measures, and statistical findings. Therefore, descriptive statistics, correlation, and regression values were extracted from included studies to interpret the research finding. For qualitative data of the included studies were examined to categorise qualitative data to identify patterns, concepts, and themes.



## RESULTS AND DISCUSSION

Based on 141 empirical papers and using content analysis, forty-four studies were grouped into the influence of parenting style. Among these, parenting control and Baumrind's parenting styles such as authoritarian, authoritative, permissive, and uninvolved parenting styles have received considerable critical attention. Forty-three studies grouped into self-efficacy have the dominant feature of Bandura's self-efficacy dimensions such as mastery experience, vicarious learning, social persuasion, and

physiological indexes. The remaining fifty-four studies are categorized into self-employment. Figure 1 illustrates a representation of categorization based on the content analysis. Of the 141 studies, twelve studies have used longitudinal studies while fifteen studies have included qualitative research methods. Despite these methods, few experimental designs ( $N = 03$ ) and meta-analyses ( $N = 3$ ) were found relevant to the variables. Furthermore, the main geographic sources of the research studies were from the USA ( $N = 43$ ). Moreover, two studies have been used to analyse multinational viewpoints by distributing questionnaires among 42 nations.

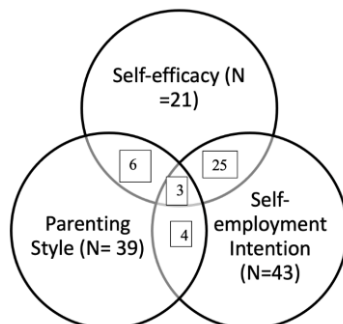


Figure 2: Categorization of Articles based on the Content Analysis

Previous research investigations have shown that self-employment and entrepreneurship are frequently viewed as being the same when assessing their distinctions (Szaban & Skrzek-Lubasiska, 2018). Similar traits that link entrepreneurship and self-employment have been observed (Idrus, Djakfar, & Abdussakir, 2019). These traits include risk-taking behavior, self-confidence, inventive ideas, and a creative approach. Therefore, the purpose of this review is to critically examine the idea of self-employment and offer a concise description based on the results of the research.

**Definitions of Self-employment:** A synthesis of the literature showed that the definitions of self-employment can be grouped into a few aspects because of the complexities. Some define self-employment as a synonym for

entrepreneurship whereas some claim that self-employment means individuals who registered their business activity without employing others (Segal, Borgia & Schoenfeld, 2005). Self-employment is defined as a cognitive functioning based on planned behaviour with certain skills, attitudes, and characteristics such as independence, innovation, conceptualization, and autonomy. To date, there have been limited definitions of self-employment. Definitions are also controversial and show weak both theoretical and operational qualities. By critically examining existing literature and considering various perspectives, this systematic literature review aims to provide a comprehensive and clarified definition of self-employment.

**Table 1: Definitions of Self-employment**

Cite	Definition of Self-employment	Characteristics of self-employed
(Nishantha, 2009)	Self-employment means an individual is performing in an officially registered business activity without employing others.	Autonomy and independence are high. No rigorous responsibility and formal supervision
(Demirgüc-Kunt, Klapper, & Panos, 2007)	Self-employment has defined as the smallest but the most important segment in entrepreneurial avenue which is beneficial to uplift the economy.	-
(Mijoč, Stanić and Horvat, 2016)	Self-employment is an example of planned behaviour.	-
(Segal, Borgia & Schoenfeld, 2005)	Synonym of entrepreneur	-
(Chlosta et al., 2012; Szaban & Skrzek-Lubasińska, 2018)	Different to entrepreneur	Different contextual and motivational factors are influenced by sustainability and job creation in self-employment compared to entrepreneurship.
ILO / (Organization for Economic Co-operation and Development, 2015).	Self-employer is an individual who works for himself or herself than anybody else but can be working with one or few partners	-
(Margolis, 2014)	Self-employment is similar to family contributing worker who is mainly involved in agricultural business.	Remuneration is dependent on produced products and profit.
(Idrus, Djakfar & Abdussakir, 2019)	The desire or attraction to start one's own new business has been identified as self-employment.	Self-efficacy, self-enthusiasm, and commitment
(Kahando & Mungai, 2018)	-	Bearing risks, creativity, and innovative ideas
(Halvorsen and Morrow-Howell, 2017)	'Working for oneself' (p.314). Self-employers are considered social entrepreneurs, entrepreneurs, small company owners, and consultants.	Independent
(Global Entrepreneurship Monitor – GEM, 2015)	Entrepreneurship is starting a new business such as a new organisation, self-employment, or expanding an existing business by one or more individuals	-
(Henley, 2021, p.458).	'self-employment is considered as an 'economic opportunity seeking activity'	Personal attributes, external environment, and previous organisations shape self-employment.
(Ayalew & Zeleke, 2018)	Innovation is the distinctive factor to sustain entrepreneurial business practices for entrepreneurship which differentiate from the self-employment	Innovation.

Based on different interpretations, self-employment can be recognized as a segment in entrepreneurship, it is an individual registered business activity, it is a planned behaviour and desire to start a new business, and economic

opportunity-seeking activity (Henley, 2021; Demirgüc-Kunt, Klapper, & Panos, 2007). However, some considered self-employment as a distinction from entrepreneurship emphasizing that not all self-employed individuals engage in

innovative business activities and exhibit entrepreneurial characteristics. However, some view self-employment as social entrepreneurship implying that self-employment can encompass a range of responsibilities and roles within the entrepreneurial realm (Halvorsen and Morrow-Howell, 2017). Yet, some view self-employers as engaging in an officially registered business activity without employing others and having independent nature of self-employment (Nishantha, 2009). Similarly, some view self-employment involves collaborating with others while maintaining their autonomy (Nishantha, 2009). A few more articles suggest that it involves family members working together in a business venture. Thus, it can be identified that self-employment is one segment of entrepreneurship that helps to develop new profitable and innovative entrepreneurial activities by committing to the development plan with enthusiasm, motivation, and desire along with consideration of the risks involved in the business.

Furthermore, the different categories and dimensions within self-employment will be explored to enhance the understanding of this concept and its implications for individuals and the broader entrepreneurial landscape. According to Startiene and Remeikiene (2013), self-employment is defined as the combination of self-employment start-up and self-employment length. However, based on earlier research, it is unclear if the start-up behavior or the length of self-employment has a substantial impact on self-employment intention. Thus, to define the word "self-employment," it is required to consider both notions such as self-employment start-up behavior and self-employment length. According to Szaban and Skrzek-Lubasiska (2018), self-employment has also been divided into dependent self-employed, one-person replicative firm owners, one-person creative start-up owners, and freelancers (professionals, independent contractors, and opportunity self-employed).

Theories in Self-employment Intention: When analyzing theories of self-employment previous research analyzed four models of self-employment including Kirzner's Entrepreneurship theory, the Push and pull theory, the theory of planned behaviour, and the model of self-employment. The examination of these self-employment models offers an insightful understanding of self-employment. Kirzner's Entrepreneurship Theory places an emphasis on the importance of being aware, taking advantage of profitable chances, and getting an advantage over competitors. It highlights the value of entrepreneurial imagination, but the model has been criticized for not incorporating it into the model (Szaban & Skrzek-Lubasińska, 2018). Hence, recent models center on self-employment intention and cognitive functioning.

Push and Pull Theory acknowledges how external forces might influence self-employment intention to start a business (Segal, Borgia & Schoenfeld, 2005). Negative external conditions are known as push factors, whereas personal traits like creativity and self-assurance are pull factors. This theory recognizes the importance of autonomy, self-employment, innovativeness, motivation, professionalism, and financial resources identified as important factors for self-employment (Chlosta et al., 2012; Lunenburg, 2011).

Thirdly, the theory of planned behaviour acknowledges that human behavior is planned, and intention is a predictor of planned behavior (Ismail, Jaffar, & Hooi, 2013; Lingappa, Shah & Mathew, 2020; Pretheeba, 2014). To understand

self-employment intention, subjective norms, perceived behavioral control, and attitudes are examined. Additionally, perceived self-efficacy plays a crucial role in influencing entrepreneurial intention. The theory of planned behavior has been applied in various studies to measure entrepreneurial intention (Pretheeba, 2014; Rachmawan, Lizar & Mangundjaya, 2015).

The last theory included in the previous review was the model of self-employment. It has been developed by Startiene and Remeikiene's (2013) model to analyze the impact of micro and macro environmental factors on self-employment. It values self-employment intention and duration when predicting economic outcomes. Additionally, this model includes various dimensions including demographic, economic, technological-geographical, cultural, socio-cultural, and institutional environmental factors (Startiene & Remeikiene, 2013).

Determinants of Self-employment Intention: To support self-employment, several studies have studied determinants that can influence entrepreneurial intention (Nishantha, 2009). As noted by Demirgüc-Kunt, Klapper, and Panos, (2007), there are individual, sociological, institutional, financial wealth, and labour market characteristics that influence self-employment choice. Similarly, the studies were identifying the influence of personality traits, demographic factors such as age and gender, capital requirement, entrepreneurial learning, and the influence of family business on self-employment decisions (Chlosta et al., 2012; Segal, Borgia & Schoenfeld, 2005).

Especially, in African society self-employment is considered as a masculine career while, in France, both men and women are empowered to start new entrepreneurial activities (Bouhalieb, 2020). Similarly, Nishantha (2009) identified that male students display more entrepreneurial motivation than females. Yet, Leonard, Emery and McDonald (2017) disagree with these views by analyzing longitudinal secondary data using Canadian tax reports from 1982 to 2013. According to them, there is a steady increase in female self-employment. Yet, the study of Chlosta et al. (2012) highlights the gender stereotype role for women in developing countries. Women are expected to nurture and care for their children and families and not expected to work in self-employment. Thus, it can be grasped that males are surviving in the self-employment business. Ayalew and Zeleke (2018) have found that gender, age, and marital status do not influence entrepreneurial intention.

There is more evidence to support that securing a higher income is persuasive to initiate self-employment as a career choice since the typical obstacle of any self-employment would be securing the capital (Perera, Jayarathna & Gunarathna, 2011). Access to capital, financial loans, and credit schemes are crucial factors for self-employment in developing countries (Chlosta et al., 2012). Due to no patronage from the government, informal sources of credit, high-interest loan schemes, and lack of access to capital, the self-employers in developing countries face major hindrances (Cholsta et al. 2012; Lingappa, Shah & Mathew, 2020; Perera, Jayarathna & Gunarathna, 2011). Many self-employers who are new to self-employment find it difficult to market instability, get market opportunities, and access to the market (Perera, Jayarathna & Gunarathna, 2011). In Germany, it was identified that better remuneration and opportunities are available for employees in a reputed company than in self-employment (Cholsta et al. 2012).

Similarly, Saar and Unt (2006) corroborated that insufficient collateral or difficulty in obtaining loans are the challenges that self-employers experience in Estonia.

Entrepreneurial learning is opposing the myth of entrepreneurs are born not made and further emphasises entrepreneurship can be taught by transferring knowledge, skills, and entrepreneurial self-efficacy to start their ventures (Ferreira, Morais & Brothers, 2019). Entrepreneurial education is efficacious for future entrepreneurs, however, sophomores who enrolled in a course on entrepreneurship would not be sufficient to start an entrepreneurial business. Yet, Krueger, Reilly, and Carsrud (2000) identified that entrepreneurial education can enhance knowledge, skills, positive self-efficacy, and confidence that will increase the perception of the feasibility of entrepreneurial intention. Similarly, Nowiński et al., (2019) have identified that entrepreneurship education is facilitating not only entrepreneurial intention but also self-efficacy. It was clear from their research that Poland is encouraging entrepreneurial learning at the high school level.

In another study, it was identified that family business background influences self-employment intention (Lingappa, Shah & Mathew, 2020). Individuals who have a heritage in entrepreneurship can be considered as entrepreneurship families (Chlosta et al., 2012). Likewise, Scott and Twomey (1988) concluded that children of parents who owned small businesses demonstrated a higher interest in starting self-employment, whereas children of parents who owned large businesses showed no interest in starting self-employment. In a similar study, Georgescu and Herman (2020) found that the self-employed father's role plays a significant role in influencing children's desire to be self-employed. Yet, the influence of both paternal and maternal entrepreneurial role models on entrepreneurial intention was observed in Chlosta et al.'s (2012) study. They have identified that networking, getting mentored, and prior experience with other entrepreneurs are benefits for children who aspire to start their self-employment ventures receiving from their entrepreneurial families. Besides, parental role models, some studies have found siblings' and spouses' entrepreneurial role models influence entrepreneurial intention (Ahmed, Islam & Usman, 2020). Macro-environment and self-employment Intention: Many studies have examined the influence of the macro-environment on self-employment has been significant in many studies (Henley, 2021; Hopp & Stephan, 2012; Wennberg, Pathak & Autio, 2013). Thus, this report will provide scholarly remarks on the influence of macro-environmental factors including cultural practices, economic environment, institutional consideration, and geographical and technological environment which influence self-employment intention, start-up behaviour, and duration. Further, research studies have identified that local, national, and regional communities should promote entrepreneurial culture to enhance self-employment opportunities (Bouhalieb, 2020).

Using Global Entrepreneurship Monitor and Global Leadership and Organisational Behaviour Effectiveness studies from 2001 to 2008, Wennberg, Pathak, and Autio (2013) have obtained data from 324,566 individuals from 44 countries to analyze the effect of self-efficacy on entrepreneurial start-up behaviour. They are analyzing the mediator role of cultural norms and practices in shaping entrepreneurial behaviour. Comparing 44 countries, they have considered institutional collectivism as a cultural

practice. The fear of failure in entrepreneurial entry has been moderated by the influence of cultural practices of institutional collectivism. In another study, it identified that some cultural roots like African Americans, demonstrate high entrepreneurial intention compared to their counterparts (Margolis, 2014). Cultural differences play an important role in shaping entrepreneurial education and entrepreneurial intention (Nowiński et al., 2019). They conducted quantitative primary research by obtaining 1022 samples from five educational institutes in Poland (421), three institutes in Slovakia (170), two from the Czech Republic (178), and two from Hungary (253) universities and found that collectivist cultural values and low uncertainty avoidance predicted entrepreneurial intention.

Self-employment is identified as a contributing factor to the national economy due to the uplifting job market, performance, growth rates, and productivity (Hopp & Stephan, 2012). Similarly, favorable economic conditions can increase economic opportunities for new start-up organisations. When the unemployment rate in a country rises the opportunities can be diminished. Thus, government policies, regulations, entrepreneurial learning, and formal vocational apprenticeships should be encouraged to influence entrepreneurial startups. The entrepreneurial culture is considered as low power distance, individualistic, low on uncertainty avoidance, high on masculinity, and high on long-term orientation (Lee & Peterson, 2000, cited in Baluku, Onderi & Otto, 2021). Thus, less entrepreneurial culture tends to be high power distance, high uncertainty avoidance, collectivist, short-term oriented, and high on feminism. These differences in cultural orientation are based on geographical differences in countries. Recent research by Baluku, Onderi, and Otto (2021) recognised differences in Germany and African countries such as Uganda and Kenya. Germany, which has high individualistic values, had low self-employment intention compared to Uganda and Kenya, which is low individualism. Thus, the research showed differences existing due to geographical locations and cultural influence on self-employment intention.

**Role of Parenting Styles:** Since it was reported in 1967, parenting styles have been attracting a lot of interest to influence the self-efficacy of children. Much of the available literature has attempted to draw fine distinctions between parenting styles and the developmental outcomes of children. However, the influence of diverse types of parenting styles is controversial in the literature.

Baumrind (1971) proposed three parenting philosophies by looking at the parents' roles by applying them to several dimensions. She has identified the parenting practices that are appropriate for pre-schoolers in her main research. Based on how psychologists and preschool teachers judged these pre-schoolers behavior patterns, they were divided into three groups. The first group exhibited assertiveness, affiliative, self-reliance, buoyancy, and self-control as behavioral traits. The second group exhibits withdrawn, suspicious, and dissatisfied conduct while the third group has little self-reliance or self-control and retreats from novelty behavioral features. Baumrind (1971) recognized three parenting styles—authoritarian, authoritative, and permissive—as impacting children's behavior based on the findings of laboratory observations, parent interviews, and home observations. The authoritative style has accompanied by the children's behavioral outcomes of assertiveness and self-reliance. The withdrawn and discontented children's behaviours were associated with



authoritarian parenting style (Baumrind, 1967). The children's behaviour of low self-control and low self-reliance was accompanied by a permissive style. The authoritarian parent can control, shape, and evaluate their children's behaviour based on set parameters while permissive parents lack parental control and grant autonomy to their children (Kuppens & Ceulemans, 2019). The authoritative parents are warmer to their children and use moderate demanding controls (Joseph & John, 2008).

Maccoby and Martin (1986) have introduced the fourth style for the low responsiveness and low demandingness category, which is named 'uninvolved'. This style was similar to the rejecting-neglecting style proposed by Baumrind (1971). Furthermore, Baumrind (1991) expanded the parenting styles by adding the fourth style named as 'neglectful' parenting style.

**Parenting Styles and Self-efficacy:** The majority of the studies highlighted positive behavioural outcomes of the children of authoritative parenting styles ( $N = 16$ ). In Contrast, the authoritarian parenting style is identified as ethnocentric and important for Chinese and African child rearing (Chao, 1994; Reitman et al., 2002). Researchers concluded that the authoritarian parenting style has declined over time toward an egalitarian family environment. Significantly, though few studies identified the influence of parenting on self-employment, parenting styles were not thoroughly examined.

Tam et al. (2012) conducted quantitative, primary research to determine the impact of parenting practices on the level of self-efficacy of 120 Malaysian students. They found that the authoritative parenting style has a substantial impact on their children's self-efficacy, however authoritarian or permissive parenting styles have no relationship to children's self-efficacy (Tam et al., 2012). Furthermore, Rizwan, Qi, and Talha (2021) used 720 Pakistani secondary school pupils to investigate the influence of parenting practices on academic success and self-efficacy. The study of Turner, Chandler, and Heffer (2009) found a positive significant relationship between parenting styles and self-efficacy of 264 undergraduates in a Southwestern University in the USA.

In a different study, Macmull and Ashkenazi (2019) investigated an association between parental practices and math students' self-efficacy. Parents' roles are studied in this study as it relates to authoritarian, authoritative, and permissive parenting styles. According to Macmull and Ashkenazi (2019), there is a strong correlation between self-efficacy and authoritative parenting methods. Similarly, Noel et al. (2021) examined the impact of parenting styles on self-efficacy among secondary school students in Uganda in another study. Importantly, all four parenting philosophies—authoritative, authoritarian, permissive, and uninvolved—have been addressed in this study. Results of the study reveal that whereas permissive and uninvolved parenting styles are not associated with a significant link with self-efficacy, authoritative and authoritarian parenting styles do.

**Parenting Styles and Self-employment Intention:** Four studies examined parenting influence on self-employment intention. Entrepreneurial family background reported a higher entrepreneurial intention in the study (Georgescu & Herman, 2020). Similarly, Lingappa, Shah, and Mathew (2020) found that both family and peer support positively related to entrepreneurial intention. Furthermore, Shinozaki (2012) found out that apart from educational

backgrounds, parents' employment status and past household income are important determinants of young adults' employment outcomes (Michael, Most, & Cinamon, 2013). Yet, no studies have examined Baumrind's Parenting styles with self-employment intention.

Many included studies relevant to Baumrind's parenting styles examined academic success, youth outcomes, children's behaviour, psychosocial outcomes of children, and personal development. Few studies found an association between parenting and self-employment that emphasizes parenting such as family support, family background, and entrepreneurial family background parenting influence on self-employment intention (Georgescu & Herman, 2020; Lingappa, Shah & Mathew, 2020; Shinozaki, 2012; Tennakoon, & Siriwardhana, 2021).

**Self-Efficacy and Self-employment Intention:** The influence of psychological, sociological, and demographic aspects of self-employment has been studied in the past (Ahamed, Islam, and Usman, 2020; Atnafu, 2016). The impact of parenting practices on self-efficacy and the role of self-efficacy as a mediating factor between the association between parenting styles and intention to self-employment have not received enough attention from previous researchers. There is a growing body of literature that emphasizes the significance of cognitive functioning, such as self-efficacy, in influencing the intention to engage in self-employment. Self-efficacy theory was first defined by Robert Bandura as an individual's confidence in their capacity to achieve specific objectives. Since all difficulties can be overcome with high perseverance and intrinsic motivation, the majority of studies have supported the influence of self-efficacy on self-employment intention (Ahamed, Islam & Usman, 2020; Campo, 2011; Chen & He, 2011; Rachmawan, Lizar & Mangundjaya, 2015).

The key assumption of the self-efficacy theory is that human initial ideas of competence or competency in tasks will impact employee motivation and performance levels (Lunenburg, 2011). Bandura (1977; 1982) has emphasized two expectancies, namely efficacy expectancy and outcome expectancy, to increase motivation. While outcome anticipation is considered as the confidence or ability to attain predetermined results, efficacy expectancy is defined as the belief or confidence in the ability to perform a task (Sanna, 1992). Actual performances, vicarious experiences, forms of social persuasion, and physiological indexes (anxiety and stress) are pivotal sources of information in self-efficacy (Bandura, 1977).

These four sources of self-efficacy will determine the capability of a self-fulfilling prophecy. According to Van der Bijl and Shortridge-Baggett (2002), actual performance is the best source to impact self-efficacy since people are directly involved in the tasks that increase self-efficacy. Williams and Williams (2010) stressed that individuals with high self-efficacy will view each challenging endeavour as a challenge, rather than a risk to be disregarded by increasing their likelihood of success. The strongest, greatest, and most generalized dimension to predict behavioral change by raising the self-efficacy level, according to Ferreira, Morais, and Brothers (2019), makes mastery experience the most significant source of self-efficacy. Only eight among the forty-three scholarly research on self-efficacy have measured all its dimensions, and a handful of research studies have examined the importance of entrepreneurial self-efficacy.

Out of 141 research studies, more than 25 research studies have examined the association between self-efficacy and self-employment intention. The study by Zaman *et al.* (2021) found that self-efficacy plays an important role in influencing the self-employment intention of 542 business students in a public university in Pakistan. In a similar study, it was found that self-efficacy played an important role in enhancing entrepreneurial intention among both school students and MBA students (Wilson, Kickul, & Marlino, 2007). Subsequently, self-efficacy is the strongest predictor of university students' entrepreneurial career intention (Pihie & Bagheri, 2013). Interestingly, many studies affirmed that providing access to entrepreneurial education can fuel aspiring women to develop entrepreneurial self-efficacy that will raise their interest in starting their ventures. Hence, this systematic report concludes that the higher the self-efficacy of an individual who has an aspiration to start new entrepreneurial ventures, the higher will be their entrepreneurship intention (Bose & Ufuoma, 2015; Murugesan & Jeyavelu, 2017; Saraih, et al., 2017).

## CONCLUSION

When analyzing the located studies on parenting styles, self-efficacy, and self-employment intention reveals valuable insights into the relationships among these factors. The existing literature suggests that parenting styles and self-efficacy are positively related to the self-efficacy of their children and the evidence was most robust concerning the authoritative parenting style. Authoritative parenting, characterized by support, care, warmth, and reasonable control tends to foster higher levels of self-efficacy and positive career intention in children. However, the remaining three parenting styles such as authoritarian, permissive, and neglectful parenting styles are harming self-efficacy and career aspirations. Similarly, self-efficacy is recognized as a crucial predictor of self-employment intention and a stronger desire to be a successful entrepreneur because of a proactive mindset, viewing challenges as opportunities, and problem-solving abilities. The literature suggests that self-employment intention is influenced by various factors including individual characteristics, contextual factors, environmental factors, and psychological factors. Overall, the existing literature suggests that parenting styles influence self-efficacy which plays a crucial role in shaping self-employment intention.

Through this comprehensive review, several gaps have been identified in the existing literature, including theoretical, empirical, and methodological shortcomings, which call for further research and advancements in the field. Existing literature on parenting styles is limited mainly to authoritarian and authoritative whereas many studies neglected permissive and uninvolved parenting styles. Bandura's self-efficacy theory has been discussed in many articles, yet some studies analysed career self-efficacy, job search self-efficacy, economic self-efficacy, entrepreneurial self-efficacy, and research self-efficacy. Results show that there was no sufficient evidence in the literature to examine Baumrind's parenting styles, Bandura's self-efficacy model, and self-employment intention. Particular theories relevant to this study have not been adequately tested in the field. Hence, previous studies fail to discuss how theories in other disciplines such as self-efficacy and parenting styles affect the enhancement of self-employment intention. Most research in the field of self-efficacy has not focused on all the dimensions of self-efficacy such as actual performances, vicarious experiences, forms of social persuasion, and

physiological indexes. Most of the studies were limited to general self-efficacy and measured by an author-developed survey based on previous literature (Partheeba, 2014). There was not one measurement to analyse Bandura's parenting styles and different measurements were used to measure parenting styles. Most significantly, studies did not use previously tested and validated instruments to measure self-employment intention. Many studies examined self-employment intention using author-developed measurements.

Currently, there are no data on the influence of parenting styles on self-employment intention and the mediation effect of self-efficacy. Many research reports suggest policy development on self-employment by facilitating entrepreneurial learning, embedded curriculum with self-efficacy, and parental positive encouragement. In conclusion, integrating parenting styles and self-efficacy with self-employment will expand the existing knowledge on self-employment intention. However, more research is needed to comprehend the relationship between self-efficacy, parenting styles, and self-employment intention.

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# Glass Ceiling Paradox and Women's Career Progression: A Case of Female Employees in Colombo Port, Sri Lanka

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## Abstract

*Despite the increasing participation of women in the workforce, their representation in decision-making positions on the corporate ladder has been slow and remains a worldwide concern. One of the primary reasons behind this concern has been identified in the literature as the theory of the 'Glass Ceiling'. On the other hand, with such enormous strategic potential, more involvement and contribution of women in all economic sectors, particularly the maritime and ports industry in Sri Lanka is much needed. However, Sri Lanka has a lower rate of women's participation in the maritime sector compared to other countries in the world which highlight the need for further investigation into this issue. Therefore, the current research aimed to explore the effect of the Glass Ceiling theory on Women's Career Progression in the Sri Lankan port sector. The study used a quantitative approach and surveyed 108 executive-level female employees in Port of Colombo using a structured questionnaire. The data was analyzed using Partial Least Squares Structural Equation Modelling (PLS-SEM) with SmartPLS. The results revealed that Individual, Family, and Organizational factors negatively impacted Women's Career Progression, while Cultural factors had a positive impact. Furthermore, the study found that the Glass Ceiling has a 77.8 percent influence on the Women Career Progression among executive-level female employees working under the Sri Lanka Ports Authority. These findings highlight the need of addressing Individual, Family, Organizational, and Cultural factors to promote female upward mobility in the maritime and port industry in Sri Lanka.*

**Keywords:** Glass Ceiling, Sri Lankan Port Sector, Women Career Progression, Women in Maritime

## INTRODUCTION

Women are now more prevalent than ever in a wide range of occupations around the world. Many opportunities have been opened for women in the workforce ever since the Industrial Revolution began in Europe when factories came into being. Nonetheless, many research studies (Burke and Vinnicombe, 2005; Smith, Caputi, and Crittenden, 2012; Xiang, Ingram, and Cangemi, 2017; D'sa *et al.*, 2023) in recent decades reveal that, despite the stereotype of women, a growing number of females, especially those with professional training, have been entering the paid labor force since the 1970s with a focus on career progression. Currently, the traditional roles have changed, with more women taking on the job of family breadwinner and men starting to include maintaining the home and raising children among their obligations. Although there are advancements in female employment, institutional biases and widespread societal standards continue to prevent women from moving up the corporate ladder. In other words, women around the world continue to face extra barriers to employment, and once employed, to obtain decision-making roles and professions in specific industries or with specific characteristics. Gender difference has

emerged as the most crucial factor to concentrate on in order to achieve workplace equality since women are seeking more equality than ever.

According to the International Labour Organization (2019), women are underrepresented in management roles across all geographic areas, where Asia & the Pacific region had a very low proportion of female managers (19.97 percent) when compared with the other regions. For the past few decades, this underrepresentation and the slow rise of women in leadership positions on the corporate ladder have been a source of contention around the world. This gender imbalance in leadership roles has been well-documented and acknowledged by various studies and reports in countries such as Australia (Still, 2006; Maginn, 2010; Maginn *et al.*, 2018), the United Kingdom (Morley, 1994; Wearing and Bob, 2004; Thomson, Graham and Lloyd, 2008), Russia (O'Brien & Wegren, 2015), US (Fassinger, 2008; Varma, 2018), China (Tan, 2008; Xiang, Ingram and Cangemi, 2017), South Africa (Mathur-Helm, 2006; Booysen & Nkomo, 2010), France (Barnet-Verzat & Wolff, 2008; Jellal, Nordman & Wolff, 2008), etc. In addition, according to Sri Lanka Labour Force Survey Annual Report 2021, the rate of

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women serving as senior officials, directors, and managers of organizations is lower than the rate of men (2.3 percent), and the percentage of women working in managerial roles is still lower than that of men (19.5 percent) (Department of Census & Statistics, 2021). As stated above, there is substantial empirical evidence to support the assertion that women are significantly underrepresented in leadership positions in Sri Lanka, as well as in many other countries around the globe.

One of the primary reasons behind this concern has been identified in the literature as the theory of the '**Glass Ceiling**' (Cotter *et al.*, 2001). It describes the invisible and contrived barriers that have kept women from rising to positions of senior management and even higher levels of leadership in the business sector. In this analogy, the ceiling is made of glass because it is not a typical optical barrier and a woman is able to peer through it. According to Grout, Park, and Sonderegger (2009), a woman might not be aware of its presence, until she shatters through the Glass Ceiling and climbs to a higher position on the career ladder on her own. Undoubtedly, there is a gender gap in the maritime industry because it is one of the major male-dominated industries where stereotypes against women still exist is the shipping and port sector (Pastra, 2021). Previous studies have found that the proportion of women who work in the seaports is still lower than that of men in many nations (OECD, 2019; Massachusetts Maritime Academy, 2020; WISTA, 2020; German Shipowners' Association, 2021; MPA Singapore, 2023). However, in Sri Lanka, women participation made up only about 2 percent of the maritime industry (Ranaraja, Hassendeen & Gunatilaka, 2016). Since there is strong evidence that Sri Lanka has a lower rate of female engagement in the port industry than the other nations, it emphasizes the need for research to determine the root causes of this issue.

In addition, numerous studies (Bombuwela & De Alwis, 2013; Gunawardena, 2016; Madumali & Jayasundara, 2019; Weeraratna & Hapurugala, 2019; Kurupparachchi & Surangi, 2020; Hussin *et al.*, 2021; Thiranagama, 2021) have been attempted to discuss the Glass ceiling based on diverse industries (i.e. Banking, Telecommunication, Apparel, Logistics, Aviation, Tourism, Construction, and Service, etc.) through Multiple Regression Analysis using SPSS software. However, no research—national or international—has been done on how the Glass Ceiling theory affects Women's Career Progression in the port industry. Therefore, the current researcher intends to fill the particular research gap. Therefore, the core objective is to explore the effect of the Glass Ceiling on the Career Progression of female employees in the Sri Lankan port sector.

## LITERATURE REVIEW

### *Glass Ceiling*

The term '**Glass Ceiling**' is a condition that prevents certain individuals from advancing their careers and upward mobility, particularly if they are members of marginalized groups such as women and racial or ethnic minorities (Morrison, 1987). In other words, it refers to circumstances where a qualified woman's advancement within an organization's structure is halted at a specific level. "Glass Ceiling" is one of the best metaphors for addressing the employment gaps between men and women in the workplace (Burke & Vinnicombe, 2005). Today, the phrase Glass Ceiling refers to a barrier that prevents women from achieving managerial positions despite their qualifications

and accomplishments and this barrier is invisible but essentially unbreakable (Gunawardena, 2016). Various methods for conducting previous scientific research and the term's widespread use in the media have resulted in an abundance of different interpretations of what a "Glass Ceiling" is. Previous scholars stated that the term Glass Ceiling refers to the imperceptible barriers that prevent women from achieving the highest levels of leadership (Morrison, 1987; Davidson & Cooper, 1992; Lyness & Thompson, 1997). In addition, the Glass Ceiling issue highlights the intangible and artificial hurdles that prevent women executives from occupying positions of high management that are brought about by individual attitudes and organizational biases (Virginia, 2007).

The study by Morrison (1987) found that in terms of psychological, emotional, or intellectual characteristics, there aren't many fundamental differences between men and women. According to the study, the Glass Ceiling was primarily created by three restrictions on what was expected of women. The first restriction was that women were supposed to be powerful without exhibiting traits associated with men. The second restriction was that they were supposed to accept tasks and responsibilities while remaining obedient to rules, and the third restriction was that they were expected to be pushy but not demand fair treatment. Morrison and colleagues also noted that the Glass Ceiling affected women as a community and not individually (Morrison, 1987). According to Virginia (2007), women with aptitude and skill can recognize their potential, but these Glass Ceilings keep them from achieving the desired senior roles. A Glass Ceiling in the workplace is essentially a sign of social and economic gender inequality and it explains the scenario in which the logical question of why women are not progressing to higher managerial positions as men do has no objective solution. It asserts that there is a natural disparity between how organizations operate and how society as a whole is structured (Virginia, 2007).

"The Economic Theory of Glass Ceiling" introduced by Grout and his colleagues interprets two strongly believed and competing hypotheses for the Glass Ceiling effect that are now under discussion, as well as to a lesser extent in academic literature (Gunawardena, 2016). One explanation is that there are actual gender differences as a result of this. According to a widely held belief, women tend to be less committed to their jobs than males since they are more prone to take professional vacations or quit their jobs altogether due to family obligations. As a result, they are worth less as an employee. This explains why their employers approach them differently (Grout, Park & Sonderegger, 2009). The other explanation argues that what has been seen is only consistent with gender discrimination. The study's findings support the claim that there are no meaningful differences between men and women. Women would demonstrate the same level of work devotion if treated the same as males. Differential treatment (such as lower wages) brought on by organizations is thought to be the source of observed disparities in commitment, and vice versa (Grout, Park & Sonderegger, 2009).

Many researchers (Davidson & Cooper, 1992; Burke & Vinnicombe, 2005; Benschop, Brouns & Benschop, 2009; Al-Manasra, 2013; Bombuwela & De Alwis, 2013; Hensman & Thasika, 2019) have pinpointed causes for the glass ceiling's existence. According to Afza and Newaz (2008), there are five key factors that affect the glass ceiling, including management perception, work environment, work-life

conflict, sexual harassment, and organizational policy. (Afza & Newaz, 2008). According to a study carried out by Maheshwari (2012), there are three basic categories of Glass Ceiling as global barriers, including organizational, societal, and individual barriers (Maheshwari, 2012). According to Kapuarachchi and Surangi, the existence of the Glass Ceiling has three primary causes and nine secondary factors. These are personal (lack of higher education, self-rejection, family issues), organizational (lack of support, sexual harassment, gender discrimination), and societal (lack of support, sexual harassment, gender inequality) (environmental pressure, matter of gender, Sri Lankan culture) (Kuruppuarachchi & Surangi, 2020). Furthermore, according to a study by Bombuwela and De Alwis (2013), variables pertaining to the glass ceiling should fall into four categories as Individual Factors, Family Factors, Organizational Factors, and Cultural Factors.

According to Bombuwela and De Alwis (2013), Individual factors refer to a person's unique qualities and characteristics that may hinder their competitiveness in comparison to others. These factors can include a lack of confidence, specific personal traits, and difficulty in self-promotion, which can impede career progression. Notably, women may be more significantly affected by individual barriers, as they often face challenges related to confidence, emotional control, and societal perceptions of physical toughness. These factors, along with inherent physical differences, can create disadvantages for women as they strive to advance in their careers (Bombuwela & De Alwis, 2013). In addition, Bombuwela and De Alwis (2013) stated that personal obstacles are the most compelling reason for female career advancement. According to research carried out by Kiaye and Singh (2013), upon obtaining top positions within the company, men were more attractive in social networking activities than their female counterparts. Family factors show the impact that relationships, child care, and housework have on employees' ability to advance their careers. Earlier studies suggest that the degree of work/family conflict experienced by female managers needs to be reduced in order to further boost their career upward mobility (Jayawardane, 2015; De Silva, 2018; Madumali & Jayasundara, 2019). There is a barrier for women in balancing two roles simultaneously, where those who have, a career is required to fulfil both work and family responsibilities at the same time. This creates a challenge for women as they strive to fulfil their responsibilities in both domains and can negatively impact their career progression (Shakil Ahmad, Fakhr, & Ahmed, 2011). Organizational barriers coming from organizational structure and practices have an impact on organizational policy and management style with regard to employee growth and are defined as the extent to which employees hold their employer accountable for their underperformance (Bombuwela & De Alwis, 2013). A study by Acker (2012) indicated that organizations play an active role in reinforcing gender distinctions, power dynamics based on gender, and the male-dominated societal norms that govern gender roles, in both paid and unpaid work. Cultural factors are barriers that are seen as a reflection of how the general public perceives the differences in behaviour and personality between men and women based on gender (Bombuwela & De Alwis, 2013;

Hussin *et al.*, 2021). It has been made possible for this topic to progress since organizational culture is more varied and dynamic nowadays. It contributes to defining personality and encompasses the wide characteristics of core values and beliefs, ethics, as well as policy (Gunawardena, 2016).

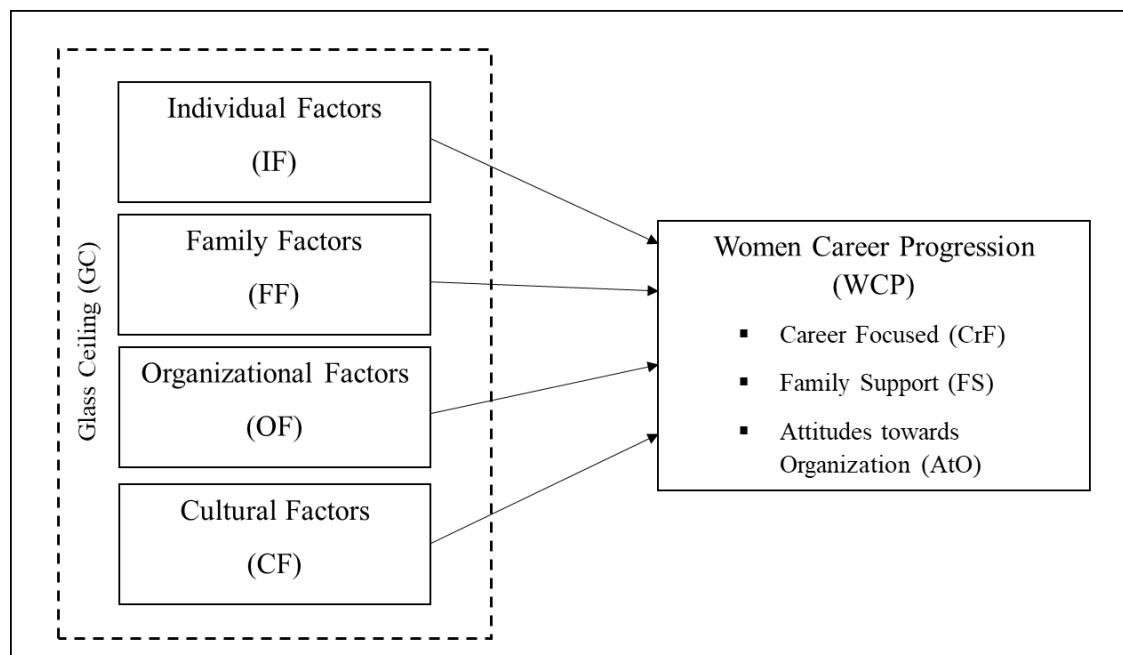
### **Career progression**

According to previous literature, there are significant differences between career development and career progression. Career progression refers to the corporate hierarchical ladder, whereas career development refers to an employee's obligation to advance or develop their career on their own. (Thomas, 2018). While career progression entails moving to higher positions, acting strategically, and focusing on predetermined goals when moving up the corporate ladder, career development entails an integral improvement in skills and talent, specifically by converting skill to expertise, and a transformative mindset that focuses on how to achieve goals. In essence, professional advancement or growth comprises predetermined workplace milestones and goals toward which a person must diligently work to better himself. It is a technique for advancing from a lower to a higher position according to skills and experience. On the other hand, the process of personal transformation that follows the training and the growth, learning, and experience that help achieve goals in the new role is known as professional development (Weeraratna & Hapurugala, 2019).

Through a methodical, quality management strategy, career development or working advancement is used to match an employee's goals with the objectives of a business. According to Maslow's hierarchy of needs, career mobility, which includes enhancing career development based on performance appraisals, merely provides self-esteem and motivation by enticing employees to take advantage of opportunities to apply for better jobs and achieve self-actualization after meeting organizational goals (Hussin *et al.*, 2021). However, the results of the previous studies indicate that women have a significantly harder time advancing their careers than males do since they have to choose job and family life over their education and professional development. Some professional women found this situation difficult because they had to decide between pursuing their job goals and focusing on their parenting responsibilities (Hussin *et al.*, 2021).

### **CONCEPTUAL FRAMEWORK**

The main research idea is centred on the conceptual framework proposed by Bombuwela and De Alwis (2013), where the Glass Ceiling (GC) is composed of four dimensions - Individual Factors (IF), Family Factors (FF), Organizational Factors (OF), and Cultural Factors (CF) - which are considered as the independent variables while Women Career Progression (WCP) is regarded as the dependent variable of the study. Drawing on prior literature, the current researcher identified Career Focused (CrF), Family Support (FS), and Attitudes towards Organization (AtO) as indicators of the dependent variable, which will aid in measuring Women's career progression (Afza and Newaz, 2008). Figure 1 provides a visual representation of the hypothesized causal relationships between the variables.



**Figure 1: Conceptual framework**

Source: Developed by the author based on (Bombuwela & Alwis, 2013) and (Afza and Newaz, 2008)

### 3.1 Hypotheses

#### Individual Factors and Women Career Progression:

According to Bombuwela and De Alwis (2013), Individual factors are the personality traits and features of a woman that cannot make her stand out from other women, such as her low level of confidence, her distinctive traits, and her inability to market herself. Contrarily, women have a significant impact on character and qualities, including a lack of confidence and difficulties controlling their emotions. As a result, this made it harder for women to succeed in their careers. In addition, Smith, Crittenden, and Caputi (2012) suggested that women tend to display nurturing, loving, and supportive behaviour, while men typically exhibit qualities that are deemed essential for succeeding in top positions, such as self-confidence, assertiveness, autonomy, and power. The findings of Kiaye and Singh's (2013) study indicate that male individuals were perceived as more attractive in social networking contexts and were more likely to be appointed to higher-ranking positions within companies than their female counterparts. Consequently, men tend to hold a more prominent presence in senior management roles in the corporate world compared to women. In addition, women who lack the necessary abilities, character traits, and mindset to succeed in top positions need to be motivated and self-assured, which are crucial traits for securing those positions in an organisation (Cross, 2010). According to Smith, Crittenden, and Caputi (2012), women behave in ways that are nurturing, loving, and supporting whereas men exhibit traits that are crucial to winning the top job, such as being self-assured, assertive, autonomous, and powerful (Smith, Caputi and Crittenden, 2012).

#### **H1: Individual Factors have a negative impact on Women's Career Progression in the Sri Lankan port sector**

**Family Factors and Women's Career Progression:** According to Holton and Dent (2016), the family issues raised in the literature have not significantly changed throughout the years. The difficulties faced by women trying to balance work and family responsibilities as well as the negative opinions and prejudices regarding working mothers have been established across a variety of professions, sectors,

and countries (Hussin et al., 2021). Relationships, child care, and housework all have an effect on a female worker's ability to advance in their profession, as evidenced by Family factors. The level of work and family life conflict experienced by female managers should be reduced in particular among the aspects of the Glass Ceiling taken into account in earlier studies in order to further increase their career upward mobility (De Silva, 2018; Madumali & Jayasundara, 2019). Numerous studies have established that working part-time creates career disadvantages for women and that derogatory perceptions and biases toward working mothers are prevalent across various occupations, industries, and countries. In addition, women face significant challenges when trying to balance their work and family responsibilities (McIntosh et al., 2012). This creates a challenge for women as they strive to fulfil their responsibilities in both domains and can negatively impact their career progression (Shakil Ahmad, Fakhr, and Ahmed, 2011). According to Bombuwela and De Alwis (2013), it appears that many women find it challenging to manage their domestic responsibilities, such as childcare and housework, while also dedicating time to their careers.

#### **H2: Family Factors have a negative impact on Women's Career Progression in the Sri Lankan port sector**

**Organizational Factors and Women's Career Progression:** The Organizational factors that cause hurdles to the advancement of female career journey at an institution are explained in this dimension. A study by Bombuwela and De Alwis (2013) stated that the impact of organizational impediments resulting from organizational structure and practices on corporate policy and management style is highly impacting on employee career growth. For organizations to function better, women's subjective professional success must be maintained. This is because contented workers are more productive than unhappy ones (Sharif, 2015). According to Acker (2012), in both paid and unpaid work, organizations actively contribute to the reinforcement of gender differences, power dynamics based on gender, and the male-dominated social norms that define gender roles. Ansari (2016) revealed that due to gender role beliefs, management tends to view women as



less committed to their careers than men. This perception is based on the assumption that women are more likely to prioritize parenting responsibilities over work, and therefore, lack the flexibility to work additional hours. Furthermore, even independent women are frequently underestimated by management, and those who reject offers that would require them to leave their families are seen as lacking career ambition. (Ansari, 2016).

**H3: Organizational Factors have a negative impact on Women's Career Progression in the Sri Lankan port sector**

Cultural Factors and Women's Career Progression: Cultural factors are seen as a reflection of how the general public perceives the differences in behaviour and personality between men and women based on gender (Hussin et al., 2021). According to Kamberidou (2020), norms, beliefs, culture, and religion, and not just entrepreneurial actions, increase and compound gender inequality and gender inequities. Women in patriarchal civilizations of wealthy nations confront more sociocultural challenges than the multitasking maelstrom. Additionally, García and Ruth (2018) asserted that social and gender issues are cultural and behavioural characteristics that place greater emphasis on authority, leadership style, and stereotypes than on the organizational rules at hand. According to Kamberidou (2020), cultural beliefs, customs, and religion also contribute to gender disparity and inequities, which are not simply brought on by organizational practices. Women encounter significant socio-cultural barriers, particularly in patriarchal societies of developed countries. The family or immediate social environment often imposes limitations on women's participation in public events, which hinders female entrepreneurship and leadership (Kamberidou, 2020).

**H4: Cultural Factors have a negative impact on Women's Career Progression in the Sri Lankan port sector**

## METHODOLOGY

Since the variables can be measured by numeric values, the research design of the study was the quantitative method. In other words, the investigation is primarily concerned with collecting and analysing quantitative data (Saunders & Bezzina, 2015). The approach to theory development of the study was Deductive as the researcher used a theory utilized by previous researches and it is a common practice in testing theories, which is the process of deducing a specific law-like inference (Kuosa, 2011). In this research, the primary data was collected directly from the study participants through the use of structured questionnaires. Meanwhile, the secondary data was gathered from a variety of sources, such

as reports, academic publications, and other publicly available sources.

The personnel most at risk from the Glass Ceiling threat are females, who face more insurmountable obstacles while moving from executive to management levels in the corporate hierarchy. Therefore, the target population of the study was 154 female executives who were employed by the Sri Lanka Ports Authority (SLPA) in the port of Colombo. From the target population (154), the sample size was estimated according to a table proposed by Krejcie and Morgan (1970). After consulting the Krejcie and Morgan sample size determination table, it was determined that the appropriate sample size for the study was 108 with a 95% confidence level and a 5% error estimate. Simple Random Sampling (SRS) technique which is the most basic and often used probability sampling method was utilized to select the appropriate sample for this study.

A standard questionnaire developed by Bombuwela and De Alwis (2013) was utilized as the survey instrument to collect the data from female executive-level employees. A and B were the two sections of the questionnaire. In Section A, biographical information about the respondents was obtained to build a profile of the sample group in terms of marital status, age, educational attainment, and service duration. Part B contained 35 questions based on the four Glass Ceiling dimensions and the three Women's Career Progression dimensions to assess the Glass Ceiling and Women's Career Progression. The questionnaire is administered using a Five Point Likert Scale, with Strongly Disagree at one extreme of the spectrum and Strongly Agree at the other (Allen & Seaman, 2007). However, in the present study, to align with the methodology, several modifications were made to the original questionnaire. Specifically, certain questions were rephrased and some items were gathered together to form a separate section in order to evaluate the data using the PLS-SEM model. These modifications were made to enhance the questionnaire's suitability for the present study and ensure that the items of the questionnaire were relevant and specific to the study's context. Despite these modifications, the core constructs and themes of the original questionnaire were retained to ensure continuity with previous studies and facilitate the comparison of results.

In Tables 1 and 2, the independent variables (IF, FF, OF, CF) and dependent variables (CrF, FS, AtO) have been identified with the indicators that were useful in measuring the relevant variables. The indicators selected below are obtained from the studies carried out by Bombuwela and De Alwis (2013) and Afza and Newaz (2008).

**Table 1: Constructs and indicators of Glass Ceiling**

Constructs	Operational Definition	Indicators
Individual Factors (IF)	This reflects the degree to which personal obstacles that each person faces impact the outcome (Bombuwela and De Alwis, 2013)	Self-underestimation Dependence of others Punctuality Decision-making ability Team spirit Empathy

Family Factors (FF)	This refers to the degree to which relationships in life have an impact on an employee's performance (Bombuwela and De Alwis, 2013)	Work-life balance Prioritizing family requirements Professional commitments Managing leaves Distance to workplace Opinion on night shifts
Organizational Factors (OF)	This represents how much organizational hurdles resulting from organizational structure and procedures have an impact on the growth of the employees. (Bombuwela and De Alwis, 2013)	Gender-biased organizational structure Gender inequality Unfair promotion practices Lack of challenges Opportunities Gender discrimination
Cultural Factors (CF)	This relates to the degree to which values and traditions affect employee progression (Bombuwela and De Alwis, 2013)	Opinions of the society Discrimination and harassments Stereotypical beliefs of the society and organizational culture

Source: Developed by the Author based on (Bombuwela & De Alwis, 2013)

Table 2: Constructs and indicators of Women's Career Progression

Construct	Operational Definition	Indicators
Career Focused (CrF)	This refers to a worker who is motivated to advance or succeed in their career (Afza and Newaz, 2008).	Searching for better opportunities Work experience & specialized training Self-evaluating skills & competencies
Family Support (FS)	This demonstrates how supportive family members are of a woman's professional accomplishment. Those who have strong or supportive families are able to balance work and family obligations while still advancing their careers. (Afza and Newaz, 2008).	Manage work-home demands more effectively Appreciated by family Family Support for the career development
Attitude towards organization (AtO)	This refers to employee perceptions of the working environment. Individuals that have positive thoughts about the company they work for stick with it and advance their careers there. (Afza and Newaz, 2008).	Wish to take challenging & visible assignments Supportive environment to work Work as team players

Source: Developed by the Author based on (Afza & Newaz, 2008)

The researcher evaluated and analysed the data acquired through Partial Least Squares Structural Equation Modeling (PLS-SEM) using SmartPLS version 4.0.9.1 software. In PLS-SEM, there are two types of models: The measurement model and the Structural model where those models are estimated concurrently. The measurement model is assessed in the first stage, followed by the estimation of the structural model, which is known as the two-stage procedure. In the iterative estimating procedure, the residual variance is minimized while the explained variation in the endogenous variables is maximized (Shmueli *et al.*, 2019).

## RESULTS AND DISCUSSION

### Descriptive results

Out of the received responses, all the responses were completely filled. Therefore, the total complete responses ended up with 108 respondents, giving 100 percent of the response rate of completely filled questionnaires. In

accordance with the age distribution table of the sample respondents, only 1 respondent is below the age 24, representing 1 percent of the respondents. 27 percent of respondents belong to the age category of 24 to 30 years, 24 percent of respondents were in the age category of 38 to 44 years while 10 percent of the respondents are above the age of 45. In relation to marital status, only 34 respondents are single, representing 31 percent of the respondents. 68 respondents belong to the married category while 4 percent and 2 percent of respondents were in the category of divorced and widowed respectively. In addition, 23 percent of the respondents (25 observations) in the sample have completed a diploma while 37 percent of the individuals in the group have completed a bachelor's degree. 12 Female executives representing 11 percent of the sample have completed a master's degree while 31 respondents who are representing 29 percent of the sample have completed some sort of professional qualification. Furthermore, only 25 respondents have 3-7 years of work experience,

representing 23 percent of the respondents. 31 respondents belong to the 7-10 years category while 28 percent and 20 percent of respondents were in the category of 10-15 and above 15 years category respectively.

### Reliability and Validity

The consistency and stability of data or measurements through time, among several observers, or various methodologies are referred to as reliability. To establish the indicator reliability, each of the outer loadings should be 0.7 or higher, and the t-statistics should be greater than 1.96 when using a two-tailed t-test with a significance level of 95%. Three items, IF7 (0.308), OF6 (0.310), and WCP9 (0.273) which had an indicator reliability lower than 0.7 were removed from the model before going for further analysis. Other than those three items, all the other outer loading values were higher than 0.7 and their t-statistics were higher than 1.96. In addition, all the p-values were all less than 0.05, indicating that the values of outer loadings and their t-statistics are statistically significant.

Furthermore, a typical statistic to assess internal consistency reliability is Cronbach's alpha. Theoretically, the alpha value

of each variable should be higher than 0.7 to have a higher internal consistency reliability in the outer model. Additionally, the value of composite reliability ( $\rho_c$ ) should be 0.70 or higher to consider a latent variable to have acceptable internal consistency reliability. On the other hand, the degree to which a measurement or a study design accurately captures or depicts the phenomenon it is intended to measure or investigate is known as validity. In the context of convergent validity, the Average Extracted Variance (AVE) is used to assess how closely an indicator of the constructs is connected to one another. The commonly used threshold value is 0.5, which denotes that the construct and the indicators are meant to measure at least 50 percent of the variance in the indicators. The below table provides a summary of indicator reliability (outer loadings and t-statistics), internal consistency reliability (Cronbach's alpha and composite reliability), and convergent validity (AVE) values of the study. Since all the values are higher than the common threshold values, it does indicate higher reliability and validity in the Measurement model.

**Table 3: Indicator reliability, Internal consistency reliability and convergent validity**

Construct		Indicator Reliability		Internal Reliability	Consistency	Convergent Validity (AVE)
		Loading	t-statistics	Composite Reliability	Cronbach's Alpha	
<b>Individual Factors (IF)</b>				<b>0.903</b>	<b>0.873</b>	<b>0.572</b>
IF1	Doubt in success when she is given a major task	0.849	22.901			
IF2	Faith in Gender Equality	0.789	12.779			
IF3	Dependency on others in assigned tasks	0.832	6.324			
IF4	Punctuality in the office works	0.821	26.878			
IF5	Decision-making ability in employee relations	0.773	20.943			
IF6	Team spirit in the workplace	0.704	10.804			
IF8	Empathy toward the colleagues	0.801	30.892			
<b>Family Factors (FF)</b>				<b>0.834</b>	<b>0.768</b>	<b>0.567</b>
FF1	Perception of marriage and career	0.783	23.847			
FF2	Having a work-life balance	0.888	10.555			
FF3	Prioritizing work over family requirements	0.735	14.171			
FF4	Getting more leaves for family matters	0.851	22.901			
FF5	Distance to the workplace will hinder the career	0.721	12.779			
FF6	Opinion on the night shifts	0.731	16.324			
<b>Organizational Factors (OF)</b>				<b>0.878</b>	<b>0.826</b>	<b>0.590</b>
OF1	Gender-biased organizational structure	0.800	18.156			
OF2	Gender inequality in the working environment	0.780	19.786			
OF3	Unfair promotion practices in the organization	0.766	18.494			
OF4	Lack of challenging projects within the workplace	0.719	12.985			
OF5	Organization is encouraging women & increasing opportunities for them	0.772	18.668			
<b>Cultural Factors (CF)</b>				<b>0.890</b>	<b>0.856</b>	<b>0.578</b>
CF1	Opinions of society on women's capability	0.885	46.143			

CF2	Traditional gender roles and expectations within families	0.727	11.692			
CF3	Society believes that women are emotionally and intellectually unsuitable for management positions	0.771	13.058			
CF4	Stereotypical beliefs of organizational culture	0.861	17.165			
CF5	Sexist behaviour or harassment in the workplace	0.776	14.318			
CF6	Ideas or contributions were undervalued or dismissed due to the gender or cultural background	0.805	23.326			
<b>Women Career Progression (WCP)</b>				<b>0.878</b>	<b>0.837</b>	<b>0.582</b>
WCP1	Searching for better job opportunities in the same organization	0.876	17.236			
WCP2	Wish to have a variety of work experience & specialized training	0.735	15.854			
WCP3	Self-evaluating skills & competencies with company requirements.	0.746	8.589			
WCP4	Manage work-home demands more effectively	0.718	13.208			
WCP5	Appreciated by the family	0.731	10.790			
WCP6	Family is supporting the career development	0.814	19.508			
WCP7	Wish to take challenging & visible assignments	0.776	13.948			
WCP8	Have a supportive environment in to work	0.749	12.032			

Source: Developed by the author (2023).

Furthermore, Discriminant validity is the extent to which a measure does not measure (or excludes) other constructs. In Fornell-Larcker Criterion, the AVE of each construct should be greater than the highest squared correlation with

any other construct. Table 4 illustrates the square root of AVE in bold on its diagonal along with the correlations between the constructs.

**Table 4: Discriminant validity**

	IF	FF	OF	CF	WCP
IF	0.756				
FF	0.712	0.752			
OF	0.652	0.702	0.768		
CF	0.636	0.721	0.606	0.760	
WCP	-0.525	-0.726	-0.739	-0.836	0.762

Source: Developed by the author

#### **Multi-collinearity analysis**

When two constructs have a strong correlation, it's assumed that they are measuring the same variable, which is known as collinearity (Hair *et al.*, 2019). Typically, a VIF value which is greater than 5 is considered to be a sign of significant multi-collinearity. The tolerance value, which is the inverse of the VIF, reflects the portion of the predictor variable's variance that is not explained by the other predictor

variables in the model (Alin, 2010). Tolerance values that are less than 0.2 imply higher levels of multi-collinearity, whereas a tolerance value of 1 indicates the absence of multi-collinearity. Table 5 indicates the tolerance and VIF values obtained by SPSS software for four independent variables of the study: IF, FF, OF, and CF. Due to the fact that all the tolerance values were greater than 0.2 and all the VIF values were below 5, it revealed that the current model has no collinearity issues.

**Table 5: Tolerance values & VIF**

	Tolerance Value	Variance Inflation Factor (VIF)	Result
IF	0.213	4.701	No Multi-collinearity
FF	0.300	3.335	No Multi-collinearity
OF	0.451	2.219	No Multi-collinearity
CF	0.276	3.168	No Multi-collinearity

Source: Developed by the author

### Path coefficient analysis

In Structural Equation Modeling (SEM), the path coefficient analysis is a statistical approach used to evaluate the direct and indirect impact of one or more predictor variables on a dependent variable. Table 4.4 shows the results of the path coefficient analysis which indicates the impact of four independent variables (IF, FF, OF, and CF) on the dependent variable (WCP). The hypotheses (H1, H2, H3, and H4) are stated for each independent variable, and Table 4.4 shows the beta coefficients, *t*-statistics, and *p*-values for each variable. The *t*-statistic and *p*-value evaluate the statistical significance, whereas the beta coefficient reveals the strength and direction of the independent variable's impact on the dependent variable.

Based on the results presented in Table 6, the first three hypotheses (H1, H2, and H3) are supported, as the beta coefficients are negative and statistically significant as the *p*-value is less than 0.05. This suggests that there is a significant negative impact between independent variables IF, FF, and OF on the dependent variable WCP.

However, the fourth hypothesis (H4) is not supported, as the beta coefficient for the independent variable CF is positive, indicating a positive impact, but still, it is statistically significant at the 0.05 level (*p*-value = 0.000). This suggests that there is no strong evidence to support the idea that CF is negatively impacting WCP. Therefore, H4 has to be rejected with the current statistical evidence.

**Table 6: Path coefficients**

Hypothesis	Relationship	$\beta$	<i>t</i> -statistics	<i>p</i> -value	Result
H1	IF -> WCP	-0.402	3.286	0.001	SUPPORTED
H2	FF -> WCP	-0.292	3.425	0.001	SUPPORTED
H3	OF -> WCP	-0.541	5.467	0.000	SUPPORTED
H4	CF -> WCP	0.350	3.879	0.000	SUPPORTED

Source: Developed by the author

The percentage of variance in the dependent variable that is explained by the independent variables is depicted statistically by the coefficient of determination, abbreviated as R square ( $R^2$ ) (Nagelkerke, 1991). Table 7 shows the summary statistics for the model, including the  $R^2$  value, Adjusted  $R^2$  value, Standard Deviation (STDEV), *t*-statistics, and *p*-value. According to the  $R^2$  value of 0.778, the independent variables in the model account for about 77.8

percent of the variation in the dependent variable. This suggests that the model is a good fit for the data, as it is able to explain a significant portion of the variation in the dependent variable which is the Women Career Progression. In conclusion, it can be stated that approximately 77.8 percent of the variation in the Women Career Progression is explained by the Glass Ceiling. In other words, the Glass Ceiling has 77.8 percent influence on the Women Career Progression among executive-level female employees working under the Sri Lanka Ports Authority.

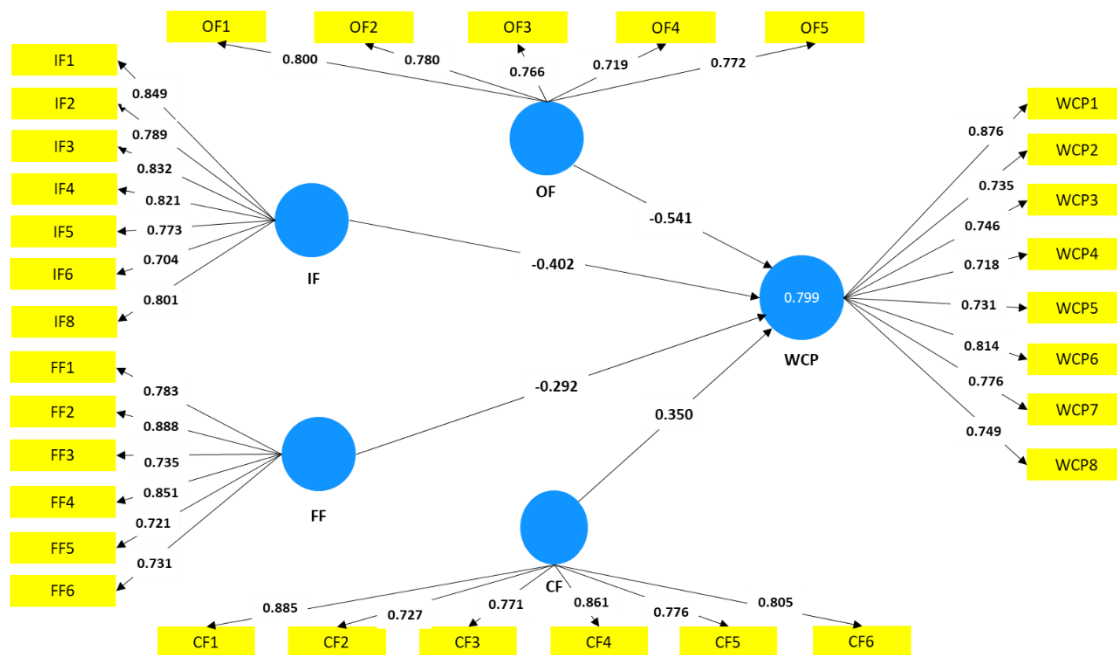
**Table 7: R square**

Model	R Square	Adjusted R Square	Standard (STDEV)	Deviation	<i>t</i> -statistics	<i>p</i> -value
1	0.778	0.768	0.037		20.974	0.000

Source: Developed by the author

Figure 2 demonstrates the final model with the  $\beta$  coefficient values and R square value in the inner model while outer loading factors in the outer model. The  $R^2$  value, which is represented by numbers in the WCP circle, indicates how much of the variation of the dependent variable is explained by the independent variables. The path coefficients in the inner model are the numbers that appear on the arrows.

They describe how significantly one variable affects another. The weight of several path coefficients allows one to rank the relative statistical significance of each one. Therefore, in this model, Organizational factors have the highest negative impact on Women's Career Progression following Individual and Family factors respectively.



**Figure 2: Path coefficients and R<sup>2</sup>**

Source: Developed by the author

Table 6 depicts, having a negative coefficient (-0.402) indicating that Individual Factors (IF) have a negative impact on Women's Career Progression (WCP) where it describes that increases in the IF variable are associated with decreases in the WCP. Additionally, H1 has *t*-statistics that are greater than 1.96 and *p*-values that are less than 0.05, which indicates that these results are statistically significant. H1 is thus accepted since the analysis provides enough supportive evidence to reject the null hypothesis at the 5% level of significance or the 95% level of confidence.

The coefficient value ( $\beta$ ) of Family Factors (FF) is -0.292 which indicates that FF is negatively impacting on Women's Career Progression. Analysis indicates sufficient statistical evidence to accept the alternative hypothesis and is accepted at the 5% significance level or at the 95% confidence level since *t*-statistics are larger than 1.96 and *p*-values are less than 0.05.

A negative coefficient (-0.541) indicates that Organizational Factors (OF) have a negative impact on Women's Career Progression (WCP) thus increases in OF variable are associated with decreases in the WCP. Additionally, H3 has *t*-statistics that are greater than 1.96 and *p*-values that are less than 0.05, which indicates that these results are statistically significant. Therefore, H3 is accepted as the analysis reveals enough statistical evidence to reject the null hypothesis at the 5% significance level or at the 95% confidence level.

Hypothesis H4, on the other hand, has a positive  $\beta$  coefficient (0.350), which suggests that increases in Cultural Factors are associated with increases in the Women's Career Progression thus CF has a positive impact on WCP. However, the *t*-statistic is still greater than 1.96 and the *p*-value is less than 0.05, which indicates the statistical significance, but has a positive  $\beta$  value, which describes that this hypothesis is not supported by the data. Therefore, the null hypothesis is accepted as the analysis does not reveal enough statistical evidence to accept the alternative hypothesis at the 5% significance level or at the 95% confidence level.

As the results suggest, Individual factors, Family factors, and Organizational factors had a negative impact on the Women's Career Progression while Cultural factors had a positive impact which led to rejecting its alternative hypothesis H4. However, Organizational factors had the strongest negative impact on Women's Career Progression while the impact of Individual and Family factors had a relatively low impact but still, they were statistically significant. The sub-objectives of the current study, which included determining the influence of independent variables (Individual, Family, Organizational, and Cultural factors) on the dependent variable (Women's Career Progression), were successfully achieved by utilizing the results of the path coefficient analysis.

## CONCLUSION

In conclusion, it can be suggested that the employer and the employee have to contribute to shattering the Glass Ceiling. By understanding the Glass Ceiling factors and how they impact Women's Career Progression, employers and policymakers in the port sector can develop targeted strategies to work towards breaking down the Glass Ceiling, creating a more diverse and inclusive workplace while promoting the career advancement of women in the port industry. Regardless of gender, race, or ethnicity, employers have a duty to foster an inclusive work environment and offer equal opportunity to all employees. Organizations can also help women grow in their careers by offering training and development opportunities that support women in developing their leadership, teamwork, and decision-making skills. Organizations can deal with these issues by implementing measures like flexible work hours, maternity leave, and on-site childcare. This entails putting into action laws and procedures that support inclusion and diversity, granting equal opportunity for learning and development, and assuring ethical hiring and fair promotion practices.

At the same time, female employees also have a responsibility to advocate for themselves and take action to advance their careers. This can include seeking out opportunities for leadership and advancement, developing their skills and knowledge through training and education,

building strong networks, and challenging biases and stereotypes. Women may need to concentrate on enhancing their confidence and assertiveness, forming solid connections and networks, and looking for mentors and sponsors who can offer support and assistance in order to overcome these specific challenges. They might also need to prioritize their own professional objectives and speak out for themselves, especially in a workplace where males predominate. On the other hand, women may need to be upfront and honest with their partners and family members about their career objectives and the support they require to attain them in order to solve these family-related issues. They might also need to look for workplaces that provide flexible scheduling and family-friendly practices, as well as speak up for their own requirements at work.

According to Path Coefficient Analysis, Organizational factors had the highest negative coefficient  $\beta$  (-0.541) revealing that it has the strongest negative impact on the dependent variable which means the elements such as leadership styles, decision-making procedures, diversity, promotion practices, and inclusion programs that are related to the structure and policies of the organization.1 have the largest negative impact on the Women Career Progression in Sri Lankan port sector. Individual factors are indicated to have a negative coefficient  $\beta$  (-0.402) suggesting that Individual factors and Women's Career Progression have a negative relationship thus it has a moderate negative impact on Women's Career Progression in the Sri Lankan port sector. It reflects that the female employee's education, experience, abilities, and personality qualities affect their attributes and actions in career advancement moderately. In addition, Family factors have a negative coefficient  $\beta$  value (-0.292) and thus have a weak negative impact on Women's Career Progression in the Sri Lankan port sector. It mainly indicates that elements such as family duties and caregiving roles of the female community are hindering female career advancement. Female executives in Sri Lanka Ports Authority experience the Glass Ceiling through family factors, for instance, because they are penalized for taking time off to care for their families or have children and they are expected to adhere to traditional gender norms that put home before career. According to Path Coefficient Analysis, Cultural factors had a positive coefficient  $\beta$  value (0.350) revealing that it has a positive impact on Women's Career Progression in the Sri Lankan port sector. This result reveals that strongly set cultural stereotypes about women's duties and skills, standards about gender roles and talents have not appeared as a barrier in Sri Lanka Ports Authority thus female executives working under SLPA do not experience the Glass Ceiling based on the basis of Cultural factors. For instance, traditionally women may be perceived as being less physically capable of performing manual labor, which could restrict their access to particular career roles in the port sector. However, this factor does not apply to Sri Lanka Ports Authority since there are 10 female gantry crane operators currently employed by the SLPA in the port of Colombo which can be seen as a major breakthrough of female representation in the Sri Lankan port sector.

The scope of the current study was Sri Lanka Ports Authority in the port of Colombo which is the regulatory body of the Sri Lankan port sector. Therefore, future research studies can be done by expanding the scope of the study to include a larger sample size or focusing on more ports or terminal operators to increase the generalizability of the findings. In addition, the target population can also be expanded by

including the managerial level female employees in the studies as they are well aware of the obstacles they faced when climbing up their career ladder. Another suggestion for future research is to use a different research method to provide a more comprehensive understanding of the research findings, such as combining qualitative and quantitative research methods. In addition, the study was conducted in the Sri Lankan port sector, hence it might not be applicable to other countries in the world. Further studies might look into the variations in Glass Ceiling and Women's Career Progression based on various cultures and locations as well as any regional-specific factors that may be unique to specific countries, which could be more explored in future research.

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# The Lexical Features of Types of Linguistic Collocations: A Study with Special Reference to Selected Public Administration Circulars in Sinhala and Their English Translations

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## Abstract

Language is designed to fulfil the communication requirements of communities. Each language has specific and unique characteristics in comparison to any other language. Collocation is also a vital concept that assists in enhancing the quality and formality of both written and spoken languages. The concept of collocation means a set of words that naturally or unintentionally co-occur together to deliver a particular meaning. The attention of many researchers and scholars has been drawn to this concept due to the absence of a recognized or fully accurate definition and classification in this regard. This study aimed at identifying the lexical features of the types of linguistic collocations used in Public Administration Circulars in Sinhala. The study focused on four linguistic collocations suggested by Li et al. (2005). Accordingly, lexical features such as word length, word frequency, high-frequency words, and low-frequency words were identified. The data were collected for the research after extensive analysis of circulars and then the specific sets of words and terms were extracted. Content analysis was used to analyze data. The results of the study indicate that the most frequently used type of linguistic collocation in Public Administration Circulars are fixed collocations. The highest word length of fixed and strong collocations belongs to the 3-letter word group and in loose collocations, the 4-letter word group represents the highest value. Furthermore, the word frequency of fully fixed collocations is equal for each word. The maximum word frequency of fixed collocations and strong collocations is 13, whereas the highest word frequency of loose collocations is 4.

**Keywords:** High-frequency words, Linguistic collocations, Low-frequency words, Word frequency, Word length

## INTRODUCTION

Language is the preliminary resource of communication. Regardless of the medium: written, spoken, or sign language, any language plays an important role in fulfilling the purpose of communication. According to the definition of Oxford Dictionary, language is “the principal method of human communication, consisting of words used in a structured and conventional way and conveyed by speech, writing or gesture”. Each language has unique features that represent the culture, social, economic, and political characteristics of the community it belongs to. Lexical features which include word length, word frequency, high-frequency words, and others are a common phenomenon in a language. English and Sinhala do not find any exceptions. Collocations are part of a language that the language users unconsciously use to communicate their ideas, feelings, and expressions. Researchers and scholars such as Firth, Baker,

and Newmark have suggested definitions of collocation. Firth, J. R was the first person who theoretically introduced the concept of collocation (as cited in Krishnamurthy, 2006). The general idea of the definitions suggested by most of these researchers and scholars is that collocations are a set of words that occur together and the formation of collocations in a language is a natural process. However, native speakers of a language use the language-related collocations without making additional effort to identify them whereas non-native speakers deal with certain issues due to a lack of understanding or knowledge regarding collocations.

Hence, many non-native language users often misapprehend collocations with idioms/ fixed expressions. Even so, collocations and idioms are two different concepts, the literal meaning of the words used in idioms does not

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convey the original meaning implied by the idiom whereas the meaning of collocations can be understood through the literal meaning abstracted from the individual words of the collocation. For instance, the collocation, 'pay a visit' is generally understood even by a non-native speaker whereas it is difficult to understand the meaning of the idiom, 'over the moon' as the individual meaning of the words does not define the original implication of this expression.

The knowledge of collocations of any language is paramount as it indicates language proficiency in both written and spoken language and improves the writing style and formality of a text. Apart from that, there is a shortage of a general classification on collocations as the researchers and scholars introduce different views and approaches in this regard. Li, W., Lu, Q., and Xu, R. (2005) have introduced four types of collocations: idiomatic collocations (fully fixed collocations), fixed collocations, strong collocations, and loose collocations based on elements such as compositionality, modifiability, substitutability, and internal association. Furthermore, Hafiz (2002, as cited in Abdelhamid, 2021) has suggested twelve types of collocations based on grammatical and lexical patterns of collocations. Verb + noun, Verb + prepositional noun phrase, Verb + prepositional noun phrase, and Verb + noun phrase are a few types among them. Likewise, several researchers who were interested in the field of collocations have classified collocations based on various features or aspects. Translation always links languages decreasing cultural, geographical, or linguistic differences. Translation can be generally defined as the process of converting the meaning of a text in one language into another language. According to Catford (1965), "translation is the replacement of textual material in one language (SL) by equivalent textual material in another language (TL)". As translation is always bound with language and communication, the translation process of transferring the meaning of collocations in different languages is worth studying. According to scholars and researchers such as Mona Baker and Peter Newmark, translating collocations from one particular SL to a TL is difficult as a collocation in one language would not be a collocation in another language. Besides, certain words that co-occur in one language will vary in another language. Recently, many researchers are interested in studying different aspects of collocations and the relationship between collocations and translation.

Although several studies have been conducted on collocations by researchers focusing on languages such as English and Arabic, studies on collocations with reference to the Sinhala language have rarely been found. Therefore, this study attempts to identify the lexical features of types of linguistic collocations used in Public Administration Circulars in Sinhala. The following research questions will be addressed at the end of this study: what are the Lexical Features of Types of Linguistic Collocations and what are the linguistic collocation types that are most frequently used in Public Administration Circulars?

The specific objectives of this research are to investigate the lexical features of types of linguistic collocations and identify the linguistic collocation types that are most frequently used in Public Administration Circulars. As the research methodology, a qualitative research approach is used for the present study. 12 Public Administration Circulars will be used as primary data and relative books, e- journals, and other online resources will be used as the secondary data in order to achieve the objectives of the study. All the data

used for this study will be in word form and the linguistic collocations in 12 Public Administration Circulars in Sinhala and the English translation of the same will be the unit of analysis of the research. The data will be collected by reading the selected Public Administration Circulars thoroughly. The collected data will be analyzed using the content analysis method.

Studies on collocations, types of collocations, and translating collocations from one language to another have been conducted by researchers with the purpose of filling the gaps in knowledge. However, a recognized or commonly accepted classification of collocations or a fixed and accurate definition has not yet been introduced. This shortage of knowledge evokes the interest in collocations found in Sinhala language and the unit of analysis of this study. Additionally, there is a shortage of studies to identify the lexical features of types of linguistic collocations. Therefore, this research will be the first attempt to identify the lexical features of types of linguistic collocations used in Public Administration Circulars in Sinhala and their English translations.

The current study is limited to one type of source text: Public Administration Circulars and among all circulars 12 selected Public Administration Circulars will be studied with the purpose of answering the research problem and questions. Additionally, this research is limited to Sinhala and English languages. Although there are numerous aspects that are linked together with collocations, the present study will only be conducted to identify the lexical features of types of collocations. Moreover, the results of the study cannot be generalized beyond the selected unit of analysis. Therefore, future researchers can study the same topic with relevance to a different text type or identify other linguistic features of types of collocations. Moreover, as the present study is related to collocations in Sinhala, future researchers have the opportunity to conduct research with reference to another language pair such as Tamil and English or Tamil and Sinhala.

## THEORETICAL BACKGROUND

**Language and Linguistics:** Language which is the key to communication between members of different social groups and communities, assists all living creatures to express their feelings, attitudes, and emotions using different gestures and sounds. Different scholars and researchers have made efforts to interpret the meaning of the concept, 'language' based on its characteristics, functions, and many other different aspects of language. Chomsky's stated that language is the inherent capability of native speakers to understand and form grammatical sentences. A language is formed of (finite or infinite) sentences, each finite length is constructed out of a few set of elements (Chomsky, 2000).

A language is used with the purpose of covering several functions of communication. According to Alshami (2019), there are two main categories of functions of language as micro functions and macro functions. According to him, micro functions cover "particular individual uses" and macro functions are "related to larger, more general purposes underlying language". The micro and macro functions suggested by Alshami are listed below.

Micro Functions:

- Physiological function
- Phatic function

- Recording function
- Identifying function
- Reasoning function
- Communicating function
- Pleasure function

#### Macro Functions

- Ideational function
- Interpersonal function
- Poetic function
- Textual function

(Alshami, 2019).

Linguistics is the systematic or scientific study of language. Studying a particular language with the purpose of providing an accurate and complete description for them and studying the nature of language to “find out how language works” are the main goals of linguistics. (Handke, 2014). Handke (2014) states that there are three main branches of linguistics such as sound, structure, and meaning. Phonetics and phonology are studied under sounds, morphology, and syntax belong to the branch, structure and the third branch refers to semantics and pragmatics. In addition to the above-mentioned branches some other hybrid branches of linguistics suggested by Handke (2014) are: psycholinguistics, computational linguistics, sociolinguistics, and corpus linguistics. The definitions mentioned above differentiate the similarities and dissimilarities between the two concepts: language and linguistics.

**Collocations:** The word collocation has been derived from the Latin verb ‘*collocare*’ and its translated meaning according to Online Etymology Dictionary is place/ arrange. Collocations of a language are generally defined as two-word combinations that precede together. However, collocations have not yet been defined accurately as the studies on characteristics and taxonomies of collocations are under debate. Baker (1992) states that words are combined with other words “to form stretches of language” as words rarely occur individually. This combination of words does not commence randomly but is based on restrictions to convey a particular meaning. Moreover, Baker (1992) explains that collocations are combined in accordance with a grammatically acceptable order and “patterns of collocations are largely arbitrary and independent of meaning”.

Collocations are studied under different types suggested by various researchers and theorists as a standard classification of collations has not been identified. Wermter and Hahn (2004) divide collocations into three classes depending on the different degrees of “semantic compositionality of the basic lexical entities involved”. (as cited in Anagmpstou et Weir, 2011). The three classes of collocations are idiomatic phrases, support verb constructions/ narrow collocations, and fixed phrases. In idiomatic phrases, the meaning of the collocation is metaphorical or figurative. The second collocation class, support verb constructions/ narrow collocations is defined as the expressions “in which at least one component contributes to the overall meaning in a semantically transparent way and thus constitutes its semantic core” and fixed phrases are the expressions of which the entire lexical meanings of the elements are contributed in the overall meaning in a semantically transparent manner (as cited in Anagmpstou et Weir, 2011). Wanyin Li et al. introduce four (04) types of collocation

based on the properties such as compositionality, modifiability, substitutability, and internal association. The four types are as follows.

Type 0 collocations: “These are fully fixed collocations which include some idioms, proverbs, and sayings and etc.” (Wanyin Li, 2005)

Type 1 collocations: “These are fixed collocations in which the appearance of one word implies the co-occurrence of another one”. (Wanyin Li, 2005)

Type 2 collocations: “These are strong collocations which allow very limited substitution of components. These collocations are classified with type 3 collocations when substitution can occur at only one end, not both ends”. (Wanyin Li, 2005)

Type 3 collocations: “These are loose collocations which allow more substitutions of components; however, a limitation is still required to restrict the substitution”. (Wanyin Li, 2005)

Miglė Stulpinaitė. Jolita Horbačauskienė. Ramunė Kasperavičienė, (2016) names these four types as idiomatic collocations (fully fixed collocations), fixed collocations, strong collocations, and loose collocations (normal collocations). However, collocations are often misunderstood by certain students or learners as idioms or other fixed expressions. Collocations are sometimes misunderstood as they are similar to idioms. Pointing out Benson et al.’s (1986) ideas, Stulpinaitė et al., (2016) state that:

“The main difference between these linguistic phenomena is that the meaning of idioms is pre-constructed and not semantically literal; therefore, the words have not retained their conventional literal meanings and cannot be analyzed as such, whereas collocations are pre-constructed and semantically literal (non-metaphorical), which means that the words have retained their conventional literal meanings”.

Stulpinaitė et al., (2016) describe that knowledge of collocations is vital for any language learner as collocations make the language sound more natural, expressive, and precise and avoid repetition of any idea while improving writing skills and preserve the formality of a text.

**Translation:** The field of translation is a fundamental requirement bound with languages as the languages used around the world differ from one to another based on various reasons such as geographical, cultural or political differences and etc. Therefore, translation is always identified as a useful method of communication that contributes to overcoming barriers and obstacles in communication between a number of language communities. Scholars and researchers have made various efforts to define the concept of “translation” based on features, functions, and many other important aspects of translation. Peter Newmark (1988) defines translation simply means the process of rendering the sense of a text from a source language to a target language. He further explains that evaluating the quality of a translation as perfect or correct translation is difficult due to the reason that a translator always works on improving the knowledge and the quality of a particular translation as much as possible.

Newmark (1988) divides translation into two main subcategories as Literary Translation and Non-Literary Translation. De Silva (2018) describes that literary translation is the translation of literary texts such as novels, poems, and dramas and aims at entertaining the reader

through creatively organized texts whereas non-literary translation is explained as the transference of meaning of structured and organized texts with real information related to different subject areas and professions, from one language to another language. The non-literary translation is studied under two subcategories by Gotti and Sarcevic. According to these two researchers, general translation is a translation of text materials that are not related to any specific subject area or type and specialized translation is the translation of text materials that belong to specialized areas or types. Specialized translation targets a specific audience whereas general translation does not pay much attention to special terminologies. Gotti and Sarcevic further state that specialized translation covers all the specialist subjects such as science, technology, law, and marketing.

Administrative translation is also known as another specialized area that belongs to the non-literary translation category. The translation of administrative texts used by different government bodies and organizations can be generally defined as administrative translation. Such as Circulars, Memorandums, Gazettes, and Parliament Notes are some examples of administrative texts that are used in the public administration sector.

Public Administration Circulars on which the current study focuses are designed to inform the public servants or relevant public authorities regarding the revisions, inclusions, or removals made to the Establishment Code.

**Translating Collocations:** Collocations vary from one language to another as languages are always developed with unique features. Accordingly, collocations can be language-specific, culture-specific, or universal. Translating collocations from a source language (ST) to a target language (TT) may affect to create certain problems as it is difficult to translate collocations without any changes (Miglė Stulpinaitė, Jolita Horbačiauskienė, Ramunė Kasperavičienė, 2016). Moreover, the translation issues such as cultural untranslatability and non-equivalence exist between languages and can also affect in a negative manner when translating collocations.

According to Newmark (1998), translating "English Collocations which appear arbitrarily to juxtapose nouns with verb-nouns" is difficult as "they indicate the two most significant meaning components, but have varied and sometimes mysterious case-relations". He further explains that Non-British collocations are less challenging to translate because of the 'less arbitrary' nature. To translate collocations translation strategies such as transference, literal translation, and descriptive and functional equivalent can be applied in a way that suits the target audience.

Not only Newmark but also Baker (1992) illustrates that collocational patterning differs from the source language (SL) to the target language (TT) and such differences make problems in translating collocations. The engrossing effect of source text patterning, misinterpreting the meaning of a source-language collocation, the tension between accuracy and naturalness, culture-specific collocations, and marked collocations in the source text are indicated as the translation problems encountered while translating non-literary texts.

In brief, although the arbitrary nature of collocations makes translating collocations a difficult task, overcoming such challenges using various strategies and having a clear and specific understanding of the usage of collocations and the types of collocations are useful in improving language skills.

### **Empirical Literature**

A study under the title "Issues in Translation of Linguistic Collocations" has been conducted by Miglė Stulpinaitė, Jolita Horbačiauskienė, and Ramunė Kasperavičienė in 2016 in Lithuania. The aim of the study was to analyse the characteristics of linguistic collocations in English while identifying the possible translation transformations in the Lithuanian language. The study was based on the source texts obtained in English and the translations of the same texts in Lithuanian. The classification of collocations which has been introduced by Li et al. (2005) has been applied in this study. Strong collocations, fully fixed collocations, loose collocations, and fixed collocations are the four types that have been used by researchers. The results of the study show that strong collocations are the most frequently used collocation type among the data it is 53% as a percentage. 32% of data were loose collocations and there were only 8% of fixed collocations. Fully fixed collocation type was the least number of collocations used among the data and it is 7% out of all the collected data. To identify the translation shifts in this study, translation shifts suggested by Catford have been applied. However, as more than one-third of the results belong to category shift, the researcher focuses on its four subcategories in this particular study: rank shift, class shift, intra-system shift, and structure shift. According to the results, the most frequent form of translation shift was rank shift and structure shift was the least applied translation shift.

In 2021, a study has been conducted under the title "Translating Collocations from English into Arabic and vice versa: An Empirical Study" by Ibrahim Ahmed Abaker Abdelhamid with the aim of aims "investigating the challenges that Sudanese EFL university students encounter when rendering English collocations into their Arabic equivalences and vice versa as well as the reasons behind these challenges". As the results, the researcher has found that the students have difficulties in translating collocations from English into Arabic as the students are unaware of the linguistic and cultural differences between the two languages and frequently use the literal translation strategy when translating collocations.

"The Translation of Lexical Collocations in Undergraduate Students' Theses' Abstract: Students versus Google Translate" is a study conducted by Clara Herlina Karjo and Ecclesia Metta in 2019. The main objective of the study was to compare the translations of lexical collocations in the abstract sections obtained from students' theses and find out the errors made in translating lexical collocations by Google Translate or student translators. The primary concern of the research was on English and Indonesian languages. The results of the study revealed that Google Translate makes more errors in forming lexical collocations than students. Additionally, Google Translate needs to be improved in order to accurately translate the lexical collocations however, some errors in the translations have occurred due to the inaccuracy of the source text.

### **Methodological Literature**

Considering the above-mentioned studies, different types of research methodologies have been applied by the researchers to achieve the objectives of the above-mentioned research. The study conducted by Miglė Stulpinaitė, Jolita Horbačiauskienė, and Ramunė Kasperavičienė, "Issues in Translation of Linguistic Collocations" has used a qualitative research approach. Data for the study has been randomly collected observing 250

English collocations which were included in popular science magazines in English and their translated versions in Lithuanian.

The study, "Translating Collocations from English into Arabic and vice versa: An Empirical Study" by Ibrahim Ahmed Abaker Abdelhamid was designed using a diagnostic test as the data collection method to investigate the awareness of EFL students in rendering English collocations into Arabic and Arabic collocations into English. The test for this study includes two parts and the first part is translating eight sentences with collocations from English to Arabic whereas eight sentences with collocations in Arabic are provided to be translated into English in the second part. In addition, the descriptive-analytical method has been used as the data analysis method. A panel of four university professors was selected by the researcher to ensure the validity of the test. 26 Sudanese EFL students, between 20-30 years old, studying at Nahda College in Sudan, have been selected for achieving the purposes of the study. Statistics such as frequencies, percentages, mean, and standard deviation has been used for data analysis.

For the study conducted by Clara Herlina Karjo and Ecclesia Metta, data were collected from twenty theses of English Literature students at Binus University in English and Indonesian. Accordingly, four sets of data have been analyzed: a set of: a set consists of 20 Students' Original Abstracts in English (STE), a set consisting of 20 Google Translations of STE in Indonesian, (GTI), a set comprises of Students' Original Abstracts in Indonesian (STI) and another set comprises of Google Translation of STI in English (GTE). The samples have been selected based on Hill's (2000) taxonomy of collocation, consisting of eight categories. Besides, the collocations in the students' texts and their translations were compared and examined thoroughly to present how students and Google form the collocations and what error types have been made while translating the collocations. Errors in translation were measured based on the formation and meaning equivalence between the source and target language.

### **Knowledge Gaps**

Primary Data: 12 selected Public Administration Circulars

**Table 1: Number of documents and collocations**

Number	Name of the document	Number of collocations
1	Public Administration Circular 04/2023	05
2	Public Administration Circular 08/2022	08
3	Public Administration Circular 21/2022	54
4	Public Administration Circular 22/2023	62
5	Public Administration Circular 23/2022	20
6	Public Administration Circular 25/2022	35
7	Public Administration Circular 29/2022	06
8	Public Administration Circular 31/2022	02
9	Public Administration Circular 05/2020	03
10	Public Administration Circular 18/2020	03
11	Public Administration Circular 03/2016	110
12	Public Administration Circular 35/92 (VI)	02

Secondary Data: Textbooks, Journal Articles/ Research Articles, Websites and Lecture Notes

First, the collected data were organized using four collocation types introduced by Li et al. (2005). The four types are as follows:

Collocations in a language are an area that many researchers were interested in finding a clear definition, standard, or recognized classification of collocations. Certain researchers were inspired to conduct research in this regard mainly focusing on the issues/ problems arising or strategies applied in the process of translating collocations. Most of these studies have used English collocations or collocations in other languages such as Arabic and Chinese as the main concern of the study. In addition, a few types of research were conducted exploring lexical features of various language outputs such as journal articles and teacher talks.

However, there is a very limited number of research that focus on identifying the lexical features of collocations and there is no study conducted based on studying the collocations in Sinhala language as in Sinhala language, collocations are not studied as a separate field as in English language. Therefore, this study fills this knowledge gap and could be beneficial for future researchers who are interested in Collocations/ Collocations in the Sinhala language, future translators, and learners of translation studies.

### **METHODOLOGY**

The main objective of this study is to identify the lexical features of the types of linguistic collocations used in Public Administration Circulars in Sinhala. The present qualitative study is explanatory in nature and a deductive approach is employed. Primary and secondary data were collected for this research. The researcher used sets of words (collocations) and terms that were abstracted from selected Public Administration Circulars published by the Ministry of Public Administration, Home Affairs, Provincial Councils, and Local Government as primary data and some of the secondary data used for the study were journal articles, relative books, and online resources. All the collected data are in word form. The content of both the source and target documents was extensively analyzed and collected the contextual data for the study using the purposive sampling technique.

As mentioned above after extensive analysis of circulars and then the specific sets of words and terms were extracted.

Type 0 collocations: This type includes fully fixed collocations such as some idioms, proverbs, sayings and etc.

Type 1 collocations: These collocations are fixed collocation in which "the appearance of one word implies the co-occurrence of another one".

Type 2 collocations: These are also known as strong collocation which “allow very limited substitution of components. These collocations are classified with type 3 collocations when substitution can occur at only one end, not both ends”.

Type 3 collocations: Collocations belonging to this type allow more substitutions of components when compared to the above types. “However, a limitation is still required to restrict the substitution”.

(Li et al., 2005).

The lexical features of each type of linguistic collocation were deeply studied. As the final step, the researchers identified what linguistic collocation types are most frequently used in Public Administration Circulars. Accordingly, attempts were made to identify word length, word frequency, high-frequency words and low-frequency words of each type of linguistic collocations mentioned above. The word length of collocations was calculated manually and the word frequency of collocations was measured using an online word frequency calculator (Word Frequency Counter - Count Word Occurrences - Online - Browserling Web Developer Tools). The collected data was analyzed using the content analysis method.

## RESULTS AND DISCUSSION

The main objective of this study is to identify the lexical features of the types of linguistic collocations used in Public Administration Circulars in Sinhala. Meanwhile, the present study investigates the lexical features of types of linguistic collocations and identifies which linguistic collocation types are most frequently used in Public Administration Circulars based on the collected data. 310 collocations were collected from 12 Public Administration Circulars for the present study and the collected data were categorized under four linguistic collocation types suggested by Wanyin Li et al. (2005). The four types of collocations are as follows:

- Type 0 - Idiomatic (Fully Fixed) Collocations
- Type 1 - Fixed Collocations
- Type 2 - Strong Collocations
- Type 3 - Loose Collocations

The collected data were categorized under the above-mentioned four types of linguistic collocations based on the following qualities:

### Idiomatic (Fully Fixed) Collocations

- Consist of a fixed form
- Constituents of the collocations cannot be replaced with other words.
- The meaning of the collocation cannot be determined by its individual parts.
- Synonyms cannot be substituted.
- Cannot alter the word order of the collocation

Examples:

1. යතුරු ලේඛක - Typist
2. පාලන විෂය - control

The above-mentioned examples indicate that the meaning of the collocations in Sinhala cannot be determined by their individual constituents. In the example, “යතුරු ලේඛක” is a collocation formed with two words and its English

translation is ‘Typist’. The constituent ‘යතුරු’ means ‘keys’ in English and the other constituent ‘ලේඛක’ means ‘writer’. Accordingly, the individual meaning of the two constituents does not convey its original meaning and the word order cannot be replaced or there is no other synonym in Sinhala language to be substituted in order to convey the original meaning. Therefore, it has a fixed form.

### Fixed Collocations

- Includes a fixed form
- Constituents cannot be replaced or substituted
- The constituents repeatedly co-occur with each other.
- Cannot be replaced with a synonym to maintain the same meaning.
- The order cannot be altered.

Examples:

1. විශ්‍රාම වැටුප් - pension
2. කාර්යක්ෂමතා කඩඉම - Efficiency Bar

The first example of this type is “විශ්‍රාම වැටුප්” which in English means ‘pension’. In circulars or in formal contexts, the constituent “විශ්‍රාම” is often followed by the word “වැටුප්” as the second constituent always collocates with the first constituent to indicate the meaning, ‘pension’. There are certain words in Sinhala language that repeatedly co-occur with another word in order to exude the meaning or idea of an individual word in another language. For instance, the collocation “කාර්යක්ෂමතා කඩඉම” is formed with the combination of both its constituents to indicate the meaning of ‘efficiency bar examination’. Hence, the order of the constituents in these fixed collocations cannot be replaced with any similar word in order to determine the same meaning.

### Strong Collocations

- A restricted modification of constituents is applicable.
- Such modifications are not allowed to change the order of constituents.
- Constituents can be replaced with a limited number of synonyms.

Examples:

1. ආකෘති උපයෝගී කරගැනීම - formats shall be made applicable
2. විනය ක්‍රියාමාර්ග - disciplinary actions

The two examples mentioned above are examples for strong collocations. The first example of which the translated meaning in English is ‘make formats applicable’ includes three constituents. In the Sinhala language, the word ‘ආකෘති’ is a noun where the other word, ‘උපයෝගී කරගැනීම’ is a verb. Unlike in English, in Sinhala, most of the verbs are formed individually. A verb is usually bound with words such as ‘කිරීම’ (to do), ‘දීම’ (to give), ‘වීම’ (happen), ‘ගැනීම’ (take). The general meaning of all these verbs is ‘doing something’. Accordingly, the word division methods vary in the Sinhala language in comparison to the word division methods used



in the English language. In this example, the verb 'උපයෝගී කරගැනීම' can be replaced with synonyms such as 'යොදා ගැනීම' and 'භාවිත කිරීම' which have the similar meaning of 'making something applicable'. For the second example, the collocation 'විනය ක්‍රියාමාර්ග' can be replaced with synonyms such as 'විනය කාරණා' without changing the meaning. Although, certain constituents of these collocations can be replaced or substituted with a limited number of synonyms, the order of the constituents is preserved, as shown in the examples.

#### Loose Collocations

- Substitution of constituents is allowed.
- Can be replaced with synonyms and word combinations that have an equivalent meaning.
- Orders can be changed.

Examples

:

1. වැරදි ලෙස නිර්වචනය කරනවා - misinterpretation

2. පරිසරය සුරැකීම - protection of environment

The collocation type named 'Loose Collocations' has a minimum number of restrictions on replacing constituents in comparison to the other three collocation types mentioned above. The first example suggested under this type, 'වැරදි ලෙස නිර්වචනය කරනවා' which means misinterpretation, can be replaced with 'සාවද්‍ය ලෙස නිර්වචනය කිරීම', 'වැරදි ලෙස අර්ථ දැක්වීම', 'සාවද්‍ය ලෙස අර්ථ දැක්වීම' without changing the meaning. The order of the constituents in the given suggestions for the first example has also been altered while preserving the sense of the collocation. The second example, 'පරිසරය සුරැකීම' (protection of the environment), belongs to the type of loose collocations as the said collocation can be replaced as 'පරිසරය ආරක්ෂා කිරීම, ස්වභාවදහම රැකගැනීම' preserving the original meaning of 'protecting the environment'. As shown in the above examples, the quality of allowing to collocate with the number of words.

Based on the criteria given above, table 2 shows that there were 2 fully fixed collocations, 163 fixed collocations, 125 strong collocations, and 20 loose collocations among the 310 selected collocations.

Table 2: Types of Linguistic Collocations

Type of Collocation	No. of Collocations	As a percentage
Fully Fixed (Idiomatic) Collocations	2	0.6%
Fixed Collocations	163	52.6%
Strong Collocations	125	40.3%
Loose Collocations	20	6.4%
TOTAL	310	

As a percentage, 0.6% of collocations were fully fixed collocations, 52.6% were fixed collocations, 40.4% of selected collocations were strong collocations and 6.4% were loose collocations. Accordingly, fixed collocations are the most frequently used collocations in the selected Public Administration Circulars in Sinhala and fully fixed collocations or idiomatic collocations are the least frequently used collocation type in the selected circulars.

Collocations are known as sets of words that co-occur in a constant pattern. Such word combinations are used by native speakers of a language unconsciously, as one word follows the other naturally without making an additional effort to form them. Additionally, collocations are formed with the combination of lexical items such as nouns, verbs, adjectives and etc. According to the present study, the following word combination patterns were identified:

#### ● Adjectives + Nouns

Examples

:

1. විශේෂ දීමනාව - special allowance
2. සාධාරණ සේවා කාලය - reasonable period
3. පරිපාලනමය අවශ්‍යතා - administrative requirements
4. ප්‍රියමනාප සේවා ස්ථානය - popular service station

5. මූල්‍යමය ප්‍රතිලාභ - financial benefits

#### ● Nouns + Nouns

Examples:

1. රාජකාරි ස්ථානය - service station
2. සම්මන්ත්‍රණ ශාලාව - conference hall
3. වැටුප් හා දීමනා - salaries and allowances
4. වැටුප් ව්‍යුහය - salary structure
5. ආයතන සංග්‍රහය - Establishments Code

#### ● Verb + Verb

Examples:

1. දන්වා එවීම - inform

#### ● Nouns + Verb

Examples:

1. වැටුප් පරිවර්තනය - conversion of salary

- |    |                         |                                    |
|----|-------------------------|------------------------------------|
| 2. | ආකෘති උපයෝගී කරගැනීම    | - formats shall be made applicable |
| 3. | අවධානය යොමු කරවීම       | - attention is drawn               |
| 4. | වැටුප් පියවර ගණනය කරනවා | - calculate the salary point       |
| 5. | දීමනා ගෙවීම             | - pay allowance                    |

● Verbs + Nouns

Examples:

- |    |                      |                                  |
|----|----------------------|----------------------------------|
| 1. | සේවය හැරයාමේ නිවේදනය | - the notice on vacation of post |
|----|----------------------|----------------------------------|

● Adverb + Verb

Examples:

- |    |   |   |
|----|---|---|
| 1. | සීමාවන සේ පවත්වාගෙන යාම                       | - to continue confining to.....                   |
| 2. | නිවැරදි බවට සහතික කරනවා                       | - certify as correct                              |
| 3. | නියමිත පරිදිම සම්පූර්ණ කිරීම                  | - duly complete                                   |
| 4. | අදියර වශයෙන් ක්‍රියාත්මක වන සෘජුවම දන්වනු ලබන | - implemented on phase basis<br>- directly inform |
| 5. |   |   |

● Adjective + Adjective

Examples:

- |    |                                |   |
|----|--------------------------------|---|
| 1. | සාවද්‍ය හෝ අසම්පූර්ණ           | - false or incomplete                       |
| 2. | සක්‍රීය හා සතුටුදායක සේවා කාලය | - active and satisfactory period of service |

● Adverb + Adverb

Examples

:

- |    |                     |                     |
|----|---------------------|---------------------|
| 1. | සත්‍ය හා නිවැරදි බව | - true and accurate |
|----|---------------------|---------------------|

● Noun + Preposition

Examples:

- |    |                  |                            |
|----|------------------|----------------------------|
| 1. | නිර්දේශයක් රහිතව | - without a recommendation |
| 2. | නිර්දේශයක් සහිතව | - with recommendation      |

- |    |                    |             |
|----|--------------------|-------------|
| 3. | පූර්ව අනුමැතීන් මත | - permitted |
|----|--------------------|-------------|

● Verb + Preposition

Examples:

- |    |                         |  |
|----|-------------------------|--|
| 1. | එකඟතාව ලබා ගැනීමට යටත්ව | - <u>subject to the concurrence of</u> |
|----|-------------------------|--|

In addition to that, at certain instances, conjunctions such as “සහ” (and), “හෝ” (or) and “පිළිබඳ” (means ‘about’) were used in collocations in Sinhala.

Example:

- |                      |   |
|----------------------|---|
| ආගමන හා විගමන        | - Immigration and Emigration                          |
| අල්ලස් හෝ දූෂණ චෝදනා | - Allegation of Bribery or Corruption                 |
| අඛණ්ඩව හෝ බණ්ඩව      | - Uninterrupted periods or periods with service break |

Official or formal documents, such as circulars, are usually translated into English and Tamil in Sri Lanka. The collocations used in these documents are also translated into the target languages using collocations or paraphrasing the idea depicted in collocations. In this regard, collocations cannot be translated into the target languages based on word-for-word translation strategies but rather on sense-for-sense translation techniques. When a source text is translated into a target language, a number of changes occur within the translation process in order to convey an equivalent meaning to the target audience. Such changes are also identified in translating collocations from Sinhala to the English language.

In consequence, in certain instances, the order of a collocation in Sinhala shifts when translating the particular collocation into English. In the Sinhala language, the sentence structure is subject + object + verb. In English sentences, this structure or order changes as subject + verb + object. In addition, the majority of verbs are generally followed by adverbs, and most of the nouns are followed by adjectives. However, this general structure changes at times when translating certain collocations in Sinhala into English. For instance, the noun and verb collocation ‘උපදෙස් නිකුත් කිරීම’ of the source text (ST) is translated into English as ‘issue instructions’. According to this example, the noun and verb collocations of the Sinhala text became verb and noun collocations in the target text (TT). The adverb and verb collocation ‘කල්පිතව ගණනය කරනවා’ of the ST was changed into a verb, preposition and adverb collocation, ‘calculate on the hypothetical basis’, in the TT. Apart from that, certain collocations that were formed with the combination of noun + noun + noun + noun such as ‘පවුල් සෞඛ්‍ය සේවා නිලධාරීන්’ were translated into English using an individual word, such as ‘midwife’. Furthermore, verb and verb collocations such as ‘දන්වා එවීම’ was changed into the verb ‘inform’ in the translation process. Even so, such changes do not affect the original meaning that exists in the collocations of the ST.

**Lexical features of types of linguistic collocations**

In this study, the collocations, which were gathered as data, were categorized under four types of linguistic collocations namely: idiomatic or fully fixed collocations, fixed collocations, strong collocations, and loose collocations. As mentioned above, one of the objectives of this study is to investigate the lexical features of different types of linguistic collocations. Lexical features are a common phenomenon in a language and word length, word frequency and high

frequency words are some of the lexical features that are included in this phenomenon. Accordingly, the researcher attempted to identify word length, word frequency, high-frequency words, and low-frequency words that belong to each type of linguistic collocation mentioned above.

**Word length:** The word length in English is usually measured by calculating the letters and the same method is used in this study to calculate the word length in collocations selected from Public Administration Circulars in Sinhala. The lexical feature, word length, indicated the complexity and difficulty of particular texts or lexical units.

Table 3: Word Length

	Idiomatic or Fully Fixed Collocations	Fixed Collocations	Strong Collocations	Loose Collocations
1 –letter words	-	18	8	-
2 –letter words	-	60	47	8
3 –letter words	4	144	133	20
4 –letter words	-	117	94	21
5 –letter words	-	54	55	9
6 –letter words	-	31	25	5
7 –letter words	-	12	11	1
8 –letter words	-	4	1	-
9 –letter words	-	1	-	-

Among the selected data, only two (2) collocations belonged to the collocation type named idiomatic or fully fixed collocations. As shown in Table 2, the proportion of the 3–letter words group is the highest and its numerical value is 4. In fixed collocations, 3 –letter words group represents the highest word length and there are 117 4–letter words. The highest word length of strong collocations is 133 and it is the proportion of 3-letter words. In addition, the proportion of 4- letter words is the highest value in the loose collocations and the mean value is 1, which represents the proportion of 7–letter words. According to the data given in the table, the

proportion of 3–letter words and 4–letter words shows the highest values in each type. Furthermore, among the collected data, fully fixed or idiomatic collocations, fixed collocations and loose collocations have no examples that exceed 9–letter words.

**Word frequency:** Word frequency, which assists in identifying key words and common words in a corpus, can be defined as the frequency or the number of times a word occurs in a corpus. Word frequency is significant as it makes vocabulary and the content of a text more understandable.

Table 4: Word Frequency of Types of Collocations

Idiomatic or Fully Fixed Collocations		Fixed Collocations		Strong Collocations		Loose Collocations	
	frequency		frequency		frequency		frequency
පාලන	1	සේවා	13	කිරීම	23	කරනවා	4
විෂය	1	සේවය	12	වැටුප්	12	ක්‍රියාත්මක	3
යතුරු	1	භා	11	කරනවා	8	කිරීම	3
ලේඛක	1	ලේකම්	9	පරිදි	6	වශයෙන්	2
		දීමනාව	7	ගැනීම	6	වන	2
		නිවාඩු	6	කාලය	6	වැටුප	2
		කිරීම	6	දීමනා	5	ලබන	2
		වැටුප්	5	භා	5	ගණනය	2
		රාජ්‍ය	5	සේවා	5	අදියර	1
		හෝ	4	ලබා	4	ආරම්භක	1
		විශේෂ	4	සම්පූර්ණ	4	මාසික	1
		නිලධාරී	4	සංශෝධනය	4	ඉල්ලා	1
		සහකාර	4	ස්ථාන	4	සිටිනු	1
		පොලිස්	4	මාරු	4	සහන	1
		ස්ථාන	4	ඉදිරිපත්	3	උපදෙස්	1
		මත	3	උපදෙස්	3	නිකුත්	1
		ආයතන	3	කරුණු	3	උපරිම	1
		පරීක්ෂක	3	මුදල්	3	කාල	1

		පටිපාටිය	3	රාජ්‍ය	3	සීමාවන්	1
		කාල	3	භාෂා	3	වීම	1
		කාලය	3	විනය	3	කල්පිතව	1
		සහ	3	නොවන	2	ජනතාව	1
		දෙපාර්තමේන්තුව	3	ශ්‍රේණියට	2	දැනුවත්	1
		පළාත්	3	උසස්වීම්	2	ණය/	1
		මාරු	3	කටයුතු	2	අත්තිකාරම්	1
		පවුල්	2	සුදුසුකම්	2	ලබාදීම	1
		වෛද්‍ය	2	ඇති	2	තාවකාලික	1
		නිල	2	අභියාචනා	2	පියවරක්	1
		අමාත්‍යාංශ	2	ආකෘති	2	තොරතුරු	1
		දෙපාර්තමේන්තු	2	සාමාජිකත්වය	2	රැස්	1
		ගැනීම	2	ඉල්ලීම	2	දෛනික	1
		අධ්‍යක්ෂ	2	උප	2	වේතන	1
		ජනරාල්	2	තෘතීය	2	පරිසරය	1
		ප්‍රධානියා	2	මට්ටම	2	සුරැකීම	1
		අත්තිකාරම්	2	යටත්	2	පූර්ණ	1
		කිරීමේ	2	වැටුප	2	මූලික	1
		පත්	2	දායක	2	මූල්‍යමය	1
		කරනවා	2	අයකිරීම	2	අගය	1
		කළමනාකරණ	2	දිර්ඝ	2	රාජකාරියක්	1
		කාර්ය	2	නියමිත	2	නිර්වෙනනික	1
		නිලධාරීන්	2	නිර්දේශයක්	2	තත්ත්වයෙන්	1
		කැමැත්ත	2	පත්වීම	2	ඉටු	1
		කොමිෂන්	2	පර්යේෂණ	2	වැටුප්	1
		සභාව	2	බඳවා	2	පියවර	1
		ශිල්පී	2	රෝග	2	වැරදි	1
		වියදම්	2	ශ්‍රේණිය	2	ලෙස	1
		තනතුර	2	රජයේ	2	නිර්වචනය	1
		නිවැරදි	2	රාජකාරි	2	සාවද්‍ය	1
		පළපුරුද්ද	2	ක්‍රියාත්මක	2	වර්ගීකරණය	1
		යටතේ	2	ස්ථානමාරු	2	සෘජුවම	1
		නීති	2	ක්‍රියාවලිය	2	දන්වනු	1
		ලිපිය	2	වැඩ	2		
		වෘත්තීය	2	සකස්	2		
		සෞඛ්‍ය	2	තීරණ	2		
		උපාධිය	2	සාධාරණ	2		
		කටයුතු	2	අගතියක්	1		
		ප්‍රාදේශීය	2	අතිකාල	1		
		ස්ථානය	2	අධි	1		
		මහජන	2	අධ්‍යාපන	1		
		වාර්තා	2	නභා	1		
		අමාත්‍යාංශය	2	සිටුවීම	1		
		කාර්යසාධනය	2	අනිවාර්යෙන්	1		

		පුරුෂ	2	වාර්තා	1		
		විශ්‍රාම	2	(සේවය	1		
		බව	2	සඳහා)	1		
		ශ්‍රී	2	අනිවාර්ය	1		
		ලංකා	2	න්ම	1		
		සාමාන්‍ය	2	අභිමතය	1		
		අඛණ්ඩව	1	අරමුණු	1		
		බඛණ්ඩව	1	ලභා	1		
		අඩ	1	කර	1		
		අඩු	1	උපයෝගී	1		
		අදායම්ලාභී	1	කරගැනීම	1		
		අති	1	ආදර්ශ	1		
		ගැසට්	1	පත්‍රය	1		
		පත්‍රය	1	ආධුනික	1		
		අතිරේක	1	පුහුණුලත්	1		
		අතුරු	1	න්ගේ	1		
		අත්සන	1	ආශ්‍රය	1		
		මුද්‍රාව	1	ඉතා	1		
		අධිකරණ	1	වගකීමෙන්	1		
		අධ්‍යයන	1	යුතුව	1		
		අධ්‍යාපන	1	යොමුකිරීම	1		
		පරිපාලන	1	සලකා	1		
		ව්‍යවස්ථාව	1	බලනවා	1		
		අනුකූල	1	ඉහළ	1		
		නොවන	1	කාර්යාලය	1		
		පරිදි	1	වගන්තිය	1		
		අනුයුක්තය	1	අනුගමනය	1		
		අවසන්	1	උපරිම	1		
		අන්තර්	1	උපරිමයෙන්	1		
		අමාත්‍ය	1	ඔබ්බට	1		
		මණ්ඩලය	1	එකඟතාවය	1		
		අමාත්‍යාංශ	1	ගැනීමට	1		
		අල්ලස්	1	යටත්ව	1		
		දූෂණ	1	එරෙහිව	1		
		වෝදනා	1	දැක්වීම	1		
		අවධානය	1	කමිටු	1		
		යොමු	1	නාමිකව	1		
		කරවීම	1	පිහිටුවීම	1		
		අවශ්‍යතාවය	1	තහවුරු	1		
		රඳවා	1	දැක්වීම්	1		
		ආගමන	1	සමාලෝචන	1		
		විගමන	1	ය	1		
		සංග්‍රහය	1	කළමනාකර	1		
		ආශ්‍රිත	1	ණ	1		
		උත්සව	1	ක්‍රමානුකූලව	1		
				දෙනවා	1		
				වක්‍රලේඛ	1		
				නිකුත්	1		
				ජ්‍යෙෂ්ඨත්වය	1		

		උප	1	කිරණය	1		
		උප්පන්න	1	තාක්ෂණ	1		
		සහතිකය	1	සේවය	1		
		උසස්	1	තාවකාලිකව	1		
		උසස්වීම්	1	අනියුක්ත	1		
		ලිපි	1	ජ්‍යෙෂ්ඨ	1		
		එකඟතාවය	1	හෝ	1		
		ඇතිව	1	වෘත්තීය	1		
		කම්බුවක්	1	දඩුවමක	1		
		පටිපාටික	1	බලපෑමට	1		
		රිති	1	විම/	1		
		කාර්යක්ෂමතා	1	භාජනය	1		
		කඩඉම	1	විම	1		
		කාර්යසාධන	1	දළ	1		
		වාර්තාව	1	ගෙවීම	1		
		කාර්යාල	1	ප්‍රතිපූර්ණය	1		
		සහයක	1	කාලයක්	1		
		කාර්යාලගත	1	ධූරය	1		
		පරාසයන්	1	දැවීම	1		
		සටහන	1	නැවත	1		
		සීමාව	1	සේවයේ	1		
		ඉකුත්	1	යෙදවීම	1		
		විම	1	නිතරානුකූල	1		
		පළ	1	ගිවිසුමකට	1		
		විමසීම	1	බැඳී	1		
		බන්ධු	1	නියමය	1		
		රේඛන	1	නියමයන්ට	1		
		ගමන්	1	අනුගතව	1		
		ගැළපීමේ	1	පරිදිම	1		
		ගිවිසුම්ගත	1	නියාමන	1		
		බලධරයා	1	රහිතව	1		
		ජාතික	1	සහිතව	1		
		ජීවන	1	නිවැරදි	1		
		ජ්‍යෙෂ්ඨ	1	බවට	1		
		ජ්‍යෙෂ්ඨතාව	1	සහතික	1		
		කුසලතාව	1	නිවැරදිව	1		
		පන්තිය	1	සම්පූර්ණ	1		
		තනතුරු	1	(ඇමුණුමක්)	1		
		නාමය	1	නිසි	1		
		තාක්ෂණ	1	ඉල්ලුම්	1		
		ත්‍රිවිධ	1	අවසන්	1		
		හමුදා	1	ස්ථිර	1		
		සාමාජිකයන්	1	පත්විම්	1		
		දන්වා	1	ලිපි	1		
		එවිම	1	පරිපාලනමය	1		
		දිස්ත්‍රික්	1	අවශ්‍යතා	1		

		දීප	1	පරිබාහිර	1		
		ව්‍යාප්ත	1	වැටුපක්	1		
		දේශීය	1	පරිවාස	1		
		ආදායම්	1	ග්‍රන්ථ	1		
		ද්විතියික	1	පත්‍රිකා	1		
		පදනම	1	පහත	1		
		නාමිකව	1	කරනු	1		
		පත්තිරීම	1	ලැබේ	1		
		නිත්‍ය	1	පූර්ණ	1		
		නියෝගයකින්	1	පූර්ව	1		
		තීරණයකින්	1	අනුමැතීන්	1		
		නිරීක්ෂණ	1	මත	1		
		නිර්දේශ	1	පොදු	1		
		වෙබ්	1	පොද්ගලික	1		
		අඩවිය	1	කාර්ය	1		
		දිනයක්	1	මණ්ඩලයන්	1		
		ප්‍රකාශයට	1	ප්‍රමාණවත්	1		
		සම්පූර්ණ	1	ප්‍රාථමික	1		
		තොරතුරු	1	ද්විතීය	1		
		නිශ්චිත	1	ගැනීමේ	1		
		නිසි	1	පරිපාටි	1		
		බලය	1	බෝ	1		
		කැඳවනවා	1	පාලනය	1		
		කෙටුම්පත්	1	මාණ්ඩලික	1		
		සම්පාදක	1	මාසික	1		
		පත්විම්	1	ආපසු	1		
		පරිපූරක	1	මූල්‍යමය	1		
		පර්යේෂණ	1	ප්‍රතිලාභ	1		
		නිලධාරීන්	1	මුළු	1		
		පශ්චාත්	1	යටිතල	1		
		ප්‍රධාන	1	පහසුකම්	1		
		පාර්ලිමේන්තු	1	සංවර්ධනය	1		
		පැමිණිල්ල	1	අත්‍යවශ්‍ය	1		
		මෙහෙයවනවා	1	සේවාවන්	1		
		පැමිණීමේ	1	කාර්යාල	1		
		පිළිගත්	1	ස්ථානය	1		
		විශ්වවිද්‍යාලයක්	1	නිවාඩු	1		
		පූර්වාසන්න	1	දූම්රිය	1		
		වසර	1	බලපත්‍ර	1		
		කොස්තාපල්	1	ප්‍රතිපත්ති	1		
		සැරයන්	1	ප්‍රතිපත්තිය	1		
		නියාමන	1	ප්‍රවීණතාවය	1		
		සේවාවන්	1	රාමලාන්	1		
		කොට්ඨාසය	1	(රාමසාන්)	1		
		ප්‍රියමනාප	1	සමය	1		
		බඳවා	1	වසංගත	1		

		ගැනීමේ	1	මර්ධන	1		
		මධ්‍යම	1	වැඩසටහන්	1		
		රජය	1	වාර්ෂික	1		
		සම්බන්ධතා	1	සඳහා	1		
		මහා	1	අනිවාර්යයෙන්	1		
		භාණ්ඩාගාරය	1	වන	1		
		මාධ්‍ය	1	නිලධාරීන්	1		
		මෝටර්	1	කේතය	1		
		රථ	1	සහ	1		
		ප්‍රවාහන	1	තලය	1		
		යටිතල	1	පරිමාණය	1		
		පහසුකම්	1	පරිවර්තනය	1		
		යාඥා	1	පියවර	1		
		ආගමික	1	පිළිබඳ	1		
		වතාවත්වල	1	විස්තර	1		
		රජයේ	1	ප්‍රතිපූරණය	1		
		අධිනීතිඥ	1	වර්ධක	1		
		රාජකාරි	1	උපයාගැනීම	1		
		සඳහා	1	වර්ධකය	1		
		සංස්ථා	1	ව්‍යුහය	1		
		ව්‍යවස්ථාපිත	1	පිළිවෙලක්	1		
		මණ්ඩල	1	මූර	1		
		රැකවරණ	1	වැඩිදුර	1		
		නිලධරයන්	1	වැඩිපුර	1		
		රැකියාව	1	ගෙවීම්	1		
		රැස්වීම්	1	විධිමත්	1		
		වාරය	1	විසඳුම්	1		
		රේඛීය	1	ලබාදීම	1		
		ලකුණු	1	විධිවිධාන	1		
		ලිඛිත	1	අනුව	1		
		එකඟත්වය	1	ක්‍රියාමාර්ග	1		
		වගන්තියෙන්	1	නියෝගය	1		
		ආවරණය	1	හේතු	1		
		වි	1	විශේෂිත	1		
		නැති	1	විශ්‍රාම	1		
		වගබලා	1	සමස්ත	1		
		වනජීවී	1	ගුණාත්මක භාවය	1		
		සංරක්ෂණ	1	සහන	1		
		වාර්ෂික	1	කාල	1		
		වාස්තු	1	පරාසයන්	1		
		විද්‍යාඥ	1	සීමාවන	1		
		රහිත	1	සේ	1		
		වැන්දඹු/	1	පවත්වාගෙන	1		
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		අනන්දරු	1	සීමිත	1		
		විකිරණ	1	සුදුසු	1		



		විදේශ	1	සේවයෙන්	1		
		විපක්ෂ	1	මුදා	1		
		නායක	1	හරිනවා	1		
		විරුද්ධව	1	යොදවා	1		
		කරුණ	1	බලාත්මක	1		
		දැක්වීම	1	ක්‍රියා	1		
		විවාහක/	1	පටිපාටින්	1		
		අවිවාහක	1	හැකි	1		
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		සුදුසුකම්	1				
		ශාස්ත්‍රපති	1				
		ගුරු	1				
		විදහල්පති	1				
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		සතුටුදායක	1				
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		සමාජ	1				
		විරෝධී	1				
		ක්‍රියා	1				
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		පිටපත්	1				
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		සීමා	1				
		නිර්ණය	1				
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		හැර	1				
		යාම	1				
		සේවයෙන්	1				
		මුදා	1				
		නොහැරීම	1				
		සම්පූර්ණ	1				
		ගණය	1				
		ව්‍යවස්ථා	1				

		ස්ථානයට	1				
		සොලිසිටර්	1				
		ස්ත්‍රී/	1				
		භාවය	1				
		චක්‍රය	1				
		දැන්වීම්	1				
		නිකුත්	1				
		ස්ථිර	1				
		ස්වදේශ	1				
		හෙද	1				

According to Table 3, the word frequency of idiomatic collocations is equal. The highest word frequency of fixed collocations is 13, which indicates that the constituent 'සේවා' (services) was collocated with most of the collocations under this type. In addition, the constituent 'සේවය' which carries a similar meaning, "service", is the singular form of the noun 'සේවා' and represents the second highest frequency in fixed collocations. In the linguistic collocation type named strong collocations, the verb 'කිරීම' was a constituent of 13 collocations and therefore, it appears as having the highest frequency under this category. However, the constituent 'කිරීම' (do) often combines with another word as it is generally used to form verbs in Sinhala language. The highest word frequency of loose collocations is 4 of the constituent 'කරනවා' and the constituent 'අදියර' represents the minimum value of word frequency as 1 in loose collocations.

**High-frequency words:** The words that are most frequently used or appear in a language are defined as high-frequency words. The words 'and', 'or', 'the', and 'be' verbs are examples of high-frequency words in the English language. Words such as 'හා/ සහ' (and), 'හෝ' (or), 'කරනවා/ කිරීම' (do), 'වීම' (happen/do), 'දීම' (give) and 'ගැනීම' (give) are a few examples for high-frequency words in the Sinhala language. 'කරනවා/ කිරීම', 'වීම', 'දීම' and 'ගැනීම' are certain words that usually co-occur with a verb to complete the idea indicated by a verb. This is a significant and unique feature of the Sinhala language compared to the English language. Such high-frequency words make a text easily understood by a reader.

**Low-frequency words:** Although high-frequency words appear in a text or a corpus frequently, low-frequency words rarely appear in a text or a corpus. Subject-specific terms and technical terms are such words that are not most frequently used in general contexts. Accordingly, Public Administration Circulars also include low-frequency words such as 'reimburse' and 'regulatory'. 'ප්‍රතිපූර්ණය කිරීම', 'නියාමන', 'සංශෝධනය' and 'කෙටුම්පත' are examples abstracted from the collocations selected from Public Administration Circulars for low-frequency words in Sinhala as such words are included in formal or legal documents according to the relevant contents. Although such low-frequency words are used in specific contexts based on the requirement, using low-frequency words in general contexts may make it difficult for the target audience to understand a text.

Finally, the results mentioned above show that Public Administration Circulars in Sinhala include lexical features such as word length, word frequency, high-frequency words,

and low-frequency words. They are beneficial in identifying the main ideas, specific focus, complexity, or difficulty of a text or a corpus and preserving the formality of texts. Additionally, fixed collocations and strong collocations are the types of linguistic collocations that are most frequently used in the selected Public Administration Circulars, and fully fixed collocations or idiomatic collocations are occasionally found. However, the results may vary based on the number of collected data.

## CONCLUSION

This study was conducted with the aim of identifying the lexical features of the types of linguistic collocations used in Public Administration Circulars in Sinhala. Based on the discussion in the previous chapter, there are some points that can be drawn from this research. Collocations are described as a set of words that are always bound and co-occur together. The results show that the collocations collected from the 12 Public Administration Circulars can be categorized under the four types of linguistic collocations introduced by Li et al. (2005). The four types of linguistic collocations are idiomatic (fully fixed) collocations, fixed collocations, strong collocations, and loose collocations. Among the said types of linguistic collocations, there are three types, namely idiomatic (fully fixed) collocations, strong collocations, and fixed collocations, that depend on restrictions or limitations whereas the other type, loose collocations, are not formulated based on such limitations.

The fully fixed or idiomatic collocation type has the highest number of limitations when compared to the other types. Individual constituents or the parts of the collocation cannot determine the implied meaning of fully fixed collocations and such collocations cannot be replaced or substituted as they are immutable collocations. Fixed collocations are formed with rigid combinations and one constituent of the collocation often follows the other constituent naturally. Native speakers or second-language speakers of any language use this type of collocation unintentionally due to the fixed form they have. In comparison to the two types of linguistic collocations mentioned above, strong collocations can be modified or one constituent can be substituted by another word with a similar meaning. However, such collocations have the limitation that the order of this type of collocation is unchangeable. The linguistic collocation type, loose collocations, is allowed to be modified, replaced, or substituted and the order can also be changed. However, a minimum level of restrictions still remains.

According to the results of the study, the most common type of linguistic collocations in the Public Administration Circulars in Sinhala are fixed collocations (52.6%), and strong

collocations account for the second largest linguistic collocation type, 40.3%, out of the total. Compared to the above two types of linguistic collocations, loose collocations account for 6.4% of the total number of collected data and fully fixed collocations are the least frequently used linguistic collocation type. Studying the lexical features of each of these linguistic collocation types, word length, word frequency, high-frequency words and low-frequency words were identified. As administrative texts such as Public Administrative Circulars use subject-specific terms and longer words, the word length of each type of linguistic collocations varies from one to another. When calculating the word frequencies, it was identified that, unlike in the English language, the verbs in the Sinhala language are always formed with combinations of words such as 'කිරීම' (to do), 'දීම' (to give), 'වීම'(happen), 'ගැනීම' (take). The usage of such words varies according to the meaning that needs to be implied in a particular context. This feature of the Sinhala language indirectly affects lexical features such as word length and word frequency. Apart from that, lexical features such as high-frequency words and low-frequency words do not find any exceptions in the English and Sinhala languages.

In addition, the findings of the study indicated that certain collocations in Sinhala are not referred to as collocations in English. Similarly, the structures or the order of collocations may differ between the two languages.

Depending on the findings of the research, the following recommendations are often effective:

- It would be preferable to teach collocations to students who are interested in Sinhala, as a separate part.
- The institutions and universities related to translation studies in Sri Lanka should encourage their undergraduates or learners to produce more studies, and research addressing the sector of translating administrative texts.
- It is further recommended to use collocations and to be familiar with the types of collocations as much as possible in order to enhance writing skills while preserving the complexity and formality of administrative texts.

The term 'collocation' is a significant linguistic phenomenon in any language and there are only a limited number of studies conducted regarding this concept. The immense importance carried by collocations in a language has not yet been identified and motivated. The present study focused only on identifying the lexical features of different types of linguistic collocations. The four linguistic collocation types introduced by Wanyin Li et al. (2005) were the major concern of this study and the characteristics and taxonomies of collocations are still under debate. Hence, new research can be conducted in the future regarding the characteristics and taxonomies of collocations relevant to the Sri Lankan context. Additionally, researchers who are interested in conducting studies based on collocations can also conduct studies based on several other objectives. In the future, studying the challenges or problems encountered while translating collocations related to Sinhala and English, as well as the translation strategies used in translating collocations in Sinhala to English, will be more beneficial.

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# Exploring Perceived Stress and its Antecedents Among the Young Population with Special Reference to Sri Lanka's Economic Collapse

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## Abstract

*This research article focuses on the issue of perceived stress among the youth population in Sri Lanka, specifically in relation to the country's recent economic collapse. The study aims to investigate the factors that contribute to perceived stress and identify the stress management strategies employed by young people. Its primary objective is to comprehend the impact of the economic crisis on the youth and provide insights for interventions and support systems. Data collection involved crowdsourcing and simple random sampling techniques, resulting in a sample of 601 participants. The Perceived Stress Scale was used to collect data, which was analyzed using objective descriptive statistics. The findings revealed that a significant number of participants in the western province reported high levels of perceived stress. Thematic analysis was applied to identify the main causes of perceived stress among the participants. The analysis highlighted a negative response towards the economic crisis and inflation as major contributors to stress levels. Additionally, a word cloud analysis was conducted to identify stress management strategies and coping mechanisms, with the word "support" emerging as a predominant theme. The key results indicate levels of perceived stress among the youth population in Sri Lanka, directly linked to the recent economic collapse. This emphasizes the urgent need for interventions and support systems to address the psychological well-being of young individuals in post-crisis scenarios. The findings on stress management strategies and coping mechanisms offer valuable insights for the design and implementation of targeted programs aimed at alleviating perceived stress among the young population. In conclusion, this research highlights the significant impact of the economic collapse on the perceived stress levels of the youth population in Sri Lanka.*

**Keywords:** Economic crisis, Perceived stress, Sri Lanka, Young adults

## INTRODUCTION

Sri Lanka is a country that has a developing economy (Patabendige & Senanayake, 2015). But, at this moment, the economy of Sri Lanka is struggling with several issues. Stein et al. (2013) have analyzed that there are negative effects due to the economic crisis which are, an increase in unemployment, and people leaving the country. Unemployment was found to be the causal factor behind a nine-fold rise in suicide rates compared to other consequences of the economic crisis, such as inflation (Mathieu et al., 2022). Many researchers have proved that the economic crisis of a country has the ability to affect the mental health of its citizens. In the economic crisis of Greece in 2009, the Quality of Life in Greece badly affected to physical health and mental health of human beings (Kokaliari, 2018).

Furthermore, according to the article published in Sunday Morning newspaper by Chamara (2022) indicates some peoples' thoughts regarding this economic crisis states, "We cannot afford to use fuel as we used to. The main reason is

the limited supply of fuel, because of which we have to spend a significantly higher amount of time to get a significantly lesser amount of fuel. The other reason is the inflation of all other essential goods, which compelled us to rethink how much money we can allocate for fuel. As a result, we have had to limit using our personal vehicle unless the entire family wants to travel." (Chamara, 2022, p.3).

Perceived stress is linked to unemployment adjustment, with higher levels associated with decreased optimism in seeking new job opportunities (Brouskeli & Markos, 2013). Perceived stress was significantly related to mental health and physical health such as depression, general health, and health symptoms (Brouskeli & Markos, 2013). In addition, the researchers have shown, due to higher level of perceived stress, depression can be increased, and general health can be worsened (Flores et al., 2008). A study about young adults in college, has analyzed that there is a co-relation of students' self-reports of particular financial behaviors and penetration of financial well-being and economic stress

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(Stein et al., 2013). Perceived stress can be affected to young adult's life satisfaction. Further, perceived stress in school can be related to life satisfaction of young adults. In school education system, the stress that relates to school can be affected to young adults' educational activities (Burger & Samuel, 2017). According to Priyadarshana (2022 p.2), Psychobiological stress responses include behavioral, physiological, affective, and cognitive reactions to challenging situations, influencing coping, emotions, and health.

The period in an economic crisis can be affected to lives of human beings (Kokaliari, 2018). Due to the country's past wrong economic tactics and the corruption of corrupt rulers, the youth of countries like Sri Lanka has to suffer mentally and physically in this economic crisis. A study has identified that there is a close association between offensive effects that relates to economic crisis and the mental health of people (Mouza, 2015). In the current state of the Sri Lankan economy, people are facing numerous challenges that impact their daily lives, including fuel queues, gas shortages, inflation, power failures, changes in lifestyle, and travel restrictions. These circumstances contribute to a stressful, anxious, and depressed atmosphere, with limited access to basic necessities such as transportation and medicines (Priyadarshana, 2022:2). Similarly, some young adults had been committed suicide and also some young adults had been killed because of people's stress levels in this economic crisis. In Greece, based on the economic crisis, the study shows that there are increases in mental health problems and suicide rates (Faresjö et al., 2013). If focusing on young adults in Sri Lanka, are being lived with perceived stress in this economic crisis. A real-time example can be identified is the struggle that was started among young adults in the months between February to July, which can be recognized as the highest level of perceived stress on young adults in the Sri Lankan economic crisis.

This issue was a pristine gray area, and the study indicated a context-related gap because there was not any study in respect of the current economic collapse in Sri Lanka. Therefore, this study exclusively analyzed perceived stress on young adults in this recent economic crisis in Sri Lanka.

## LITERATURE REVIEW

### Theoretical Background

Cohen's stress theory revolves around the concept of perception rather than events themselves. Unlike traditional approaches that emphasize life events or their quantity, this theory acknowledges individual differences by enabling us to assess and evaluate our subjective emotional experiences (Sicreative, 2011). By pointing out a lack of data on perceived stress among young adults during the recent economic collapse in Sri Lanka, this section provides the importance of this study with novel contributions which are not done in past literature. However, there were very limited pieces of evidence that research had been done in respect of the economic crisis in Sri Lanka by both Sri Lankan and foreign researchers, but also the researchers of this study could not find any researches who have been done on the perceived stress during this economic crisis in Sri Lanka.

### Prevalence of Stress

A study has found that in the situation, which is the prevalence rate before the crisis, there were higher prevalence rates of mental health issues and stress among pupils during pandemic situation that related to Covid-19.

Furthermore, the study shows that mindfulness, optimism and coping strategies can be identified as protective factors and also stressors that related to Covid-19 such as worries in respect of financial matters and education, being stressed due to covid pandemic and media reporting and quarantine experience, and personal characteristics such as being female, older age and neuroticism can be identified as risk factors mental health issues and stress among pupils (Karing, 2021). According to Amu et al. (2021), the prevalence of a mental health issue was 9.7% for stress. This finding can be described through the differences in cultural practices such as beliefs and meals. Although, the profession also statistically prognosticates stress. Risk factors of mental health matters due to profession such as low motivation, low self-esteem, physical or emotional exhaustion due to excess workload, and long working hours at workplaces for existing stress.

According to Alqarni et al. (2022), the study has investigated that there were variable results on the prevalence of stress and burnout among mental health professionals. As an example, a study in Singapore showed that healthcare workers who worked in mental health backgrounds had a higher level of stress which raised considerably depending on demographic factors, such as younger age, low annual income, and low experience. On the other hand, another study indicates that the prevalence of stress ranges from 5.5% to 25.9% among educators in colleges or universities. The study has identified risk factors which are, sex, educational level, ethnicity, and religion as risk factors for stress among educators in Malaysian higher learning institutions. Similarly, males had a higher level of prevalence of stress with comparing to females nevertheless low level of education was concerned with low levels of stress (Tai et al., 2019).

### Perceived Stress

Perceived Stress defines as unexpected feelings about human lifestyles, unable to manage daily challenges, and feeling about piling up of people's problems (Dissing et al., 2019). Perez et al. (2015) have stated that perceived stress is a construction that considers cognitively interfered emotive response is caused for people who are facing in a stressful life event. Many studies have examined life satisfaction in older adults and identified it as an important indicator of successful development in order adults' well-being. And because young adults' life satisfaction takes a face many developmental and adjustment challenges including their transition to adulthood. Therefore, it often affects their life satisfaction. This study also analyzes whether and to what extent adolescents' lives are analyzed, and to what extent anxiety is now satisfied with study and general self-efficacy. Here the main sources can be obtained from studies and young adults' perceived stress (Burger & Samuel, 2017). Perceived stress, as mentioned by past researchers, is often and mainly caused by economic difficulties and psychological distress. And it has been confirmed in the researchers' findings that young adults mainly must face this situation when they are looking for a job and losing their current job (Brouskeli & Markos, 2013). Moreover, another group of researchers stated that as a first-time discovery, they have stated that the difference between the gender in adapting to this perceived stress situation is more likely to affect the female community according to their theories (Flores et al., 2008). Also, as mentioned by past researchers, this perceived stress situation can be said to be faced widely among the young

adult community in society based on factors such as their academics and applying for the limited jobs available in the country (Burger & Samuel, 2017). According to analysis by Perez et al. (2015), they have found the consequences of perceived stress such as alcohol, cigarettes, poor eating patterns, and poor sleeping patterns, which can be negatively caused to people's health behaviors. Similarly, perceived stress can be affected the health of people based on some symptoms such as headache, anxiety, depression, irritability, weariness, chest stiffness, sexual dysfunction, menstrual disorders, indigestion, and giddiness. By the data and information received in research conducted by a group of Indian researchers, the most perceived stress situation for men and women has been reported based on issues such as influencing. In the same way, the researchers have reported that representing such influencers in society, how the perceived stress situation affects each individual, and the ability to measure the perceived stress situation (Singh & Nayak, 2015).

#### **Perceived Stress on Young Adults**

The consequences which consist of sleep can be directly or indirectly caused to an increment in perceived stress on young adults, which could be generated bad effects such as poor academic performance, dropout, and effects on mental health and physical health. In cross-sectional studies in respect of young adults, there is an association between higher levels of perceived stress and insomnia appearances (Veeramachaneni et al., 2019). The researchers have emphasized that Young Greek adults were at a higher level of perceived. The environment, that young Greek adults are living in under economic and social distress, has shown a significantly higher level of perceived stress (Faresjö et al., 2013). A study has analyzed whether self-efficacy has the ability that reduces the bad effects of perceived stress on the life satisfaction of young people. Perceived stress in education sensitizes to life satisfaction of young people. Similarly, in the school environment, young people who have low levels of self-efficacy, are unable to work with perceived stress which affects them to leave post-compulsory education early as an offensive incident (Burger & Samuel, 2017).

According to the researchers age-related shifts in stressor assessment are plausible in both directions. On the other hand, age-related resources may allow older workers to rate the demands of their peers as less stressful than their younger counterparts (Rauschenbach et al., 2013). Similarly, researchers have suggested that occupational stress and problems of mental health, concern ambitious young employees significantly. Further, as a probable result of mental health problems, lack of support by management, and stressful working environments, young employees have been mentioned to less stressful work as an encouragement to continue their occupation after retirement (Pillay et al., 2010).

#### **Factors Affecting Perceived Stress**

Perceived in relation to previous research, an improvement in grant issues affecting stressors has been noted. That is, mainly racism is introduced as a matter that directly affects this and the researchers note that due to this, it will affect the social condition and mental condition of individuals (Flores et al., 2008). As mentioned by Burger and Samuel (2017), it has been confirmed in those studies that inflation and economic crises will cause a big change in the stress situation of the people. As per the data found in the year 2005 by other research conducted in relation to the

classification of the Latin people, the researchers have mentioned the stress situation that the non-Hispanic white people have suffered due to the marginalization of the Latin people and especially due to their strong belief in religion (Perez et al., 2015). According to the researchers, due to students not managing their money properly, money is wasted unnecessarily. Due to this, it has been shown that students are suffering from various addictions and are under severe stress without being able to manage their money (Bamforth et al., 2017).

Researchers pointed out various factors as influencing factors for this, Stress is caused by many factors in family leisure work economic situation, and political situation. A variety of activities can also be the source of a person's daily stress as a better explanation of the relationship between relaxation and stress. Researchers have shown a significant impact of frequent experiences of daily stress on mental well-being through the value of rest (Kim & Lee, 2018). Further, those researchers have shown that students studying architecture in Turkey are stressed due to various reasons. As the reasons, the researchers have pointed out that they have suffered severe mental problems and panic due to the educational system about professional pressure. Other researchers have also shown that students seek treatment for mental health problems for these reasons (Gümüşburun Ayalp & Çivici, 2020). Moreover, as the researchers point out, job stress has been mentioned. Job stress can occur when employees are asked by their company to perform roles and tasks beyond their capabilities and expectations. Factors affecting this include heavy workload role problems and job insecurity and stress can also occur due to environmental conditions in the workplace (Chua et al., 2022). Greek teachers often refer to current professional stressors such as excessive classrooms, students' lack of motivation, poor achievement, and students' disciplinary problems that are difficult to deal with in classrooms (Antonioni et al., 2006).

#### **Perceived Stress during an Economic Crisis**

According to Thern et al. (2017), between 1990 and 1994, Sweden was in a deep economic crisis. The unemployment rate, which was 3.4% since 1990, has risen to 19% by 1993. The severe economic crisis has similarly increased inflation. This reason appears to have directly affected perceived stress. The researcher of the study points out that the mental health of young children and the increase in smoking and alcohol consumption shows how the economic collapse is increasing perceived stress. A study conducted by Kwon et al. (2003), shows that, In the late 1990s, Korea experienced a sudden economic downturn that dramatically affected everyday life. The study has focused more on analyzing the perceived stress that economic collapse puts on a family. Based on the researchers' opinion, the main causes of stress are reduced income, emotional distress, and marital life, and high unemployment rates. This study examined the effects of the Korean economic crisis, focusing on the interrelationships among economic stress, emotional distress, and family stress.

Based on a study Economic crisis is a major factor, which leads to unstable economic states and Thus results in stress among the individual and overall population. Economic-related stress can be identified as the feeling of stress due to the current state of one's personal finances and/or due to fear about the economy. Several studies have been done to identify the change of stress during the economic crisis. Research done in 2015, shows That people experience

higher levels of stress, depression, and a likelihood to adopt unhealthy lifestyles like smoking and eating unhealthily, which may raise the mortality risk associated with times of economic difficulty and increased unemployment (Torbica et al., 2015). Iceland faced an economic crisis in 2008. When compared to 2007 levels, age-adjusted mean perceived stress levels among females increased significantly in 2009, but not among males. This led to an increase in the number of reports of high-stress levels in females, but not in males, during the crisis in 2009 (Glonti et al., 2015). Another study looked at the rise in suicide rates during the economic crisis. According to that, psychological illness/mental un-stability is the biggest predictor of suicide, however, stressful situations like losing one's work can also become a major factor for leads to suicide (Merzagora et al., 2016).

### **Stress Management Strategies and Coping Mechanisms**

Coping mechanisms can be defined which control deliberate, known efforts and adapt to stressors, can be affected by a variety of factors. The researchers analyzed the individuals who were born in Mexico, most people among those individuals were encouraged to use positive reframing, rejection, and religion as coping mechanisms, but fewer people among those individuals were encouraged to use self-distraction and narcotic abuse compared with Non-Hispanic Whites. It indicates a combination of perceived stress and various coping styles but participants. There can be existed an uncertainty that becomes perceived stress and depression among Latino people, but that population has less knowledge in respect of the use of coping mechanisms. Moreover, the researchers indicated that to execute an eligible and sensitive model of protection that enhances physical and mental health, it is important to have sound knowledge regarding the stressors and use of coping mechanisms (Perez et al., 2015). On the other hand, when considering the effect of discrimination as a stressful factor, males use various coping strategies in dealing with discrimination than females, and males may be faced some unhealthy effects such as poor health that those coping strategies are unable to reduce physical symptoms (Flores et al., 2008).

According to Dissing et al. (2019), obtaining social support from familiar social relations can be identified as a recognized coping strategy. Coping methods such as secular coping and religious coping can be utilized to control stressful reasons for adults. The researchers have identified the difference between active types of coping that includes problem-solving and emotion-focused coping strategies that include distraction or omission in order to stress and coping literature (Stein et al., 2013). Doing exercise continuously is a better stress management strategy, that helps to maintain low levels of stress (Brouskeli & Markos, 2013). Another study demonstrates that over the course of a person's life, they develop a certain set of coping mechanisms to deal with the unpleasant and painful emotions brought on by typical and unplanned situations. Over time, reactions that relieve stress may be reinforced and conditioned, leading to the formation of attitudinal and behavioral orientations (Moschis et al., 2011).

When considering the Sri Lankan context, there was not any research in respect of perceived stress during the recent economic collapse in Sri Lanka, but the researchers of this study had identified considerable studies regarding perceived stress or stress during economic recessions or crises in foreign countries when studying the literature review of this study.

## **MATERIALS AND METHODS**

Due to the exploratory nature of this research, this study utilized the deductive approach because the researchers planned to continue this study based on existing literature in the literature review. An exploratory study is a type of study, that identifies what is happening and obtains knowledge in respect of a topic of interest, by asking open questions. When someone does not sure precisely of the nature of the problem, this study would be beneficial to clarify the understanding of the problem (Thornhill et al., 2012).

To meet the research objectives of this study, the mixed method uses includes both qualitative and quantitative research methods. According to Thornhill et al. (2012), the mixed method can be connected with various methods which are from simple, convergent structures to complex or fully integrated structures.

Since the study intends to conduct quantitative analysis for the first objective and qualitative analysis for the second and third objectives, a sequential mixed methods design was utilized. In this design, the researchers first collect and analyze quantitative data to investigate the prevalence of stress among the young population. Once this phase is complete, the researcher then proceeds to the qualitative phase, collecting and analyzing qualitative data to explore causes for perceived stress and analyze stress management strategies and coping mechanisms.

Researchers of the study analyzed young adults in Sri Lanka who are between 15 years to 35 years of age category and are living in all districts of Sri Lanka as the target population of this study. According to Wikipedia (2022), youth consider an age category that is between 15 years to 35 years in African youth charter. 4.64 Million can be identified as current young adults in Sri Lanka (Department of Census & Statistics, 2019). Therefore, researchers considered 4.64 million as the population size of the research.

The sample of the study focused on young adults who are facing this economic crisis in Sri Lanka that include 601 participants as the sample size according to Morgan's table. The sample size was calculated with a 95% confidence interval at a 4% margin of error. The researchers adopted Crowdsourcing and Simple Random Sampling methods to conduct the research for analyzing quantitative data and the Snowball Sampling method for analyzing qualitative data. The sample obtained as covering all districts in Sri Lanka.

Commonly, a cross-sectional study can be defined as a type of study in which the data are gathered just once or maybe over a period of days or weeks, or months, for answering a research question (Space, 2013). According to this study, researchers gathered data through questionnaires and in-depth interviews at once.

When focusing on methods of data collection, the researchers used only primary data collection methods. The primary data was gathered from questionnaires which were beneficial to obtain speedy responses from respondents. The questionnaires using PSS-14 measurement were used to analyze the prevalence of stress among young adults. This questionnaire was sent to a sample of 601 participants through a Google form. The Google form link is shared among social media such as WhatsApp and Facebook. This method was useful to obtain direct data from the participants which is more accurate, complete, reliable, and timeliness. Although, the study utilized In-depth interviews



via face-to-face interviews as the primary data collection method for obtaining qualitative data.

The study explained the following sampling methods, data collection methods, and data analysis tools and methods under each research objective of the research briefly.

For the first objective, the researchers employed questionnaires distributed through Google Forms, shared via popular social media platforms like WhatsApp and Facebook. Descriptive statistics were used to analyze the data, utilizing MS Excel. The prevalence of stress was measured through frequency and percentage tables. The study employed crowdsourcing and simple random sampling methods to investigate stress prevalence among young adults and analyze quantitative data. Crowdsourcing sampling allowed for a larger and more diverse audience. The researchers focused on 1000 participants from all districts in Sri Lanka, utilizing Facebook and WhatsApp for crowdsourcing sampling based on the study's population size. From the 1000 participants, a sample size of 601 was selected using the simple random sampling method. The crowdsourcing sampling method utilized social media platforms, specifically WhatsApp and Facebook, to select the 1000 participants.

Regarding the second objective, in-depth interviews were conducted to collect qualitative data from 12 participants. These face-to-face interviews aimed to explore the causes

of perceived stress. The data was analyzed manually through thematic analysis. Snowball sampling was used to gather data for identifying the causes of perceived stress.

For the third objective, in-depth interviews were also conducted to collect qualitative data from 12 participants. These face-to-face interviews aimed to explore stress management strategies and coping mechanisms. The data was analyzed using an online tool called Word It Out, which facilitated word cloud analysis. Word cloud analysis provided a quick and purposive analysis of the qualitative data. Snowball sampling was used to obtain data for identifying stress management strategies and coping mechanisms.

## RESULTS AND DISCUSSION

### *Background Characteristics of Study Population*

This study mainly focuses on exploring perceived stress and its antecedents among the young population with special reference to Sri Lanka's economic collapse. according to that, based on 1st specific objective which is, the prevalence of stress among young adults who are between 15 to 35 years of age category, this study investigated the prevalence of stress based on demographic factors which are related to the theoretical framework. The below table summarizes the demographic characteristics of the 601 as the sample size surveyed in the research.

**Table 1: Socio-demographic characteristics of respondents**

Demographic factor	Frequency	Percentage (%)
Geographical Location		
Ampara	4	0.67%
Anuradhapura	10	1.66%
Badulla	11	1.83%
Batticaloa	12	2.00%
Colombo	98	16.31%
Galle	19	3.16%
Gampaha	49	8.15%
Hambantota	23	3.83%
Jaffna	13	2.16%
Kaluthara	17	2.83%
Kandy	19	3.16%
Kegalle	19	3.16%
Kilinochchi	22	3.66%
Kurunagala	27	4.49%
Mannar	21	3.49%
Matale	17	2.83%
Matara	35	5.82%
Monaragala	20	3.33%
Mullative	7	1.16%
Nuwara Eliya	11	1.83%
Polonnaruwa	8	1.33%
Puttalam	9	1.50%
Rathnapura	112	18.64%

Trincomalee	7	1.16%
Vavuniya	11	1.83%
<hr/>		
Gender		
Male	308	51.25%
Female	293	48.75%
<hr/>		
Marital Status		
Divorced	20	3.30%
Married	127	21.10%
Never married	435	72.40%
Widowed	19	3.20%
<hr/>		
Educational level		
Degree, Diploma or above	410	68.22%
GCE A/L pass	100	16.64%
GCE O/L pass	17	2.83%
Grade 12-13	29	4.83%
Grade 6-10	7	1.16%
No schooling	8	1.33%
Vocational qualifications	30	4.99%
<hr/>		
University nature (Only if follow)		
Non-State (Private)	238	49.58%
State	242	50.42%
<hr/>		
Employment status		
Contributing family worker	5	0.83%
Government employee	45	7.49%
Private sector permanent employee	182	30.28%
Private sector temporary or casual worker	54	8.99%
Retired	3	0.50%
Self-employed	64	10.65%
Semi-government employee	7	1.16%
Student	193	32.11%
Unemployed	48	7.99%
<hr/>		
Monthly income		
Rs.0 - Rs .50 000	409	68.05%
Rs. 51 000 - Rs. 100 000	113	18.80%
Rs. 101 000 - Rs. 150 000	44	7.32%
Above Rs.151 000	35	5.82%

Source: Authors' Compilation

According to Table 1, the survey assessed seven demographic factors: geographical location, gender, marital status, education level, university nature, employment status, and monthly income of respondents. There were twenty-five district categories, with the majority of participants (18.64%) coming from Rathnapura. The gender distribution was roughly equal, with slightly more males (51.25%) than females (48.75%). Most young adults in Sri Lanka were pursuing a bachelor's degree diploma or above

(68.22%), while the least prevalent group had below GCE A/L qualifications (31.78%). Respondents pursuing a degree or diploma were split between state universities (50.42%) and non-state universities (49.58%). The largest employment status group was students (32.11%), followed by private sector permanent employees (30.28%) and self-employed individuals (10.65%). Most respondents earned between Rs.0 - Rs.50,000 per month (68.05%), while the remaining 31.95% earned above Rs.50,000 per month.

## Reliability Test

**Table 2: Reliability test**

Cronbach's Alpha	Cronbach's Alpha Based on No of Items
0.897	0.897
	14

Source: Authors' Compilation

Table 2 shows that the value of Cronbach's Alpha of 14 items used in this study is 0.897. According to Cronbach's Alpha value range, normally, the reliability of the data should be equal or higher than 0.6. But, if focusing on this study, it

indicates 0.897 which the value is higher than 0.6. Therefore, the Cronbach's Alpha value of this study has been proved that the reliability of the data in this study is "Good" because the value (Cronbach's Alpha) is between 0.7 and 0.9.

## Validity Test

**Table 3: Validity test**

KMO and Bartlett's Test	
Kaiser-Meyer-Olkin Measure of Sampling Adequacy	0.821
Bartlett's Test of Sphericity Approx. Chi-Square	254.670
df	91
Sig.	.000

Source: Authors' Compilation

According to Table 3, KMO is a test conducted to analyze the strength of partial correlation between the variables. According to the KMO measurement, values closer to 1.0 are acceptable while values less than 0.5 are unacceptable. Table 4.2 represents, the result of the study, it has a KMO value of 0.821. This value indicates that the validity of the data in the study is high and acceptable which means the data are "Meritorious" because the KMO value is between 0.8 and 0.9.

## Prevalence of Stress Based on Demographic Factors through Descriptive Statistics

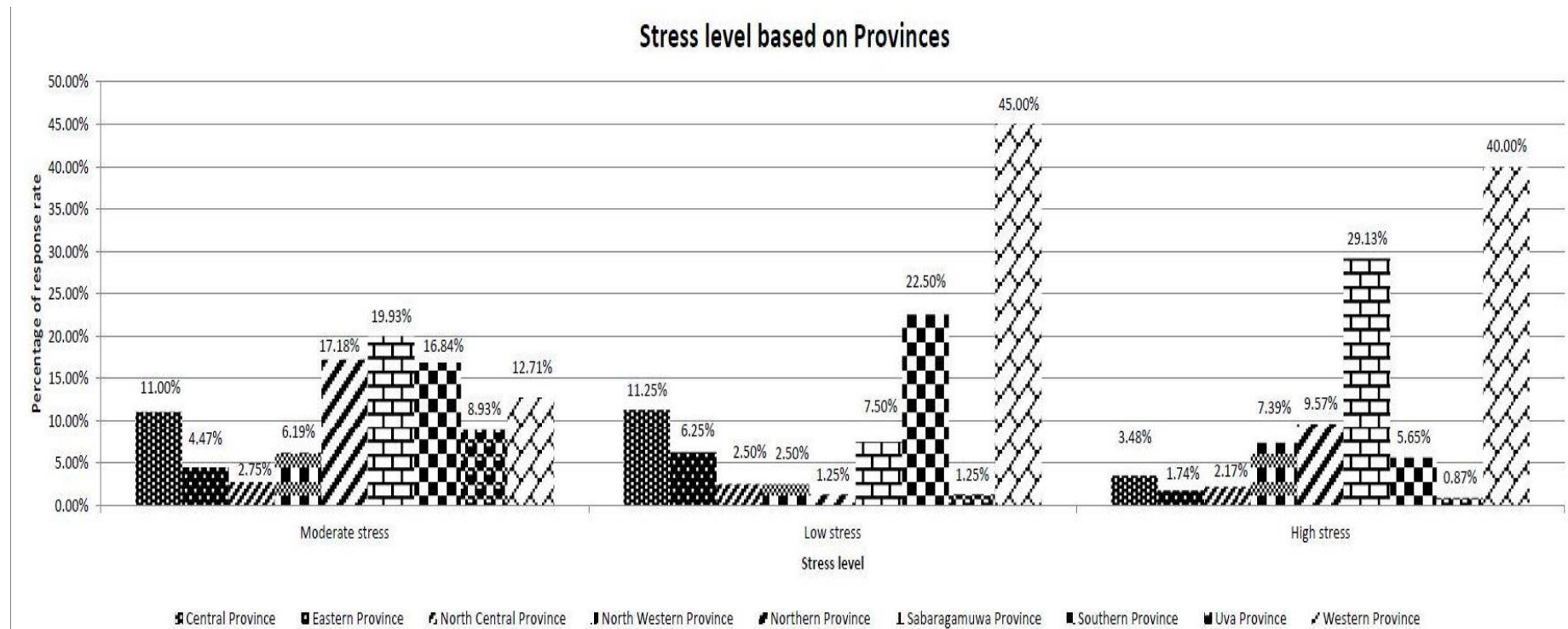
### Stress Level Based on Province

The data presented in Figure 1 indicates significant variability in the prevalence of high, low, and moderate stress across various provinces in Sri Lanka. Specifically, the Northern and Uva provinces exhibit the lowest percentage of individuals experiencing low stress, while the Sabaragamuwa and Central provinces show a moderate percentage of individuals experiencing low stress. On the other hand, the Southern and Western provinces display a

relatively high percentage of individuals experiencing low stress. The findings from Figure 1 further demonstrate that the Western province has the highest percentage of individuals experiencing high stress, followed by the Sabaragamuwa province. In contrast, the Eastern and Uva provinces demonstrate the lowest percentage of individuals experiencing high stress. Other provinces reveal a moderate percentage of individuals experiencing high stress.

It is important to highlight that the provinces of North Central and Northwestern provinces consistently exhibit low levels of individuals experiencing low stress. Moreover, the Sabaragamuwa province reports the highest moderate levels of individuals experiencing moderate stress, with Northern and Southern provinces also showing elevated levels compared to other provinces. Overall, the data depicted in Figure 1 underscores the substantial variation in stress levels across districts in Sri Lanka, suggesting potential influences such as education level, income, and employment status among other factors.

Figure 1: Stress level based on province



Source: Authors' Compilation

### Stress Level Based on Gender

Based on Table 4 the given data, it appears that both males and females experience moderate stress levels the most, with 151 males and 141 females, respectively. The number

of males experiencing high stress levels is higher than that of females (141 versus 88), while the number of females experiencing low stress levels is higher than that of males (47 versus 33).

**Table 4: Stress level based on gender**

Gender	High stress	Low stress	Moderate stress	Total
Female	88	47	141	276
Male	141	33	151	325
Grand Total	229	80	292	601

Source: Authors' Compilation

### Stress Level Based on Marital Status

Based on Table 5 presented, it is evident that stress levels among young adults are influenced by their marital status. Individuals who are divorced have a higher likelihood of experiencing high-stress levels, as evidenced by 21 respondents reporting high-stress levels compared to only 2 who reported low-stress levels. In contrast, for those who are married, the distribution of stress levels is more diverse. Out of the 167 married respondents, 63 reported high-stress levels, 68 reported moderate stress levels, and also 36 reported low-stress levels.

Notably, those who have never been married reported the highest levels of stress overall, with 134 reporting high-stress levels, 44 reporting low-stress levels, and 214 reporting moderate stress levels. Lastly, respondents who are widowed had 11 reporting high-stress levels and 8 reporting moderate stress levels. Therefore, the data reveals that stress levels are significantly affected by marital status, with unmarried individuals having higher stress levels overall.

**Table 5: Stress level based on marital status**

Marital status	High stress	Low stress	Moderate stress
Divorced	21	N/A	2
Married	63	36	68
Never Married	134	44	214
Widowed	11	N/A	8
Grand Total	229	80	292

Source: Authors' Compilation

### Stress Level Based on Educational Level

According to the presented Table 6, there appears to be a correlation between the educational level and stress levels of young adults. The findings indicate that individuals with higher educational attainment (i.e., Degree, Diploma, or above) report elevated levels of moderate stress, with a total of 169 participants belonging to this category. In contrast, those with lower levels of educational attainment

report reduced levels of stress, with a total of 53 participants falling into the low-stress category.

Furthermore, the data suggest that individuals with vocational qualifications exhibit a higher propensity for moderate stress, with 24 participants identified within this group. These findings highlight the potential relationship between educational achievement and stress levels, indicating a need for further exploration and investigation into the underlying mechanisms and factors that contribute to this relationship.

**Table 6: Stress level based on educational level**

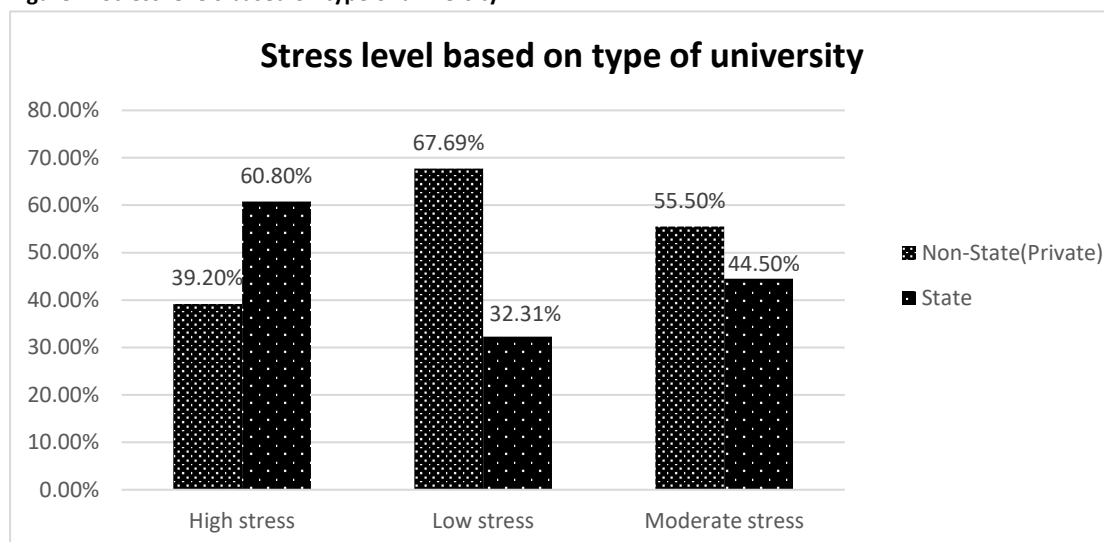
Education level	High stress	Low stress	Moderate stress
Degree, Diploma, or above	189	53	169
GCE A/L pass	26	18	47
GCE O/L pass	N/A	2	17
Grade 12-13	6	3	22
Grade 6-10	N/A	N/A	9
No schooling	2	N/A	4
Vocational qualifications	6	4	24
Grand total	229	80	292

Source: Authors' Compilation

### Stress Level Based on Type of University

Based on Figure 2, the findings of the study investigating the relationship between economic and political crises and stress levels among young adults in Sri Lanka, it was observed that there exists a significant variation in stress levels based on the type of university attended by the respondents. The study revealed that among students enrolled in non-state (private) universities, 39.20% reported

high levels of stress, while 67.69% and 55.50% reported low and moderate levels of stress, respectively. Conversely, students enrolled in state universities reported comparatively higher levels of stress, with 60.80% indicating high levels of stress, 32.31% reporting low levels, and 44.50% indicating moderate levels of stress. These findings suggest that students attending state universities may experience elevated levels of stress compared to their counterparts attending non-state (private) universities during times of economic and political crises in Sri Lanka.

**Figure 2: Stress levels based on type of university**

Source: authors' Compilation

#### Stress Level Based on Employment Status

Table 7 presented suggests that stress levels among young adults exhibit variations depending on their employment status. In the private sector, permanent employees reported the highest levels of stress, with 56 participants indicating high stress, 99 participants reporting moderate stress, and 22 participants reporting low stress. Similarly, self-employed individuals reported high levels of stress, with 14 participants indicating high stress, 41 participants reporting moderate stress, and 7 participants reporting low stress. Government employees also reported high levels of stress, with 7 participants indicating high stress, 29 participants

reporting moderate stress, and 4 participants reporting low stress. Temporary or casual workers in the private sector also experienced high levels of stress, with 13 participants indicating high stress, 42 participants reporting moderate stress, and 1 participant reporting low stress.

If considering the government sector and private sector, there are a higher number of employees who are in the private sector, experiencing a higher level of high stress than employees in the government sector. However, students exhibited the highest levels of stress overall, with 91 participants indicating high stress, 76 participants reporting moderate stress, and 39 participants reporting low stress.

**Table 7: Stress level based on employment status**

Employment status	High stress	Low stress	Moderate stress
Contributing family worker	N/A	2	2
Government employee	7	4	29
Private sector permanent employee	56	22	99
Private sector temporary or casual worker	13	1	42
Retired	N/A	2	N/A
Self-employed	14	7	41
Semi-government employee	1	2	3
Student	91	39	76
Unemployed	43	1	4
Grand Total	225	80	296

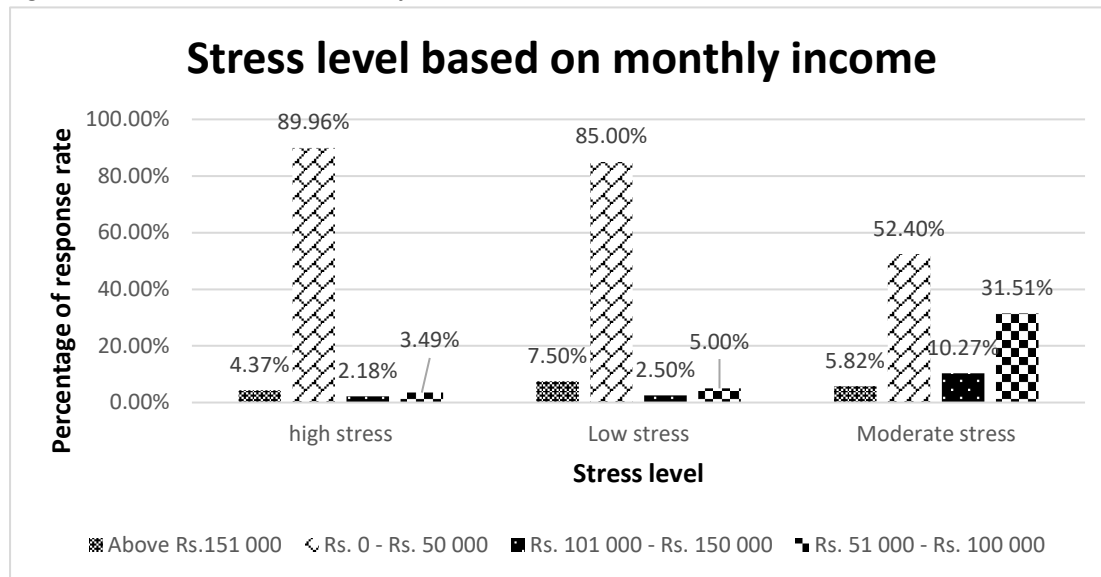
Source: Authors' Compilation

#### Stress Level Based on Monthly Income

Figure 3 shows findings on the prevalence of stress among young adults in Sri Lanka, categorized by their monthly income. The results demonstrate that individuals with a monthly income exceeding Rs. 151,000 manifest a lower level of stress, with a mere 4.37% reporting high stress and 5.82% reporting moderate stress. Conversely, those with a monthly income ranging from Rs. 0 to Rs. 50,000 experience the highest levels of stress, whereas showing a higher level of moderate stress than other salary ranges.

Moreover, those who are earning less than Rs. 100,000, illustrate higher levels of stress even though represent lower stress levels, rather than individuals who are earning more than Rs.100,000. Overall, these findings suggest that Sri Lankan young adults belonging to lower income groups are more prone to stress, with the highest levels observed among those earning between Rs.0 to Rs. 50,000.

Figure 3: Stress levels based on monthly income



Source: Authors' Compilation

### Causes for Perceived Stress through Thematic Analysis

To analyze causes for perceived stress, in-depth interviews were conducted to collect the required qualitative data. The interview process was conducted in order to procure the requisite qualitative data. The interviewing process encompassed a cohort of 12 young adults falling within the age bracket of 15 to 35 years. Each interview was duly recorded subsequent to obtaining the interviewee's explicit consent. The outcomes gleaned from the respondents were transcribed and subjected to scrutiny employing Braun and Clarke's thematic analysis approach (Braun and Clarke, 2006) comprising six sequential steps: manual familiarization, coding, theme generation, theme review, theme definition and labelling, and, ultimately, theme interpretation.

As an initial phase of this undertaking, the researchers compiled a transcript capturing the spoken data, subsequently deriving an inventory of preliminary codes through the identification of salient information contained within the respondents' statements. During the third stage of the thematic analysis, the investigators refocused their examination from a broader thematic perspective and conducted another sorting of themes by revisiting the individual codes. During the review of themes phase, the researchers read and documented all the compiled excerpts pertaining to each theme. Following these analytical steps, the process advanced towards refining the themes and defining their final appellations by considering the criteria of conciseness and the extent to which the name instantaneously communicates the essence of the theme to the reader. Lastly, the study furnishes an exhaustive analysis of the causal factors contributing to the perception of stress during the recent economic collapse in Sri Lanka.

Drawing upon the thematic analysis, a total of four overarching themes and ten subordinate themes were discerned as the causes underlying the perception of stress among young adults amidst the recent economic collapse in Sri Lanka. The findings arising from the qualitative analysis pertaining to the causes of perceived stress encompassed four themes, namely economic crisis, inflation, household expenditure, and financial difficulties. Within the confines of these four themes, ten subordinate themes were identified,

pertaining to the causes of perceived stress during the recent economic collapse in Sri Lanka.

### Economic Crisis

- Loss of hope

The discussion through responses from young adults in Sri Lanka highlights the theme of loss of hope caused by the ongoing crisis in the country. The inability to pursue their dreams and plans due to this recent period has left many feeling hopeless and helpless. Even those with stable jobs and salaries feel that their expectations for the future have been shattered. One of the participants who is currently working as an account manager in a leading telecommunications company, stated:

*"Yeah, sometimes, I was a heavy effort to fulfill my basic need during this period. This inflation occurred with this economic crisis. During this period, I had more situations that thought twice to fulfill my basic needs."*

- Power failures

Based on the statements of participants provided, it seems that power failures have had a significant impact on the daily lives of these respondents. The inability to charge electronic devices such as phones and laptops has resulted in difficulties with work, attending online lectures, and accessing online materials. One of the participants explained:

*"These power failures badly affected my life. For instance, I often use my router for Wi-Fi, but I couldn't attend lectures during this period due to power failures. And also, I couldn't use my laptop in some situations that I want such as doing assessments, attending lectures, searching assessment-related materials, etc."*

- Decreasing profits

Some statements are related to the impact of the current economic crisis on the profitability of businesses. Some participants mention that their firms have shown lower profits compared to the past, and they attribute this to the low supply of essential goods and services which has made it difficult to run their businesses. One of the participant who is running a business related to a distribution agency, noted:

*"Due to the decrease in my business profits and the increase in expenses of my business during the crisis, it became very difficult to carry on my business. With the*

*payment of these responsibilities, the profit decreased very much. I have faced even losses."*

#### Fuel issues

In the resulting lack of fuel, some statements describe the impact of the current economic crisis on various aspects of daily life, such as socializing, work, and education. Explanations of participants mention that they were not able to spend more time with friends due to the crisis, while other respondents describe how the lack of transportation facilities caused difficulties in their work or academic activities. One of the participants, who often goes out for academic and profession related tasks, responded:

*"A lot of time was wasted due to transportation problems in going to and from work. In the cases where I had to go away from the workplace for academic work, there were travel difficulties."*

#### Inflation

- Food inflation

The responses from the interviews highlight the impact of food inflation on people's eating habits and lifestyles. Some participants expressed the limitation in their food choices, with some participants resorting to growing their vegetables and fruits. One of the participants stated:

*"Due to food inflation, we have already grown vegetables and fruits in our garden on a small scale."*

The responses highlight the challenge of maintaining a decent lifestyle due to the increase in the cost of essentials such as food, milk powder, and gas. One of the participants who is living in a boarding house emphasized:

*"On the other hand, we used to eat outside shops but now we cook and eat in the boarding house."*

- Inflation in transportation

Based on the statements provided, it can be inferred that the cost of transportation is a significant concern for the respondents, and it has affected their ability to attend physical gatherings on campus. One of the participants who is a student in a non-state university, mentioned:

*"When my group members and I discuss group-based assignments, we usually use the Zoom platform instead of physical gatherings on campus because it is a cost-saving method, and in the current period in the country, the traveling cost is high."*

#### Household Expenditure

- Food issues

Based on the statements through the discussion, it can be concluded that the respondents are experiencing financial

difficulties and are struggling to afford basic necessities such as food. One of the participants who depends on his parents' monthly salary, said:

*"In this period, as a family, we focused on the foods that were affordable to us based on my parents' monthly salary. Actually, we are living with difficulty with my parents' small pension, because my parents are retired. therefore, we cannot live like others who are employed."*

- Changes in lifestyle

After analyzing the responses provided by the respondents, it can be inferred that the current crisis situation has had a profound impact on their lifestyle and financial behavior. The statements of respondents have displayed a conscious effort towards practicing frugality in their daily activities, which is evident from their reduced usage of electricity and water, limited shopping, and the management of their monthly salaries to pay bills and sustain their lifestyles. One of the participants who is focusing on bill payments stated:

*"I managed my monthly salary not only for food but also for paying monthly bills which were, router bill, phone bill, etc."*

#### Financial Difficulties

- Minimizing expenditure

Based on the responses provided, it is clear that the financial difficulties during the period have had a significant impact on people's spending habits and financial management. Many statements of respondents reported cutting back on non-essential expenses and limiting their spending to only the necessities. One of the participants reported:

*"Normally, I am a funny and happy guy who is willing to eat and travel with my friends. But I was very sensitive and cared about my money management in this situation."*

- Finding extra sources of income

The statements of the respondents demonstrate that some individuals have taken proactive steps such as extra income ways to manage their finances during the current economic crisis in the country. Despite facing financial challenges, these individuals have sought out ways to increase their income and improve their financial literacy. One of the participant who is still a university student, noted:

*"I am still a student, so I do not have a high income. However, I started a tuition class for managing my finances during this troublous situation."*

### Stress Management Strategies and Coping Mechanisms through Word Cloud Analysis

Figure 8: Word cloud analysis for stress management strategies and coping mechanisms





Source: Authors' Illustration based on analysis

According to Figure 8, the most frequently used strategy, adopted by young adults was "Support". In addition to the "Support" stress management strategy, there were some stress management strategies and coping mechanisms adopted by young adults in Sri Lanka which were, listening to music, talking with friends, social media, exercising, talking with parents, religious activities, watching funny clips, sleep, playing cricket, playing computer games, watching movies, chatting, playing with little child, liqueurs, gardening and helping others.

## CONCLUSIONS

The study reveals significant variations in stress levels among provinces in Sri Lanka, with the Western province consistently reporting the highest prevalence of high stress. Both males and females generally experience moderate stress levels, although gender differences exist in the proportions of experiencing high and low stress. Marital status influences stress levels, with unmarried individuals experiencing higher stress overall. Higher educational attainment correlates with elevated levels of moderate stress. Various employment categories, including permanent employees in the private sector, self-employed individuals, and unemployed individuals comparatively experience high stress. Students exhibit the highest overall stress levels. Lower-income young adults face higher stress compared to their higher-income counterparts, particularly those earning between Rs. 0 to Rs. 50,000. State university students experience higher stress during economic and political crises compared to non-state university students.

The economic crisis and inflation have profoundly impacted individuals, leading to perceived stress and necessitating changes in plans, aspirations, and basic needs. Important events have been postponed, goals altered, and financial difficulties have become common. Frequent power cuts have disrupted work, education, and online activities. Businesses have suffered reduced profits due to low supply and increased expenses, resulting in losses. Limited fuel availability has further hindered daily life, affecting commuting and attending classes. Food inflation has disrupted eating patterns and promoted home gardening. Higher transportation costs have prompted cost-saving measures like online discussions and reduced travel. Financial difficulties have led to prioritizing necessities, limited expenses, and exploring additional income sources. The crisis has reshaped lifestyles, requiring adjustments and presenting challenges for young adults in Sri Lanka.

If moving to the main findings related to stress management strategies and coping mechanisms adopted by young adults during this recent economic and political crisis in Sri Lanka, family members, friends, and spouses provided crucial emotional and practical support to the respondents in various aspects of their lives.

This study aimed to address the research gap regarding perceived stress during the recent economic collapse in Sri Lanka, focusing on the young population. It employed a mixed methods approach, utilizing both quantitative and qualitative data analysis and collection methods. Crowd-sourcing and simple random sampling, and snowball sampling techniques were used. The main findings revealed significant provincial variations in stress levels, with the Western province reporting the highest prevalence of high stress. Gender differences were observed, with males and females generally experiencing moderate stress. Unmarried

individuals exhibited higher overall stress levels, while higher education correlated with elevated levels of moderate stress. Various employment categories showed comparatively high stress and lower-income young adults faced heightened stress. State university students experienced increased stress during crises. Economic crisis and inflation can be identified as the main factors among causes of perceived stress. Support from family, friends, and spouses played a crucial role in stress management.

The government can support young entrepreneurs by providing credit schemes, tax concessions, and access to affordable resources, ensuring business sustainability and contributing to economic growth. To address food inflation, collaboration with universities and educational institutions can offer reasonably priced nutritious meals in canteens or public markets, enabling young adults to access nourishing food while pursuing education. Additionally, prioritizing the distribution of essential goods like stationery and electronic equipment minimizes inflation's impact on their educational pursuits. Supporting middle-class young adults in higher education can involve measures like low-cost meals and distance learning options, reducing financial burdens and facilitating continued studies.

For stress management during crises, engaging in creative activities such as painting, drawing, or writing provides a therapeutic outlet for processing emotions and self-expression. Outdoor activities like hiking, biking, or sports offer physical benefits akin to formal exercise. Mindfulness and meditation practices like mindfulness meditation or loving-kindness meditation aid stress reduction, self-awareness, and relaxation. Practicing self-care activities such as adequate sleep, balanced meals, and relaxation techniques promote both physical and mental well-being during stressful periods.

The concept of presided stress is a cognitively complex and dynamic theme. As a result, the perception of Economic crisis uptake can change over time. But due to the cross-sectional setting of this study, the dynamic trends of the economic crisis cannot be demonstrated. Also, in our research researchers could not collect data equally from every province and this study could not get proper results from the collected data, and the sample size was small. And if this economic crisis decreases slowly, stress management strategies and coping mechanisms may decrease, despite its limitations, this study contributes significantly to assessing presided stress among a large and diverse sample of young adults in Sri Lanka.

This section proposes several future research directions to explore the perception of stress and its causes among young adults during political and economic crises in Sri Lanka. It is recommended to identify unique concerns specific to Sri Lanka that have not been previously studied. To enhance generalizability, the sample size should be increased by including participants from all age groups and regions, focusing on the areas most affected by the economic crisis.

Additionally, a fully quantitative research design using advanced analysis techniques and software can provide a comprehensive understanding of the factors influencing perceived stress, considering Sri Lankan demographic variables. Alternatively, a qualitative approach employing established data analysis methods can shed light on individual stress experiences and coping mechanisms. This approach should incorporate locally recognized stress

management strategies to enrich our understanding of coping during economic and political crises.

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# Verification of Criteria for Assessing Citizens' Satisfaction Issued by the Ministry of Home Affairs at a One-stop Office in the Industry and Trade Department of Binh Duong Province, Vietnam

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## Abstract

*The study includes two research objectives: (1) identify and measure the factors affecting people's satisfaction; and (2) assess the importance of factors affecting people's satisfaction, thereby proposing suggestions to improve the set of criteria that are designed to assess people's satisfaction issued by the Ministry of Home Affairs of Vietnam. The essay employs a quantitative analytic approach to find elements impacting people's contentment. The survey sample was randomly selected from 350 individuals who had transactions at the one-stop shop of the Department of Industry and Trade of Binh Duong Province, Vietnam. The paper performs data processing using SPSS 20.0 software to examine the reliability of the scale using Cronbach's alpha coefficient, exploratory component analysis (EFA), correlation analysis, regression, and model testing theory. The findings showed that there are only 4 factors (with statistical significance) affecting people's satisfaction, including approachability (coefficient 0.316), administrative procedures (coefficient 0.384), civil servants (coefficient 0.529), and receiving and solving complaints and feedback (coefficient 0.145). The Ministry of Home Affairs should modify the criteria for assessing citizens' satisfaction with less focus on the results of public administrative service provision as this factor has no correlation with citizens' satisfaction.*

**Keywords:** Administrative Services; Department of Industry and Trade of Binh Duong province, Ministry of Home Affairs; One-stop shop; Satisfaction, Vietnam

## INTRODUCTION

Cardozo (1965, cited in Wenting, 2015) first used the term "public satisfaction" in 1965 to describe consumer perceptions of how well a product or service performed in comparison to expectations. In Vietnam, The Prime Minister's Decision No. 225/QĐ-TTg dated February 4, 2016, promulgated the State Administrative Reform Plan for the 2016-2020 period and assigned the Ministry of Home Affairs to implement the Project on Measuring Customer Satisfaction of People and Organizations for the service of state administrative agencies (Thu tuong Chinh phu, 2016). On that basis, on October 10, 2017, the Minister of Home Affairs (2017) issued Decision No. 2640/QĐ-BNV approving the Scheme on measuring the satisfaction of people and organizations with the service of state administrative organizations, specifying the purposes, objectives, requirements, contents, methods, solutions, responsibilities, time, and budget for implementing the measurement of people's satisfaction and organization for the service of state administrative agencies at the request of the Government, the Prime Minister, in this period.

To measure the satisfaction of people and organizations, the Ministry of Home Affairs provides five basic elements based on the process of providing public administrative services, with 22 criteria applied. The criteria are determined for those who conduct direct transactions at administrative agencies as follows:

(1) The approachability of public administrative services of state administrative agencies is evaluated on several criteria: enough seats to sit and wait at the one-stop office; equipment to serve people and organizations at the one-stop office; modern equipment and facilities for people and organizations at the one-stop office; easy usage of equipment to serve people and organizations at the one-stop office.

(2) Administrative procedures, including full and accurate public disclosure; - Administrative procedures have transparent public disclosure; The composition of the dossier that people and organizations must submit is in accordance with regulations. Fees that people and organizations must pay are in accordance with regulations.

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The time duration for settlement (from the date the application is received to the date the result is returned) is in accordance with regulations.

(3) Civil servants with a polite communication attitude while directly handling work Public servants listen attentively to the opinions of the people or representatives of the organization; they fully answer the requests of the people or representatives of the organization; and they guide the declaration of dossiers enthusiastically and thoughtfully. Civil servants' guides and explanations are understandable; public servants strictly comply with regulations in dealing with work.

(4) Results of public administrative service provision, including results in accordance with regulations, contain complete and accurate information.

(5) Receive and manage comments, feedback, and suggestions. This factor is applied to cases where people and

organizations have made comments, reflections, and recommendations related to the provision of public administrative services. The satisfaction measurement criteria for this factor include: the agency handling administrative procedures; the department receiving and returning results; and having arranged a form to receive comments, feedback, and recommendations. People and organizations make comments, reflections, and recommendations easily; the agency dealing with administrative procedures or department receives and handles positive comments, reflections, and recommendations; the agency handling administrative procedures or department that receives and returns the results shall notify the results of handling comments, complaints, and recommendations in a timely manner.

(6) The above set of criteria is converted into a scale included in the research model, as shown in Table 1 below:

**Table 1: Items used in the research model**

1. The approachability of public administrative services of state administrative agencies	TCDV	Nguồn
- There are enough seats to sit and wait at the one-stop office	TCDV1	The Ministry of Home Affairs (2017)
- Equipment to serve people and organizations at the one-stop office is enough	TCDV2	
- Equipment and facilities for people and organizations at the one-stop office is modern	TCDV3	
- Equipment to serve people and organizations at the one-stop office is easy to use.	TCDV4	
2. Administrative procedures	TTHC	The Ministry of Home Affairs (2017)
- Administrative procedures have full and accurate public disclosure.	TTHC1	
- Administrative procedures have transparent public disclosure.	TTHC2	
- The composition of the dossier that people and organizations must submit is in accordance with regulations.	TTHC3	
Fees that people and organizations must pay are in accordance with regulations	TTHC4	
- The time duration for settlement (from the date the application is received to the date the result is returned) is in accordance with regulations.	TTHC5	The Ministry of Home Affairs (2017)
3. Civil servants in charge	CCTT	
- Civil servants with a polite communication attitude while directly handling work.	CCTT1	
- Public servants listen attentively to the opinions of the people or representatives of the organization.	CCTT2	
- Public servants fully answer the requests of the people or representatives of the organization	CCTT3	
- Public servants guide the declaration of dossiers enthusiastically and thoughtfully.	CCTT4	
- Civil servants' guide and explanation are understandable.	CCTT5	
- Public servants strictly comply with regulations in dealing with work.	CCTT6	The Ministry of Home Affairs (2017)
4. Results of public administrative service provision	KQCU	
- Results in accordance with regulations	KQCU1	
- The results contain complete information	KQCU2	The Ministry of Home Affairs (2017)
- The results contain accurate information	KQCU3	
5. Receiving and managing comments, feedback, and suggestions	PAKN	The Ministry of Home Affairs (2017)
- The administrative procedure agency organises a place to receive contributions, feedback and recommendations.	PAKN1	
Citizens and organisations are easily contributions, feedback, and recommendations.	PAKN2	
- The agency dealing with administrative procedures or department receives and handles positive comments, reflections, and recommendations.	PAKN3	
- The agency handling administrative procedures or the department that receives and returns the results shall notify the results of handling comments, complaints, and recommendations in a timely manner.	PAKN4	

6. Satisfaction	SHL	
I am highly satisfied with the public administrative services provided in the agency.	SHL1	The Ministry of Home Affairs (2017)
I am highly satisfied with the service provision manners of public servants at the one stop office.	SHL2	
I am going to recommend to others about the high quality of service provision in the one stop office.	SHL3	

Source: The Ministry of Home Affairs, 2017

In 2022, the level of satisfaction among citizens with the service provided by state administrative organisations nationwide was 80.08% (Anh, 2023). Specifically, satisfaction with policy development, organization, and implementation was at 79.72%, while satisfaction with the provision of public administrative services was at 80.43%. Across the 63 provinces and cities, Quang Ninh had the highest satisfaction index at 87.59%, while Binh Thuan had the lowest at 72.54%. In Ho Chi Minh City, the overall satisfaction level of citizens with the service provided by state administrative agencies was 78.38% (Anh, 2023). Although the report indicates a notable level of satisfaction among citizens regarding public administrative services. However, it is important to note that the execution of administrative procedures remains sluggish in practice, and the digital transformation process is still in its early stages, leading to several constraints. This inquiry pertains to the rationality of the satisfaction index of public service criteria set, specifically in terms of its comprehensiveness in capturing essential factors for assessing the quality of public administrative services, as well as its ability to effectively address the needs and preferences of citizens.

Accordingly, the verification of this set of criteria is necessary because it does not only help to answer the research question "Can the set of criteria issued by the Ministry of Home Affairs be a valid and reliable tool to measure people's satisfaction or not? And "How should this set of criteria be improved?" In order to answer these two research questions, the paper selects the Department of Industry and Trade of Binh Duong province as its research area. The objective of this research is to test the validity and reliability of the current citizen satisfaction criteria in Vietnam and then propose an appropriate modification of it.

### Theoretical background

Service quality can be defined as an overall judgment that is comparable to an attitude towards the service, and it is generally accepted as an antecedent of overall customer satisfaction, (Parasuraman et al., 1988 cited in Zeithaml and Bitner, 1996). According to Parasuraman et al. (1988), service quality is defined as the capacity of the organization to meet or exceed the expectations of the customer. It is the gap between what customers expect to receive in terms of service and what they actually receive (Zeithaml et al., 1990). Customers make comparisons between their expectations and their perceptions of the service that is actually provided by vendors, and the end result is perceived service quality (Zeithaml et al., 1990). When a company's performance falls short of expectations, the customer's perception of the quality of the product or service falls below what is considered satisfactory, which leads to customer dissatisfaction (Parasuraman et al., 1985; Lewis and Mitchell, 1990). Service quality is subjective and refers to service performance excellence (Zeithaml, V. A., et al., 2011). Thus, customers evaluate the service based on how well it meets their needs and expectations and compare it to what they expected (Ennew and Waite, 2013, Kant &

Jaiswal, 2017). Service quality is a customer attitude that results from comparing consumer expectations for services with their performance, according to several authors (Tan et al., 2010).

Service Quality Theory (SQ) has been widely implemented in numerous industries, including healthcare, hospitality, transportation, and retail, in an effort to increase customer satisfaction and loyalty. SQ is a conceptual framework that explains customer satisfaction in the context of service encounters. According to this theory, customers assess the quality of a service based on their perceptions of the performance of the service provider. SQ emphasizes meeting or exceeding customer expectations in order to achieve high levels of customer satisfaction. SQ is measured with multidimensional scales that evaluate numerous facets of service quality, such as dependability, responsiveness, assurance, empathy, and tangibles (Parasuraman, Zeithaml, & Berry, 1988). These dimensions represent customers' expectations of a service and their perceptions of the performance of the service provider in delivering the service. SQ posits that customer satisfaction is proportional to the gap between customers' expectations and their perceptions of the service provider's performance. Customers will be satisfied if the performance of the service provider meets or exceeds their expectations. Customers will be dissatisfied if the service provider fails to meet their expectations for performance (Parasuraman, Zeithaml, & Berry, 1985).

In another words, the research revealed that there are two schools of thought prevalent in management. The first model, known as SERVQUAL, is based on a gap model, which means that it compares the expectations and perceptions of customers (Gronroos 1984; Parasuram et al. 1985, 1988). The second model, known as SERVPERF, is a performance-based model (Cronin and Taylor 1992, 1994). The SERVQUAL scale was initially developed by Parasuram et al. (1985, 1988), i.e. (P-E). This scale is based on a model which is the difference or disconfirmation between the customers' perception (P) and their expectations (E) along 22 variables divided into five dimensions. This scale is widely used for measuring the quality of services across a variety of service domains. The following characteristics are included in this category: tangibility, reliability, assurance, responsiveness, and empathy.

### Hypothesis and research model

The quality of administrative service provision has a strong relationship with the satisfaction of citizens. The first thing is the assess ability of administrative services. Olorunnivo & Hsu (2006) argued for a variety of dimensions for the measurement items that can be operationalized, among which is "tangibility.". This item includes the physical facilities and equipment. The assessability of administrative service also indicates the ease or favourite conditions created for citizens when they have opportunities to enjoy administrative services provided by state organisations. The assessability of administrative service involves the assessability of facilities, such as waiting areas and seats,

that are modern and friendly. Furthermore, having access to cutting-edge technology and effective procedures can raise citizens' satisfaction with one-stop shops. These elements may help shorten wait times, simplify procedures, and offer citizens more convenient services. The better the assessability of administrative service, the higher the satisfaction of citizens (Per & Tom, 2005). Hypothesis 1 is constructed as below.

*H1. The good assessability of administrative service increases the satisfaction of citizens.*

Administrative procedure is identified as a factor that has a relationship with people's satisfaction. Administrative procedures include the state's regulations on how to provide administrative services to the people. This independent variable includes the publicity, accuracy, and compliance with the provisions of administrative procedures, as well as the fees, charges, and duration of handling administrative procedures. The simpler, clearer, more accurate, and easier to implement administrative procedures are, the higher the satisfaction of the people. Hypothesis 2 is constructed as below.

*H2. Simplified administrative procedures have a positive impact on people's satisfaction.*

Public servants at the one-stop shop are also factors contributing to people's satisfaction. Their attitude, attentive listening, full explanation, specific instructions, enthusiasm, thoughtfulness, understanding, and compliance with government regulations make people more comfortable and satisfied when they come to state agencies (Wenting, 2015). Additionally, it is shown that civil servants' cultural practices have favorable effects on the satisfaction of the general public (Pribadi & Kim, 2021). In other words, civil servants directly working at the one-stop

shop have an influence on people's satisfaction. Hypothesis 3 is constructed as below.

*H3. Public servants directly deal with service provision that affects people's satisfaction.*

Among the factors affecting satisfaction, the outcome of public administrative service delivery is theoretically considered to have the most direct influence. This is the most important factor because, for the people, the results of the provision of public administrative services have the most direct impact. The results of public administrative service provision positively affect people's satisfaction (Tung & Ly, 2021). Hypothesis 4 is constructed as below:

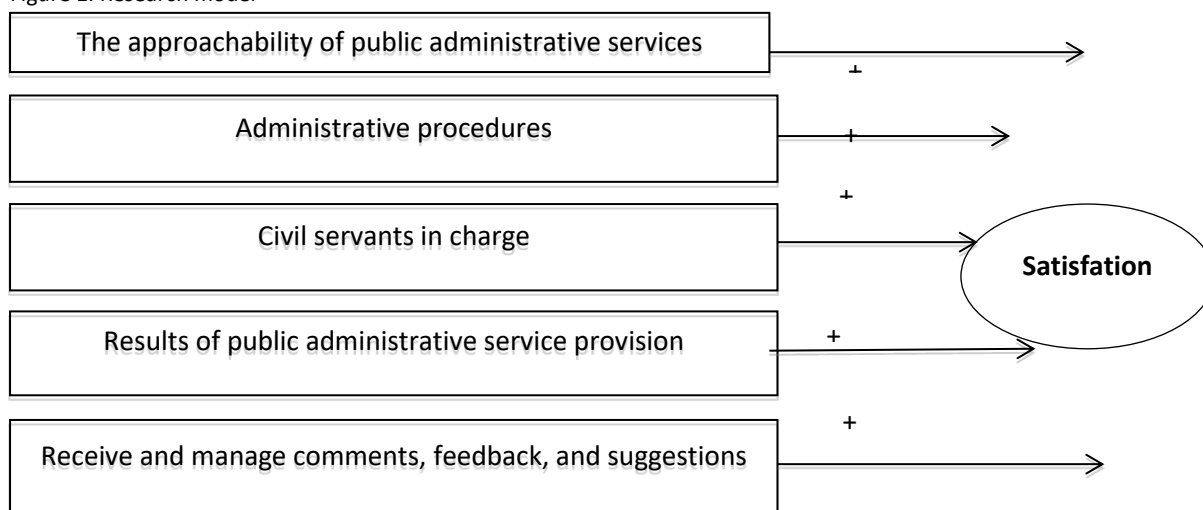
*H4. The results of public administrative service delivery affect people's satisfaction.*

According to the Ministry of Home Affairs (2018), the issue of receiving and handling people's feedback also has an impact on their satisfaction. To make sure that the public's feedback is taken into account and addressed in a timely manner, it is critical for public administrators to give priority to and improve their communication channels with the public (Christian et al., 2016). This may result in more people having faith in the government's capacity to deliver high-quality services. People will be more satisfied if the government handles feedback and suggestions from the public and responds promptly and fully (Christian et al., 2016). They feel more confident and content because the state is interested in hearing their opinions, assessments, and feedback. Hypothesis 5 is constructed as below:

*H5. Receiving and dealing with comments, reflections and recommendations of the State positively affects people's satisfaction*

From there, the article proposes a research model as shown in Figure 1 below:

Figure 1. Research model



Source: Ministry of Home Affairs, 2017

### Methodology

This paper employs a quantitative approach to collect data and analyze the relationship between customers' perceptions and expectations in order to evaluate the quality of services offered. It also seeks to identify any potential gaps between customer expectations and actual service delivery, thereby providing valuable information for service improvement strategies.

To choose the right sample size for factor analysis (EFA), the minimum sample size is  $N \geq 5 \times x$  (where  $x$  is the total number

of observed variables) (Trong & Ngoc 2008). In this study, there are all 25 observed variables that need to be estimated, so the minimum sample size is 125. Therefore, to ensure the research results are reliable and more representative, and to prevent unexpected errors in the case of a no answer or an incomplete answer, the author will choose a sample size of 350 observations. The sample was selected by a convenient random method by surveying those who use public administrative services at the department's one-Stop-Shop



The data collection process was conducted in three steps. Step 1 is to select 350 target respondents who are involved in public administrative services at the Department of Industry and Trade. Step 2 involves receiving the questionnaires answered; in cases where the meaning of the answers is not clear, the author will clarify them at the time of the survey. Step 3: summarize the collected questions and screen for valid and invalid ones. Finally, the author uses SPSS software to conduct data entry and analysis.

To assess the reliability of the scales, the author conducts an analysis of Cronbach's alpha coefficients, which were used first to remove inappropriate variables. Regarding Cronbach's alpha coefficient, many researchers agree that from 0.8 or more to close to 1, the scale is good. From 0.7 to nearly 0.8 is usable. However, there are also researchers who suggest that a Cronbach's alpha of 0.6 or higher can be used in cases where the concept being studied is new to respondents in the research context (Trong & Ngoc 2008). For this study, a Cronbach's alpha of 0.6 and above is acceptable. Variables with total correlation coefficients less than 0.30 and scale components with Cronbach's alpha

coefficients less than 0.60 will be considered for elimination (Trong & Ngoc 2008).

The purpose of using exploratory factor analysis is to evaluate the validity of the scale (Tho, 2011). In this thesis, the author uses the principal component analysis method, Varimax rotation, and stops when extracting factors with an eigenvalue > 1. The items have factor loading > 0.3, total variance extracted > 0.05, and coefficient KM > 0.05. Person correlation coefficient (r) to express the degree of closeness between two quantitative variables. The coefficient r ranges from -1 to 1. Linear regression analysis is used to assess the impact of factors on people's satisfaction. The dependent variable is people's satisfaction; the independent variable is the factors affecting people's satisfaction drawn from EFA analysis; and the significance level used to test is 5%.

## Findings and discussion

### Sample description

The author distributed 350 questionnaires and collected 350, of which 325 were valid. Information about the survey sample is shown in Table 2 below.

**Table 2. Sample description**

	Details	Quantity	%
Gender	Male	136	41.8
	Female	189	58.2
Age	From 20	49	15.1
	21 – 30	178	54.8
	31 – 40	81	24.9
	Above 40	17	5.2
Occupation	Student	30	9.2
	Business person	144	44.3
	Teacher	29	8.9
	Office person	109	33.5
	Others	13	4.0
Income	Below 3 millions Vietnam Dong	45	13.8
	3-7 millions Vietnam Dong	110	33.8
	8 - 15 millions Vietnam Dong	138	42.5
	Above 15 millions Vietnam Dong	32	9.8

According to the survey, the number of women participating in the survey is higher than that of men. The number of women accounted for 58.2%, while the number of their counterparties accounted for only about 41.8%. Among the interviewees, people aged 21–30 years old accounted for the largest proportion, 54.8%. Next is the age group from 31 to 40, accounting for 24.9%. The age group over 40 accounts for a low percentage of only 5.2%. Regarding occupation, among the respondents to the survey, business people accounted for the highest proportion at 44.3%, and then office workers took the second position with 33.5%. Teachers, students, and others make up a very small percentage, with only 8.9%, 9.2%, and 4.0% respectively. According to the above table, the number of survey participants with incomes between 8 and 35 million VN accounts for the highest proportion, with 42.5%. The number of people with incomes over 15 million VN accounts for the lowest rate, only about 9.8%.

### Reliability test

The reliability coefficients of the variables are all higher than 0.6. Their correlation coefficients for total variables are higher than 0.3 at the same time. Thus, all items of the *service approachability variable*, the *administrative procedure*, *civil servants*, *provision result*, *receiving and managing comments*, *feedback*, and *suggestions*, and *satisfaction* variable are reliable.

### Exploratory Factor Analysis (EFA)

The author uses the principal component analysis method, variable max rotation, and breakpoint when extracting factors with an eigenvalue > 1. Items with factor loading > 0.3, total variance extracted > 0.05, and coefficient KMO > 0.05 (Hair et al., 2006, cited by Huy, 2009) The results show that there are 22 variables included in the factor analysis, with six factors created. The total variance extracted is 65.837% >50%, indicating that these six factors explain

65.837% of the variation of the data. KMO coefficient = 0.785 (>0.5) is satisfactory and suitable for factor analysis. The Sig significance level of the Barlett test is 0.000 = 5%.

Comparing the standards of statistical significance that Hair et al. (2006) provided, it can be concluded that these variables are all correlated.

Table 3. Rotated component matrix<sup>a</sup> for independent variables final round

Rotated component matrix						
	Components					
	1	2	3	4	5	6
CCTT4	.849					
CCTT6	.849					
CCTT2	.826					
CCTT5	.815					
CCTT3	.811					
CCTT1	.750					
TCDV3		.866				
TCDV1		.822				
TVDV4		.811				
TTHC1			.834			
TTHC3			.820			
TTHC2			.777			
KQCU2				.856		
KQCU1				.826		
KQCU3				.811		
PAKN3					.779	
PAKN1					.750	
PAKN2					.742	
TCDV2					.374	
PAKN4					.348	
TTHC4						.847
TTHC5						.641
Extraction Method: Principal Component Analysis.						
Rotation Method: Varimax with Kaiser Normalization.						
a. Rotation converged in 6 iterations.						

Source: Primary data

According to the above EFA analysis, the variables PAKN4 and TCDV2 are uploaded to two groups, so this variable is not suitable and is excluded. The variable PAKN4 is *"The agency handling administrative procedures or the department that receives and returns the results shall notify the results of handling comments, complaints, and recommendations in a timely manner"*. In fact, when asked, people who came to work with the department said, "If I am angry, I will only reflect, but after reflecting, I will not know how they take them into account and respond to them. If there is a complaint, they will listen, yes, but do not write any minutes. And I didn't hear them promising to answer any complaints. "So I said it mainly to relieve discomfort, not to solve anything" (source: People's interview).

TCDV2 item, *"Equipment to serve people and organizations at the one-stop office is enough"*. Practically, it is perfectly

appropriate when this variable is excluded. "We don't know what is enough facility." I just know that it's good to come here to work and have a seat, so it's good to be less crowded" (source: People's interview).

The results of the EFA analysis revealed that KMO = 0.689. This is 0.5 more than the standard statistic. The significance level of sig = 0,000 is also satisfactory. The total variance extracted (71.63%) ensures statistical significance because it is greater than 50%. Thus, after this analysis, it is possible to select six factors affecting people's satisfaction that meet the requirements of reliability. It is service approachability, administrative procedures, civil servants directly in charge, the provision results provided and received, settling complaints, feedback, and satisfaction.

#### Correlation analysis

The results of the correlation coefficient test are shown in Table 5 below:

Table 4. Correlation analysis

correlation							
		THHC	CCTT	KQCU	PAKN	TCDV	SHL
THHC	Pearson Correlation	1	.313**	-.031	.167**	.172**	.521**
	Sig. (2-tailed)		.000	.572	.002	.002	.000
	N	325	325	325	325	325	325
CCTT	Pearson Correlation	.313**	1	-.037	.151**	.214**	.567**
	Sig. (2-tailed)	.000		.502	.006	.000	.000
	N	325	325	325	325	325	325
KQCU	Pearson Correlation	-.031	-.037	1	-.003	-.064	-.048

	Sig. (2-tailed)	.572	.502		.956	.249	.385
	N	325	325	325	325	325	325
PAKN	Pearson Correlation	.167**	.151**	-.003	1	.175**	.275**
	Sig. (2-tailed)	.002	.006	.956		.002	.000
	N	325	325	325	325	325	325
TCDV	Pearson Correlation	.172**	.214**	-.064	.175**	1	.419**
	Sig. (2-tailed)	.002	.000	.249	.002		.000
	N	325	325	325	325	325	325
SHL	Pearson Correlation	.521**	.567**	-.048	.275**	.419**	1
	Sig. (2-tailed)	.000	.000	.385	.000	.000	
	N	325	325	325	325	325	325

\*\* . Correlation is significant at the 0,01 level (2-tailed).

Table 5. Regression analysis

Models		Unstandardized coefficients		Standardized coefficients	t	Sig.	Multicollinear Statistics	
		B	Std. Error	Beta			Tolerance	B
1	(Constan)	-1.233	.251		-4.920	.000		
	THHC	.384	.046	.336	8.259	.000	.879	1.137
	CCTT	.529	.056	.389	9.526	.000	.870	1.150
	PAKN	.145	.049	.115	2.932	.004	.943	1.060
	TCDV	.316	.048	.258	6.512	.000	.925	1.081
a. Dependent Variable: SHL								
ANOVA <sup>a</sup>								
Models		Sum of squares		df	Mean squared		F	Sig.
1	Regression	178.115		4	44.529		92.148	.000 <sup>b</sup>
	Residual	154.635		320	.483			
	Total	332.750		324				
a. Dependent Variable: SHL								
b. Predictors: (Constant), TCDV, THHC, PAKN, CCTT								

Source: Primary data

The table above shows that the independent and dependent variables are correlated with each other except for KQCU. The KQCU variable has no correlation with other independent variables or dependent variables. Therefore, this variable was excluded from the regression analysis. The correlation of each pair of independent variables is always smaller than that of the dependent variable; in some cases, it is even negative, so the independent variables are reliable. Independent variable/dependent variable Pearson measure of 0.4–0.5 is also acceptable.

### Regression analysis

The processing results show that the coefficient  $R^2=0,535 \neq 0$ , so the analysis result system of the model is valid. Test results:  $F = 92.148$  and  $\text{sig} = 0.000$ . Besides, the tolerance of

the observations is large (ranging from 0.870 to 0.943), and the VIF of the largest variable is  $1.137 < 10$ . So the model fits the data, and there is no multicollinearity.

Looking at Table 6, we see that all variables have a significance less than 0.05, so the variables are statistically significant and not excluded. Accordingly, the regression model is represented as follows:

$$\text{SHL} = -1.233 + 0.384 * \text{THHC} + 0.529 * \text{CCTT} + 0.145 * \text{PAKN} + 0.316 * \text{TCDV}.$$

The regression equation shows that the variable CCTT has the most influence on people's satisfaction (coefficient 0.529). Next are the variables THHC (coefficient 0.384), TCDV (coefficient 0.316), and PAKN (coefficient 0.145).

After using the regression method, the hypothesis testing shown in Table 6 is as follows:

Table 6. Hypothesis testing

Hypothesis	Description	Testing
H1	H1. The good assessability of administrative service increases the satisfaction of citizens	Accepted
H2	H2. Simplified administrative procedures have a positive impact on people's satisfaction.	Accepted
H3	H3. Public servants directly deal with service provision that affects people's satisfaction.	Accepted
H4	The results of public administrative service delivery affect people's satisfaction	Not accepted
H5	Receiving and dealing with comments, reflections and recommendations of the State positively affects people's satisfaction	Accepted

It can be seen that the results of providing public administrative services are not a factor affecting people's satisfaction. The results of public administrative services are shown in the final stage of the process of receiving and handling administrative procedures. It happens after all the other steps. So once other stages are not guaranteed, people are not satisfied, and no matter what the results of administrative procedures are, it will not remove the dissatisfaction in them that has formed in the previous steps. This is also consistent with some previous quantitative studies in the context of Vietnam, specifically as follows:

This is also consistent with the results of the research of Pham Thi Dinh (2013) on people's satisfaction with public administrative services at the People's Committee of Ngu Hanh Son District, Da Nang, Vietnam. The author performs regression with a SEM structural model to measure the impact of variables on the quality of public administrative services. The results of the regression analysis with the SEM structural model are considered appropriate when the  $P < 0.05$  has a 95% significance level or the  $P < 0.1$  value can be accepted at the 90% significance level. All P-values of tangibles, reliability, responsiveness, assurance, and sympathy are less than 0.1, so these variables affect satisfaction. Thus, the original proposed model is kept unchanged for five variables after performing a series of analyses.

In addition to the above study, Vo Thanh Thuan (2016, cited in Dau, 2019), when assessing taxpayers' satisfaction with the quality of propaganda and support work at the Tax Department of Hau Giang province, Vietnam, also shows that facilities, transparency, service capacity, responsiveness, reliability, democracy, and empathy affect the satisfaction of taxpayers. In this list of 7 variables, there is also no public service outcome variable.

The third study by author Phạm Thành Đẩu (2019), also supports this conclusion. The author points out that there are six factors affecting people's satisfaction with the services provided by Tra Vinh Department of Transport: Reliability (STC); Staff capacity (NLNV); Employee Attitude (TDNV); Employee Empathy (SDC); Procedures (QTTT) and Service fees (PDV); there is no service result variable. In other words, in the author's model, the outcome variable is completely absent. In this research, the outcome factor of administrative procedures has a positive impact on people's satisfaction. However, this variable's regression coefficient  $\beta = 0.150$  was very low compared to other factors in the model. This result proved that the outcome of administrative procedures by the Vietnamese government did not significantly influence the public's satisfaction.

## CONCLUSION

The objective of this study was to ascertain and quantify the various factors that influence individuals' satisfaction levels at a one-stop shop within the Department of Industry and Trade of Binh Duong Province, Vietnam. A random sample of 350 individuals was selected from a population of 350 transactions for the purpose of conducting a survey. The findings of the study indicate that there are four factors that have a significant impact on individuals' satisfaction levels. These factors include approachability, administrative procedures, civil servants, and the handling of complaints and feedback. It is recommended that the Ministry of Home Affairs consider revising the criteria used to evaluate citizens' satisfaction, placing less emphasis on the outcomes

of public administrative service provision. This adjustment is warranted due to the lack of correlation between these outcomes and citizens' overall satisfaction. The study also places emphasis on the agency responsible for managing administrative procedures, the department tasked with receiving and returning results, and the establishment of a feedback mechanism in the form of a comment and suggestion submission form. The significance of service quality in relation to customer satisfaction cannot be overstated. It is imperative for the Ministry of Home Affairs to make appropriate adjustments to the existing criteria in order to effectively uphold service quality and thereby sustain customer satisfaction. The study revealed that each component of the service approachability variable, namely the administrative procedure, civil servants, provision result, receiving and managing comments, feedback, and suggestions, as well as the satisfaction variable, demonstrated high levels of reliability. The study additionally revealed that the highest proportion of survey participants, accounting for 42.5%, reported incomes ranging from 8 to 35 million VN. The impact of public administrative service delivery on individuals' satisfaction is not found to be statistically significant, as it occurs during the concluding phase of the administrative procedure reception and handling process. The rejection of the H4 hypothesis necessitates consideration of the Ministry of Home Affairs' model for evaluating public administrative service quality satisfaction. It is recommended that this model be either eliminated or its significance reduced in relation to other variables. By doing so, the Ministry of Home Affairs' model can more accurately assess people's satisfaction levels. In other terms, it is important to acknowledge the Ministry of Home Affairs' model as a factor that should be given less significance when evaluating individuals' satisfaction with the quality of public administrative services, in order to obtain a more accurate assessment.

The generalizability of the findings from the research conducted within a specific provincial department may be limited when extrapolating to other departments. It is recommended that further investigations be undertaken in other departments in order to corroborate the validity and reliability of the obtained findings. In order to gain a more comprehensive understanding of the factors contributing to the rejection of H4, it is advisable to engage in interviews with relevant stakeholders. This approach has the potential to facilitate the identification of areas that may benefit from improvement and contribute to the generation of knowledge for future research endeavors.

The inclusion of additional theories on service quality, such as Public Value theory and Citizen Participation theory, has the potential to enhance the comprehensiveness of our understanding regarding the determinants of satisfaction with Public Administrative Services. This has the potential to facilitate the creation of a satisfaction index that is better tailored and more efficient for these particular services. Ensuring the fulfillment of citizens' needs and expectations necessitates the ongoing pursuit of research and enhancement of the satisfaction index pertaining to Public Administrative Services in Vietnam.

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# Rainfall Variability in Ratnapura District: A Comparative Study of the Two 30-year Standard Periods of 1961-1990 and 1991-2020

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## Abstract

*Ratnapura district in Sri Lanka could be identified as an area that is constantly affected by the adverse effects of rainfall variability; hence it is important to study the temporal patterns and distribution of rainfall variability in the area during the recent past decades. Therefore, this research aims to compare the annual and seasonal rainfall variability of the Ratnapura district based on the standard 30-year periods of 1961-1990 and 1991-2020. Fundamental statistical methods of coefficient of variation, Precipitation Concentration Index, and Standardised Precipitation Index were used to analyse the data. The study revealed that temporal patterns of rainfall variability in the district showed almost similar situations for both the 30-year periods. Temporal distribution of annual and seasonal rainfall variability also showed almost similar situations for both periods and was remarkable with uniform and moderate concentrations of rainfall variability. Relatively the highest variability of rainfall could be detected during the Northeast monsoon season. Although no differences in occurring extreme wet conditions between the two 30-year periods, it is clear that drier conditions of rainfall have decreased in the second 30-year period. The study also confirmed that no prolonged wet and dry conditions were reported in the Ratnapura district during the considered two 30-year periods.*

**Keywords:** Climate, Extreme Events, Rainfall Variability, Ratnapura District, Seasonal Rainfall

## INTRODUCTION

Ratnapura district can be identified as an area that is constantly subjected to extreme rainfall conditions. Rainfall-induced natural disasters, especially floods and landslides are common in the district (Edirisooriya et al., 2018). The economy of the district is mainly based on agriculture. Therefore, it is important to identify the temporal pattern and distribution of the rainfall variability in the Ratnapura district.

As a country located in the tropical region, Sri Lanka can be called a country that receives rainfall that can be expected throughout the year and the main weather element is the rainfall. The most important factor in Sri Lanka's rainfall is the seasonal pattern and it varies temporally and spatially. Four rainfall seasons prevail on the island, namely the First Inter-monsoon season (FIMS) from March to April, the Southwest-monsoon season (SWMS) from May to September, the Second Inter-monsoon season (SIMS) from October to November, and the Northeast-monsoon season (NEMS) from December to February (Ranasinghe, 2004). Thus, various weather and climate factors have influenced the formation of a seasonal rainfall pattern in the country: the location of the Inter Tropical Convergence Zone (ITCZ),

the location within the equatorial trough, the maritime influence as an island, and the topography of the country i.e. the central highlands (Ranasinghe, 2004).

Due to the seasonal variability of rainfall as mentioned above, rainfall has become a factor that directly affects the lives of the local people. The local people had to face the most remarkable variations or extreme conditions in the rainfall, especially during certain seasons (Ranasinghe, 2018). Extreme excesses of rainfall lead to flooding and extreme deficits of rainfall lead to water scarcity or drought (IPCC, 2007). Considering the rainfall data from many meteorological stations in Sri Lanka, it appears that extreme conditions show an increasing trend in recent decades (Navaratne et al., 2019).

Ratnapura district can be named as an area that is constantly subjected to extreme conditions of rainfall. According to many literature investigations (Edirisooriya et al., 2018; Navaratne et al., 2019; Ranasinghe 2018), it has been confirmed that the Ratnapura district is highly vulnerable to climate change. Examples of positive extreme rainfall conditions affecting the Ratnapura district are 347.2 millimetres (mm) of rainfall on May 17 2003 and 186.1 mm of rainfall on July 18, 2008 (Navaratne et al., 2019). Due to

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these extreme conditions, the people of Ratnapura district have to face various natural disasters (Edirisooriya et al., 2018). This means that the floods and landslides caused by high-intensity rainfall within a short period of time have become common natural disasters that could be identified in the area. Limited number of research on rainfall variability in the Ratnapura district could be found and Ranasinghe (2004), and Nawagamuwa et al., (2014) had used the rainfall data from 1951- 2000 and 2000-2010 respectively. Another two studies (Ranasinghe, 2018; Navarathna et al., 2019) focused on the periods of 1951-2010 and 1976- 2017 respectively. Therefore, it is clear that there is lack of research on rainfall variability in the Ratnapura district to identify the most recent variability and changes of the rainfall factor. With this background, the research focused on the temporal patterns and distribution of the rainfall variability in the district considering the standard 30-year climate normals of 1961-1990 and 1991-2020 which are suggested by the World Meteorological Organization (National Centers for Environmental Information, n.d.). The main aim of this study was to analyse the temporal nature of rainfall variability in the Ratnapura district comparing the new standard thirty-year period (1991-2020) with the previous standard thirty-year period (1961-1990). The study focused on the following objectives:

1. To analyse the temporal patterns of annual and seasonal rainfall variability
2. To analyse the temporal distribution of annual and seasonal rainfall variability
3. To analyse the extreme conditions of annual and seasonal rainfall.

## LITERATURE REVIEW

The amount of rainfall, which is an important feature of the climate of a region, and its continuous variation over a period of time or across a region is called rainfall variability in meteorology and climatology (IPCC, 2007). Accordingly, rainfall variability can be identified on a daily, monthly, seasonal, and annual basis. This study focuses on seasonal and annual rainfall variability in the Ratnapura district.

### Global precipitation Variabilities

Average precipitation is subject to increase over most regions of the world, especially in the cold season, due to an intensified hydrological cycle. It is also projected that rising temperatures could lead to changes in the intensity of global average precipitation (Meehl, 2007). According to Alexander et al. (2006), precipitation changes showed a widespread and significant increase. However, the changes are much less spatially coherent when compared with temperature changes. Precipitation indices calculated based on a sample consisting of over 70% of the global land area showed a tendency toward wetter conditions throughout the 21<sup>st</sup> century.

According to the IPCC's 4<sup>th</sup> assessment report (2007) changes in precipitation lead to changes in runoff and water availability. The process of runoff is projected with high confidence to increase by 10% to 40% by mid 21<sup>st</sup> century (IPCC, 2007). At higher latitudes and in some wet tropical areas, including highly populated areas in East, South, and South-East Asia, changes in precipitation patterns will have adverse impacts on multiple sectors, for example agriculture, water supply, energy production, and health. Regionally, large increases in irrigation water demand resulting from changes in precipitation patterns are also projected. The negative impacts of climate change directly

affect freshwater systems, which is a major environmental issue in the 21<sup>st</sup> century (IPCC, 2007). There is a general expectation that precipitation variability will increase at daily, monthly and inter-annual timescales (Meehl, 2007). Due to climatic changes, the spatial and temporal patterns of precipitation are also subject to variation. Moreover, Sun and Farquhar (2012) stated that the largest changes in precipitation variances were generally found in regions having the largest aerosol emissions and scientists have speculated that aerosol loading has played a key role in changing the variability of precipitation.

### Rainfall variability in the South Asian region

As indicated by the IPCC's 5<sup>th</sup> assessment report (2014), the South Asian region as a whole has large climate variability, making climate change harder to identify and showing that the low understanding of how the climate change is influenced by human activity. Despite this, climate anomalies and changes in extreme events and El- Niño frequency have been observed throughout the region with intense rains and floods, droughts, and cyclones reported. Associated with climate change, the spatial and temporal distribution of rainfall is also predicted to have a major impact on the water and agricultural sectors in the South Asian region (IPCC, 2014). It has been identified that the availability and quality of fresh water in the region will be a major environmental issue of the 21<sup>st</sup> century (IPCC, 2007). NASA has predicted an increase of 5% in rainfall over the tropical oceans while slightly declining in the land regions (Hansen, 2013).

### Rainfall and its Variability in Sri Lanka

Rainfall in Sri Lanka has multiple origins. The majority of the annual rainfall comes from monsoon rains, with significant rainfall from convection and cyclones (Ranasinghe, 2004). Average annual rainfall varies from less than 900 mm in the drier areas (Southeast and Northwest) to over 5000 mm in the wetter areas (Western and Southwestern slopes of the Central Highlands) (Department of Meteorology Sri Lanka, 2016). The rainfall affecting Sri Lanka within 12 months can be identified as four seasons, namely the First Inter-monsoon season (FIMS) (March and April), the Southwest-monsoon season (SWMS) (May to September), the Second Inter-monsoon season (SIMS) (October and November) and the Northeast-monsoon season (NEMS) (December to February) (Domros, 1978).

During the FIMS the weather characteristic of the island is light variable wind conditions as well as afternoon and evening thunderstorms. During this period, 700 mm of rainfall is received in some places on the Southwestern slopes (Kaaragala - 771 mm) and 250 mm of rainfall is received in the Southwestern part of the hills. Rainfall varies from 100 mm to 250 mm over most parts of the island except for the notable difference in Jaffna Peninsula (Jaffna - 78 mm, Elephant Pass - 85 mm) (Department of Meteorology Sri Lanka, 2016).

The prevailing winds during the SWMS wash away the heat that prevailed during the FIMS period. Southwest monsoon is expected during both day and night and possibly intermittent rains mainly over the southwestern part of the island. The rainfall during this time varies between 100-3000 mm. The central highlands of the Western Ranges receive the highest rainfall (Ginigathena - 3267 mm, Watawala - 3252 mm, Nortonbridge - 3121 mm). From these central highlands to the higher highlands, the rainfall falls rapidly and in Nuwara Eliya, it falls to 853 mm. This variation is slower towards the southwest coast and the southwest



coast receives 100-1600 mm of rain during this five month period. The lowest value is reported from the northern and southeastern regions (Department of Meteorology Sri Lanka, 2016).

Afternoon or evening thunderstorms are the characteristic weather feature of the SIMS. Unlike during the FIMS, depressions and storms in the Bay of Bengal are common during the SIMS. Under those conditions, the entire island faces strong winds and widespread rains in some cases with floods and landslides. The whole of Sri Lanka will get a more balanced distribution of rainfall in this rainy season. Accordingly, the entire island receives an excess of 400 mm of rainfall during this period and the Southwest slopes receive high rainfall in the range of 750-1200 mm (Yatianthota Vewelthalawa Estate - 1219 mm) (Department of Meteorology Sri Lanka, 2016).

During the NEMS, the dry winter wind blowing from India will establish a relatively cool but dry weather condition in most parts of the island, creating pleasant and healthy weather conditions around except for a few very cold mornings. Cloudless skies and bright sunny days will make for pleasant cool nights. During this period, the highest rainfall was recorded from Trincomalee and Batticaloa districts (average rainfall of 1250 mm), and the lowest rainfall was recorded from the west coast area around Puttalam (Chilaw - 177 mm) (Department of Meteorology Sri Lanka, 2016).

Much research was conducted on the rainfall variability in Sri Lanka. Similarities, as well as dissimilarities, are seen in the conclusions given by those researchers. There are several scientific studies on the subject of mean annual rainfall (MAR) in Sri Lanka. Domrös (1996), and Domrös and Schaefer (2000) have indicated that the country's average annual rainfall was estimated at 2005 mm during the 30-year standard period from 1931-1960, declining to 1861 mm from 1961-1990. Comparing the same two 30-year standard periods (1931-1960 and 1961-1990), Chandrapala (1996) found that the mean annual rainfall in Sri Lanka had decreased by 7% (144 mm) during the second 30-year period when compared to the first 30-year period.

In contradiction, a time series analysis based on the wet zone identified that positive trends are more apparent over the period from 1971-2000. However, none of these are significant (Ranasinghe, 2004). Jayatilake et al. (2005) have revealed that during the 20<sup>th</sup> century, downward or upward trends of mean annual rainfall in Sri Lanka were statistically not significant. According to Jayewardene et al. (2005), no coherent increase or decrease in trends was observed in the wet and dry zones of Sri Lanka during the 20<sup>th</sup> century.

Several studies have examined changes in the seasonal rainfall pattern in Sri Lanka. According to Suppiah (1997), rainfall anomalies are greater during the SWM and SIM seasons when compared with other two seasons. A study has shown that intra-seasonal variability is a significant aspect of rainfall climatology in Sri Lanka (Malmgren et al., 2003). Herath and Ratnayake (2004) concluded that among the four rainy seasons, the highest variability is during the FIM season. Some rainfall studies have shown that during the FIM and NEM seasons, the rainfall amounts have reduced and therefore had increased in variability (Basnayake et al., 2004; Chandrapala, 1996; Jayatilake et al., 2005). Imbulana et al. (2006) reported that a reduction of rainfall was noticeable during the SIM and NEM seasons. Furthermore, a significant decline in rainfall was identified on the western slopes of the Central Highlands due to the

reduction of SWM rains (Domrös & Schaefer, 2000; Jayewardene et al., 2005; Madduma Bandara & Wickramagama, 2004).

Similarly, a reduction in rainfall during the SWM season was confined to the higher elevation areas while enhanced rainfall is pronounced in the lowlands of the Southwest sector of the country. During the NEM season, none of the stations follow significant increasing or decreasing trends (Malmgren et al., 2003). Furthermore, a study showed that rainfall amounts and the number of rainy days have reduced in the up-country region of Sri Lanka, which could adversely affect the drainage system of the country (Herath & Ratnayake, 2004). Punyawardana (2008) stated that the variability of seasonal rainfall in Sri Lanka has made the prediction of rainfall difficult.

The seasonal rainfall variability identification based on the coefficient of variation, Fernando and Chandrapala (1996) found that variability has risen during the FIM, SIM and NEM seasons, from 1961 to 1990, compared with the period from 1931-1960. Contradictorily, Premalal (2009) showed that the coefficient of variation in seasonal rainfall during the NEMS and SIMS is higher from 1931 to 1960 when compared with the period from 1961-1990, while the SWMS has remained static with no significant changes.

A few researchers have pointed out that in Sri Lanka the number of consecutive wet days has decreased, while the number of consecutive dry days has increased (Herath & Ratnayake, 2004; Premalal, 2009). It has also been shown that the intensity of daily rainfall and the average rainfall per spell in Sri Lanka's rainfall have also increased (Herath & Ratnayake, 2004). When compared to global and South Asian trends of extreme rainfall events, the intensity and frequency of extreme events of rainfall in Sri Lanka have also increased in recent decades (Imbulana et al., 2006).

The increased occurrence of extreme rainfall events due to climate change, droughts and floods have become a common feature of the climate of Sri Lanka during recent decades (Sirinanda, 1983; Panabokke & Punyawardane, 2010). Therefore, crop losses due to decreased soil moisture and excess water, both in terms of quality and quantity are inevitable. In recent years, rainfall variability accompanied by climate extremes has become a norm (Panabokke & Punyawardane, 2010). The increase in positive rainfall anomalies is likely to cause severe damage to existing irrigation infrastructure, thus limiting irrigated water availability for crop production (Punyawardane, 2012). It is further suggested that the indirect effects of increased rainfall intensity are of special significance in terms of land degradation, which has a significant bearing on crop production in Sri Lanka (Punyawardane, 2012).

When focusing on the rainfall studies conducted in the Ratnapura district, Nawagamuwa et al. (2014) found that there is a positive trend in annual rainfall where rainfall in the wettest month (October) increased by 2.1 mm per year, but rainfall in the driest month (January) decreased by 9.3 mm per year. Nawaratne et al. (2019) have identified a slight increase in the number of rainy days in the district. According to Kaleel (2018), it has been identified that the rainfall during the SWMS showed relatively decreasing trends in Embilipitiya, Balangoda, Lellopitiya rain gauge stations and a relatively increasing trend in the Ratnapura rain gauge station.

The research gap that could be identified from the research discussed above is that more attention has been paid to the analysis of the trend of rainfall, and in much research,

rainfall data has been used only up to 2010 for the analysis where, only one researcher (Nawaratne et al., 2019) used rainfall data up to 2017. However, not much attention has been given to the seasonal rainfall which is important when considering the rainfall in Sri Lanka. Furthermore, some researchers have taken into account only the SWMS and their attention has been focused only on the trend analysis of the rainfall. With this background, this research focused on analysing the rainfall variability concerning the four rainy seasons in the Ratnapura district as a comparison study between the two 30-year standard periods: 1961-1990 and 1991-2020.

## MATERIAL AND METHODS

The Ratnapura district is located between 6.2354°-6.9306° North latitude and between 80.1772° - 80.9546° East longitude. It has an area of 3275.4 km<sup>2</sup>. Some areas of the district are less than 50 m above sea level and the central area of the district is about 400 m above sea level. The western border is about 700 m, the southwestern border is about 1300 m and the northern area is about 2500 m high. According to the location in the wet zone of Sri Lanka, the district experiences a considerable amount of rainfall from all four rainy seasons and the SWMS is the predominant season. When considering the spatial distribution of rainfall, the area bordering the Central Highlands receives an annual rainfall of more than 4000 mm, and in contrast, the driest

areas of the district such as Ambilipitiya receive less than 1300 mm of annual rainfall. The district faces the threat of floods due to the heavy rains brought by the SWMS (from May to September). In the dry areas of the district, for example Embilipitiya and Kalthota receive more rainfall during the SIMS and the NEMS that prevail from November to February. There are considerable spatial variations in terms of air temperature in the district, around the Samanala range it is recorded as low as 12°C, and in the dry areas, it is about 32°C (Survey Department of Sri Lanka, 2017).

This study is based on secondary data sources. Monthly rainfall data of the Ratnapura district for the period 1961-2020 was obtained from the Department of Meteorology, Sri Lanka. Then the whole period of data was divided into climate normal i.e. standard 30-year periods: 1961-2020 (the first 30-year period) and 1991-2020 (the second 30-year period). To identify decadal scale rainfall variability, the considered whole period was divided into six decades (1961-1970, 1971-1980, 1981-1990, 1991-2000, 2001-2010, and 2011-2020).

All the analyses were done according to the annual and seasonal basis of rainfall. In that manner, the collected monthly rainfall data were then segregated into seasonal values according to the four rainy seasons in Sri Lanka, which is shown as follows:

Month	Season
March and April	First Inter-monsoon (FIMS)
From May to September	Southwest-monsoon (SWMS)
October and November	Second Inter-monsoon (SIMS)
From December to February	Northeast-monsoon (NEMS)

Both annual and seasonal rainfall variabilities were analysed by using fundamental statistical methods of Coefficient of Variation (CV), Precipitation Concentration Index (PCI), and the Standardised Precipitation Index (SPI).

CV refers to a statistical measure of the distribution of data points in a data series around the mean. Among many statistical tests available to detect the variability of rainfall,

the CV is considered to be a more robust approach. Generally low rainfall amounts are coincided with higher CV values and vice versa (an inverse relationship). However, in some cases though the rainfall amounts are higher, CV values are also higher due to greater variability of rainfall brought by the irregularities of rainfall or in other words marked fluctuations (Gregory, 1964). The coefficient of variation is computed using the following formula:

$$\text{Coefficient of Variation} = \frac{\sigma}{\bar{x}}$$

- $\sigma$  = Standard Deviation
- $\bar{x}$  = Mean

The PCI introduced by Oliver (1980) has been used to identify the seasonal pattern of precipitation. According to Oliver (1980), the PCI is a powerful indicator for temporal precipitation distribution and is also very useful for the assessment of seasonal precipitation changes. Below is the equation used to calculate it.

$$PCI_{\text{annual}} = \frac{\sum P^2}{(\sum P)^2} \times 100$$

- $PCI_{\text{annual}}$  = Annual Precipitation Concentration Index
- $\sum P^2$  = Sum of the squares of monthly rainfall in a year
- $(\sum P)^2$  = Square of rainfall in a year

While constructing the seasonal PCI, the index should be prepared considering the number of months in a rainy season. Table 1 shows how the seasonal PCI is calculated according to the number of months in a season.

Rainfall Season	Equation for seasonal PCI
First Inter-monsoon	$PCI_{seasonal} = \frac{\sum P^2}{(\sum P)^2} \times (2 \div 12 \times 100)$
Southwest-monsoon	$PCI_{seasonal} = \frac{\sum P^2}{(\sum P)^2} \times (5 \div 12 \times 100)$
Second Inter-monsoon	$PCI_{seasonal} = \frac{\sum P^2}{(\sum P)^2} \times (2 \div 12 \times 100)$
Northeast-monsoon	$PCI_{seasonal} = \frac{\sum P^2}{(\sum P)^2} \times (3 \div 12 \times 100)$

Table 1: Seasonal Precipitation Concentration Index

Source: Oliver (1980)

In 1993, McKee, Doesken and Kleist, a group of American scientists, used the SPI to identify the intensity of rainfall. It has been endorsed by the World Meteorological

Organisation in 2012 as a suitable indicator for identifying rainfall intensity. The equation used to calculate SPI values is given below. In this study, SPI values have been calculated on a twelve-month and monthly time scale to identify the extreme cases of annual and seasonal rainfall in Sri Lanka.

$$SPI = \frac{Ri - Rm}{SD}$$

- Ri = Rainfall amount of year i
- Rm = Long term mean of rainfall
- SD = Standard Deviation of rainfall

Source: World Meteorological Organisation, 2012

## RESULTS AND DISCUSSION

### Temporal Pattern of Rainfall Variability

The coefficient of variation was used to identify the temporal patterns of annual rainfall variability.

**Temporal Patterns of Annual Rainfall Variability:** Figure 1 shows the calculated coefficient of variation values of

annual rainfall for the two 30-year periods; 1961-1990 (first 30-year period) and 1991-2020 (second 30-year period). Accordingly, it is seen that the annual rainfall variability is less in the area and almost similar values are seen in both periods, and there is a very slight decrease (1.2%) in the second 30-year period compared to the first 30-year period. This finding is comparable with the other researchers' (Ranasinghe, 2004; Ranasinghe, 2018) conclusion of no significant variability in annual rainfall in Sri Lanka.

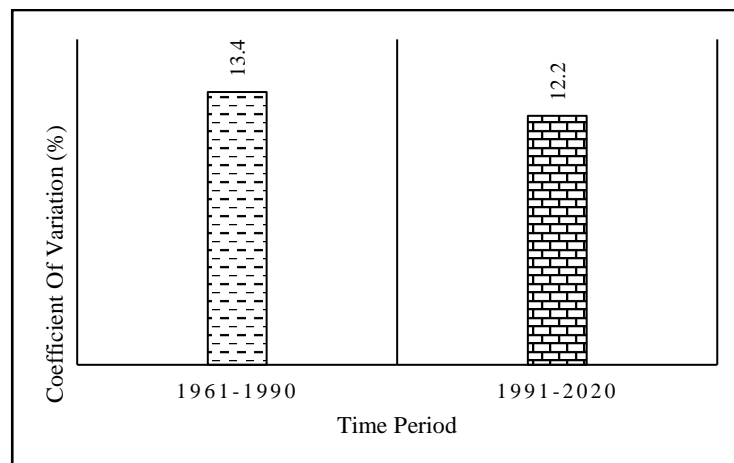


Figure 1: Coefficient of Variation of Annual Rainfall in Two 30-year Periods

Source: Prepared by the Authors based on the Rainfall Data of the Department of Meteorology, Sri Lanka

Figure 2 represents the decadal-wise coefficient of variation in annual rainfall and all the values show low rainfall variability. When comparing the decades, rainfall variability appears relatively high during the decade of 1981-1990. A similar conclusion of the study area was also made by

Ranasinghe (2018) and confirmed that a severe El-Nino event in 1983 and 1984 was responsible for such variability. Another remarkable feature that could be recognized in the study area is that the variability is relatively high in the recent decade i.e. 2011-2020.

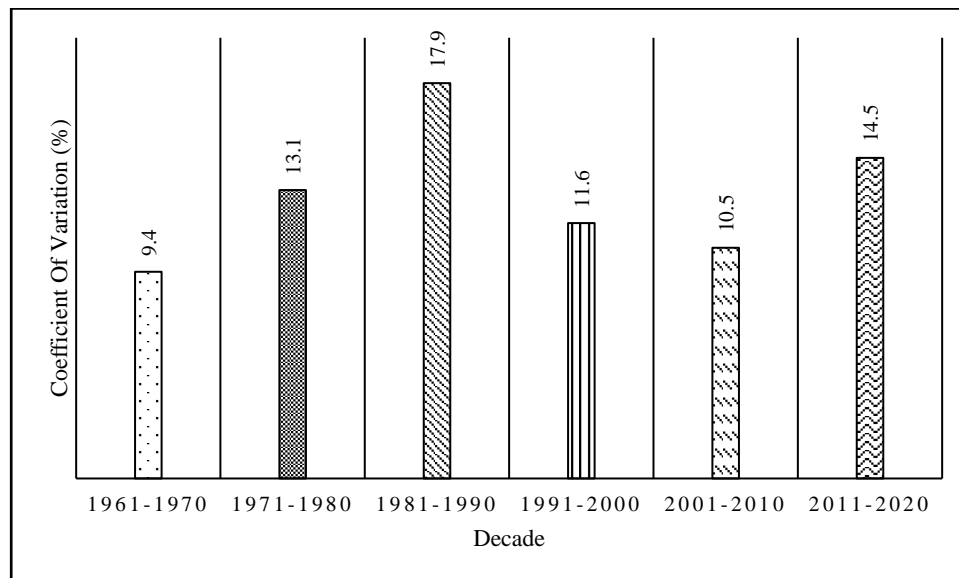


Figure 2: Decadal-wise Coefficient of Variation in Annual Rainfall

Source: Prepared by the Authors based on the Rainfall Data of the Department of Meteorology, Sri Lanka.

**Temporal Patterns of Seasonal Rainfall Variability:** Figure 3 represents the calculated coefficient of variation values in seasonal rainfall in the Ratnapura District for the two 30-year periods: 1961-1990 and 1991-2020. According to the figure, all four rainfall seasons showed relatively higher

variability in the second 30-year period. However, except during the NEMS which showed an increase of variability by about 8.6% in the second 30-year period, the other three rainfall seasons appeared with very slight increases, as 3.1% in the FIMS, 0.9% in the SWMS, and 1% in the SIMS

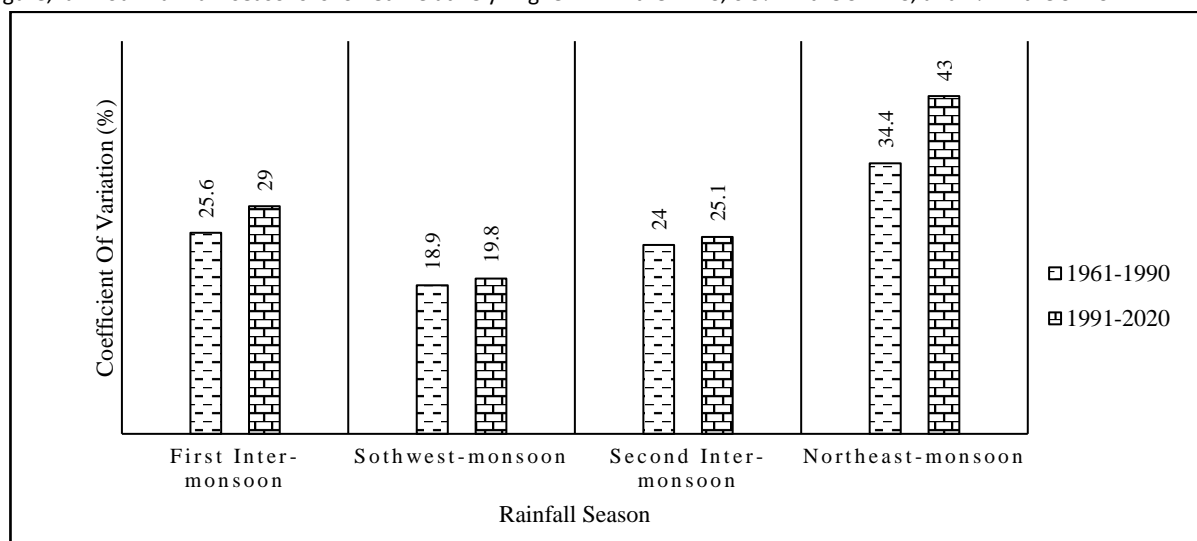


Figure 3: Coefficient of Variations in Seasonal Rainfall for the Two 30-year Periods

Source: Prepared by the Authors based on the Rainfall Data of the Department of Meteorology, Sri Lanka.

Figure 4 represents the decadal-wise coefficient of variation values of the seasonal rainfall. Accordingly, the FIMS, SWMS, and SIMS showed their highest variability in the decades of 1981-1990 and 2011-2020. According to Ranasinghe (2018), both FIMS and SWMS in Sri Lanka were negatively correlated with the 1983 to 1984 El-Nino event, therefore higher rainfall variability in the decade of 1981-1990 was a remarkable feature in many districts of the country. Additionally, another significant feature identified in terms

of the three seasons was that the recent decade i.e. 2011-2020 is shown remarkably higher values compared to the previous decade i.e. 2001-2010, especially in the FIMS and SIMS. It is noticeable that the rainfall variability of the NEMS is relatively higher than the other seasons however, the temporal pattern is different from the other seasons and the highest value is seen in the decade of 1991-2000, afterwards a gradual decrease in rainfall variability could be seen.

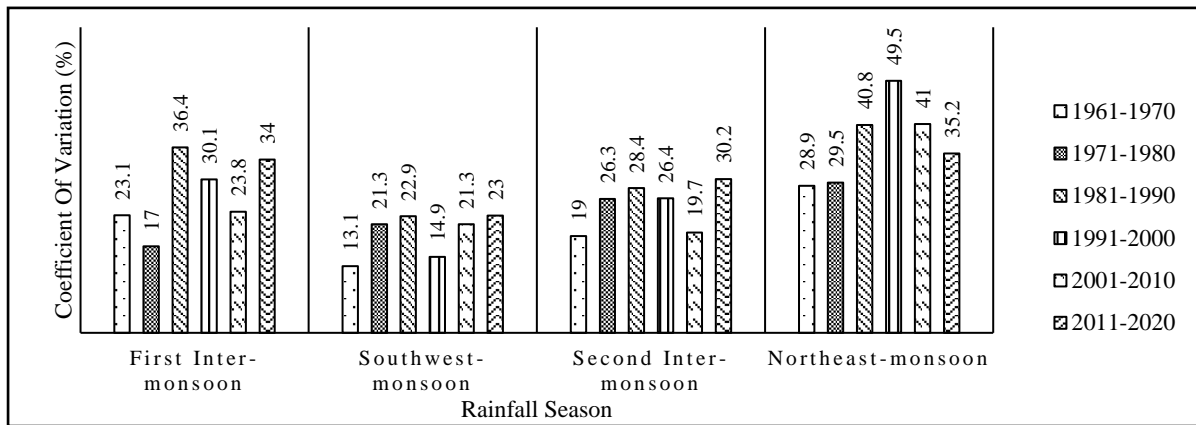


Figure 4: Decade-wise coefficient of variation of seasonal rainfall

Source: Prepared by the Authors based on the Rainfall Data of the Department of Meteorology, Sri Lanka.

#### Temporal Distribution of Rainfall Variability

Numerical values of the Precipitation Concentration Index were used to characterise the temporal distribution of

rainfall variability in Rathnapura District and Table 2 shows the form of rainfall variability that is classified according to the PCI values suggested by Oliver (1980).

PCI value	Form of rainfall variability
$PCI \leq 10$	Uniform rainfall variability
$11 \leq PCI \leq 15$	Moderate rainfall variability
$16 \leq PCI \leq 20$	Irregular rainfall variability
$PCI \geq 20$	Strongly irregular rainfall variability

Table 2: Classification of PCI

Source: Oliver, J.E. (1980)

**Temporal distribution of Annual Rainfall Variability:** The temporal pattern of annual rainfall variability in the two standard 30-year periods is shown in Figures 5 (i) and 5 (ii) for the periods 1961-1990 (first) and 1991-2020 (second), respectively. The maximum value of PCI in the first 30-year period can be identified as 14 in 2016. According to **Figure 5**, both periods represented uniform and moderate concentrations of rainfall variability. Moderate

concentration of rainfall variability could be identified in 66.7% of the years in the first period, while the remaining years (33.3% of the years) were in the uniform category. An almost similar pattern could be seen in the second 30-year period too, denoted by 63.3% and 36.7% of the years with moderate and uniform concentrations of rainfall variabilities respectively. Thus, it appears that there is no clear difference in the annual rainfall variability between the two periods. Therefore, it is important to pay attention to the temporal distribution of seasonal rainfall variability

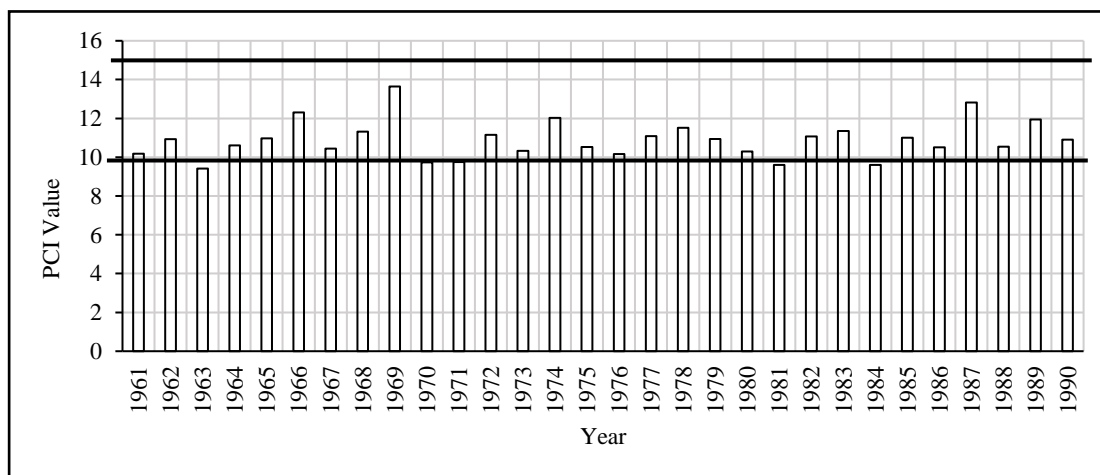


Figure 5(i): PCI Values of annual rainfall for the period 1961-1990

Source: Prepared by the Authors based on the Rainfall Data of the Department of Meteorology, Sri Lanka.

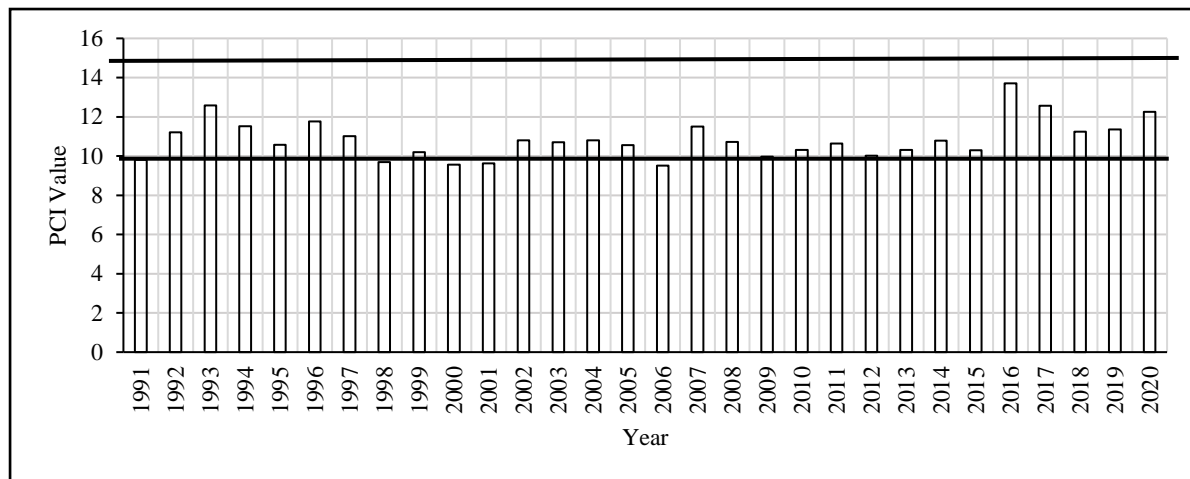


Figure 5(ii): PCI Values of annual rainfall for the period 1991-2020

Source: Prepared by the Authors based on the Rainfall Data of the Department of Meteorology, Sri Lanka.

**Temporal distribution of Seasonal Rainfall Variability:** The temporal distribution of rainfall variability in the FIMS is shown in Figure 6 for the two standard 30-year periods. In the first 30-year period, the maximum value of PCI can be identified as 12 in 1974, and in the second period as 13 in 1992. According to the Figure 6, both periods are denoted by only uniform and moderate concentrations of rainfall and the uniform concentration of rainfall is the noteworthy feature. However, compared to the first 30-year period which is represented by 96.7% of the years with uniform concentration slightly decreased in the second 30-year period which is represented by 86.7% of the years.

Figure 6 shows the PCI values in the SWMS for two standard 30-year periods. In the first 30-year period, the maximum value of PCI could be identified as 13 in 1969. While in the second 30-year period, it is about 15 in 2016. During the SWMS also only uniform and moderate concentrations of rainfall variations appeared in both periods. However, the percentages of numerical values are rather different in the two periods: the first 30-year period comprised 56.7% of the years with a uniform concentration of rainfall variability and the remaining (43.3% of the years) showed moderate concentrations. In the second 30-year period, 83.3% of the years were identified as having a uniform concentration of rainfall variability. Accordingly, it appears that the temporal distribution of rainfall in the SWMS has become more uniform in the second 30-year period compared to the first 30-year period.

The temporal distribution of the seasonal rainfall in the Rathnapura District during the SIMS is shown in Figure 6 for the standard 30-year periods. In the first period, the maximum value of PCI was 13 and was represented in 1974. While in the second period, the maximum value of PCI is 10,

and could be seen in 2004, 2007, and 2014. A noteworthy feature observed in the SIMS is that both periods are highly accompanied by a uniform concentration of rainfall, 98% of the years and 100% years in the first and second 30-year periods respectively. Thus, it is seen that the two months (October and November) of the SIMS have received approximately equal rainfall in all the years except in 1974 during the period under consideration.

The temporal pattern of rainfall variability of the NEMS for the two standard 30-year periods is shown in Figure 6. In the first period, the maximum value of PCI was 17 in 1981/82, showing irregular rainfall distribution due to the high rainfall (534.8 mm) in December 1981 and the relatively low rainfall in January and February 1982. In the second period, the maximum value of PCI was 14 in 2012/13 and 2016/17. Except for these two features, uniform and moderate concentrations of rainfall were the common features in the two periods. About 63.3% of the years were found with a uniform concentration of rainfall in the first 30-year period, while it was about 56.7% in the second 30-year period.

Moderate rainfall variability can be detected in 33.3% of the years in the first period and uniform variability can be detected in 63.3% of the years. In the second period, 43.3% of the years have moderate rainfall variability and 56.7% have uniform rainfall variability. Accordingly, it appears that the mean form of rainfall variability in the NEMS has slightly increased during the second period as compared to the first period.

#### Identification of the Intensity of Rainfall

The intensity of rainfall was analysed using the Standardised Precipitation Index (SPI) and Table 3 shows the intensity of rainfall is classified according to SPI values suggested by the World Meteorological Organization (2012).

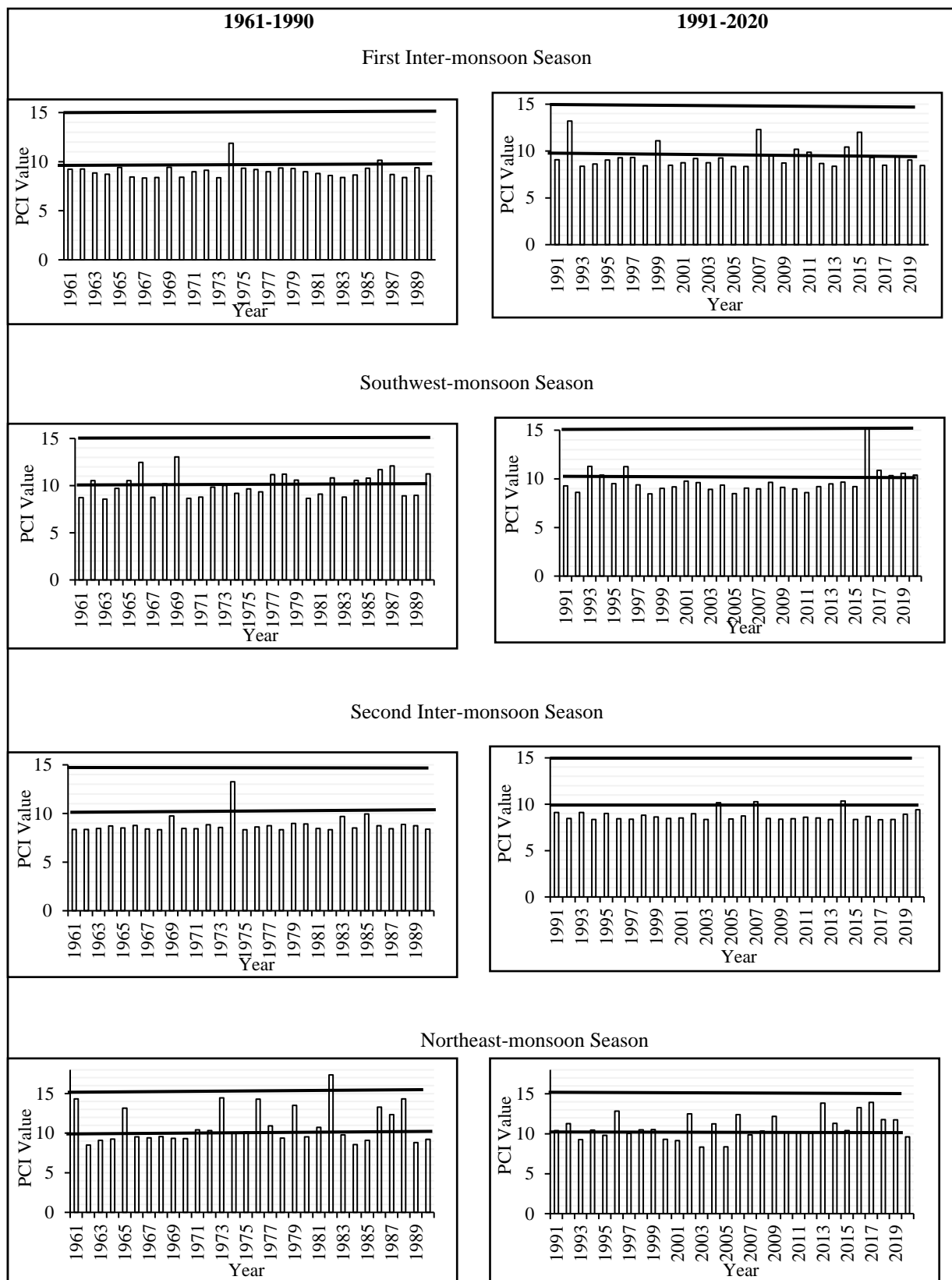


Figure 6: Seasonal Precipitation Concentration Index, comparison between 30-year periods

Rainfall Intensity	SPI Value
Extremely Wet	2.0+
Very Wet	1.5 to 1.99
Moderately Wet	1.0 to 1.49
Near Normal	(-0.99) to 0.99
Moderately Dry	(-1.0 to -1.49)
Severely Dry	(-1.5 to -1.99)
Extremely Dry	(-2.0+)

Table 3: Classifying SPI Values

Source: World Meteorological Organization (2012)

**Annual Rainfall Intensity:** The Standardised Precipitation Index (SPI) was used to calculate the amount of wet and dry years in the Ratnapura district for the considered two 30-year periods on an annual and monthly basis. Annual SPI values for the 30-year periods 1961-1990 (first) and 1991-2020 (second) are shown in Figures 7(i) and 7(ii) respectively. Years with SPI values exceeding the black colour horizontal lines in the Figure 7 denoted as the years with rainfall irregularity.

According to Figures 7(i) and 7(ii), the years 1982 and 2014 could be observed as extreme wet years, and 1973, 1983, and 2016 as severely dry years. Notably, extreme dry years cannot be identified here. And another peculiarity is that the cases of 'SPI < (-0.99)' which are close to each other cannot be identified in the period 1991-2020. This means that

although dry conditions exist, they were not continuous. Also, the years with wet 'SPI > 0.99' can be identified only in 1998 and 1999. A very wet period and a moderately wet period are to be seen in 1998 and 1999 respectively.

Table 4 shows the percentages of each category of SPI values represented by the two 30-year periods. As seen in Table 4, the intensity of rainfall is slightly different between the two 30-year periods. As in Table 4, dry conditions decreased in the second period, however, moderate wet have increased. A remarkable feature is in the two periods where a similar percentage of extremely wet conditions was represented by both periods.

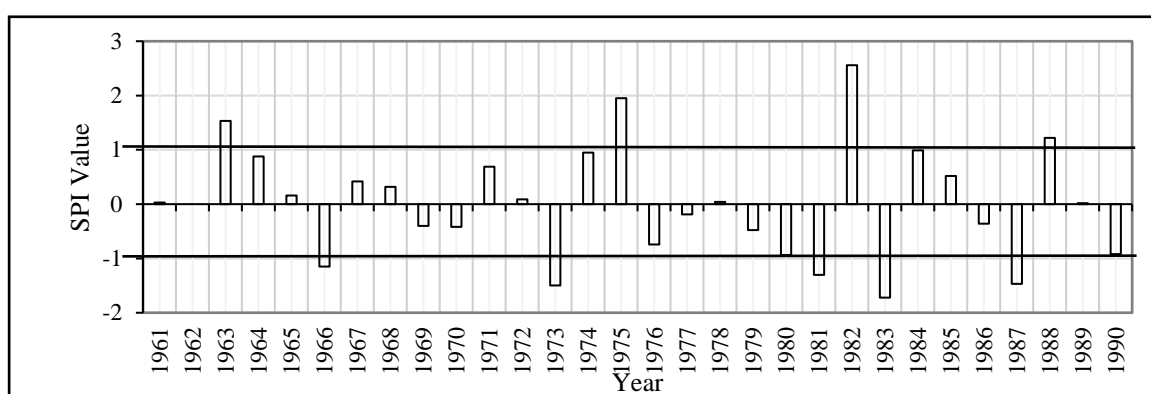


Figure 7(i): SPI values of annual rainfall for the period 1961-1990

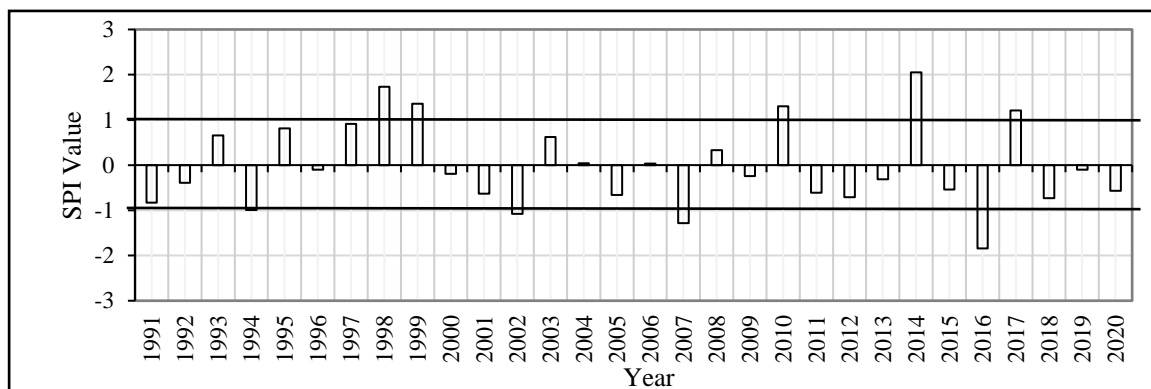


Figure 7(ii): SPI values of annual rainfall for the period 1991-2020

Rainfall Intensity	Time Period	
	1961-1990 years (%)	1991-2020 years (%)
Near Normal	70	73.4
Moderately Dry	10	6.7
Severely Dry	6.7	3.3
Moderately Wet	3.3	10
Very Wet	6.7	3.3
Extremely Wet	3.3	3.3

Table 4: Rainfall intensity in 30-year periods

**Intensity of Seasonal Rainfall:** Cases of 'SPI > 1' were identified as wet conditions and cases of 'SPI < (-1)' were identified as dry conditions. Table 5 shows the percentages

of each category of SPI values represented by the decades within the considered whole period of 1961-2020 for the four rainy seasons.



Decade	First Inter-monsoon		Southwest-monsoon		Second monsoon	Inter-	Northeast-monsoon	
	Wet	Dry	Wet	Dry			Wet	Dry
1961-1970	10	10	18	14	10	5	10	3.3
1971-1980	10	10	14	14	20	15	10	10
1981-1990	15	20	20	16	20	25	26.7	16.7
1991-2000	5	15	18	10	20	20	20	16.7
2001-2010	25	10	8	10	25	10	13.3	10
2011-2020	20	30	16	18	15	20	13.3	23.3

Table 5: Seasonally abnormal rainfall conditions (%)

According to Table 5, no uniform pattern of wet and dry conditions of rainfall could be discerned. Therefore, the years with the maximum percentage of wet or dry conditions are discussed according to the rainfall seasons. According to that, the wet rainfall conditions of the SWMS and NEMS could be observed in the decade of 1981-1990. For the FIMS and SIMS, the wet conditions of rainfall were maximum in the decade of 2001-2010. In terms of dry conditions of rainfall, the FIMS, SWMS, and NEMS appeared with a similar feature, which could be identified in the

decade of 2011-2020. While an opposite feature is seen in the SIMS marked with the decade of 1981-1990, this could be linked with the idea of enhanced rainfall in the SIMS during the El-nino years as revealed by Punyawardena and Cherry (1999), and Ranasinghe (2018).

More adverse effects are caused by extreme rainfall conditions: hence, Table 6 shows the extreme events identified according to the SPI calculation.

Rainfall Season	Extreme Status	Year	Month	Rainfall (mm)
First Inter Monsoon	Wet	1984	March	356.7
		1999	April	708.6
		2008	April	650.8
		2011	April	731.7
	Dry	1992	March	44.8
Southwest Monsoon	Wet	1964	July	641.2
		1966	September	759.3
		1968	June	843
		1969	May	984.1
		1974	July	617
		1974	September	726.9
		1982	June	892.5
		1985	June	746.2
		1987	August	660.4
		1989	July	610.9
		2014	August	618.6
		2017	May	983.6
		2019	August	642.1
	Dry	1987	July	18.8
2 <sup>nd</sup> Inter Monsoon	Wet	1975	November	668.5
		1982	November	638.8
		1993	October	795
		2014	October	813
	Dry	1974	November	65.5
		1983	October	146
		2016	October	156.2
Northeast Monsoon	Wet	1982	December	534.8
		1984	January	274.7
		1984	February	407.1
		1998	December	461.8
		2000	February	513.7
		2001	January	359.4
		2010	December	469.7
		2014	January	293.4
		2014	December	444

Table 6: Extreme rainfall incidents identified according to SPI

Considering a month with marginally dry rainfall in the Ratnapura district, even if there is a shortage of water in that

month, the effect caused by it is minimal. However, the impact of excess water caused by even one month of extreme moisture rainfall is relatively high. During such

months, landslides are reported in the high-altitudinal zones and flood disasters in the lower altitudinal zones of the study area.

## CONCLUSION

In terms of temporal patterns of annual rainfall variability, both 30-year periods showed less values and almost similar values in the Ratnapura district. The FIMS, SWMS and SIMS represented relatively less seasonal rainfall variabilities than the NEMS. It could be confirmed that the rainfall variability has increased in the NEMS in the Ratnapura district. Further, the decade of 2011-2020 could be identified as the decade that showed the highest variability in the SWMS as well as the SIMS.

Regarding the temporal distribution of annual rainfall variability, uniform and moderate concentration of rainfall are more visible. A similar situation has been identified for both monsoon and inter-monsoon seasons and an irregular distribution of rainfall has been identified only in the year 1981/82 during the NEMS. Accordingly, it can be concluded that there were uniform or moderate concentrations of rainfall variabilities in the Ratnapura district within the period 1961-2020.

According to the Standard Precipitation Index, 1982 and 2014 were identified as extremely wet years, and 1973, 1983, and 2016 were observed as severely dry years. It has been confirmed that there were no extremely dry years and there are no continuous wet or dry periods in the study area for the considered period of data. Although no differences in extreme wet conditions could be detected between the two 30-year periods. While the dry conditions decreased in the second 30-year period. Wet rainfall conditions were identified as maximum during the SWMS and the NEMS in the decade of 1981-1990 and during the First and Second Inter-monsoons, in the decade of 2001-2010. Furthermore, maximum dry rainfall conditions were observed in the FIMS, SWMS, and NEMS in the decade of 2011-2020.

Therefore, the study concludes that the comparison between the two 30-year standard periods showed almost similar temporal patterns and distribution of annual and seasonal rainfall and no prolonged wet and dry conditions in the Ratnapura district for the considered periods. However, further analysing rainfall data in the district will be helpful to identify the trends of rainfall and reliability of rainfall during the recent 30-year standard period that is vital for water resource management, agricultural planning, and natural hazard management in the area. The new knowledge derived from this study is that the findings of the recent 30-year climate normal i.e. 1991-2020 could be used as the base line for future predictions of rainfall variability and changes in the Ratnapura district.

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# Generation Z – A New Lifeline: A Systematic Literature Review

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## Abstract

*A generation is a group of people who share similar birth years, life experiences, and cultural influences. Generation Z is the current generation that has attracted much attention from researchers and practitioners. They are defined as those who were born after 1995 and are characterized by their digital nativism and unique characteristics. The aim of this paper is to understand how Generation Z distinguishes itself from previous generations, especially in terms of its values, attitudes, and behaviours. For this purpose, a systematic literature review was conducted using Google Scholar as the main database. The search results were filtered using inclusion and exclusion criteria based on the relevance, quality, and recency of the sources. The main findings of the review are that Generation Z are born after 1995 and are known as digital natives who are proficient in using technology and social media. They also possess unique characteristics such as being entrepreneurial, socially conscious, pragmatic, and diverse. The paper concludes that Generation Z is a distinct generational cohort that requires further research and attention from various stakeholders.*

**Keywords:** Attributes, Characteristics, Generation, Generation Z

## INTRODUCTION

A generation is a term that describes a cohort of people who share a common birth period. Currently, the business world encompasses several generations, such as baby boomers, generation x, and generation y, and is anticipating the arrival of a new generation called generation z (Arar & Yuksel, 2015). The concept of 'generation' is often used to refer to a cohort of people who share a common upbringing and historical context. However, the precise definition of this term is not universally agreed upon by different authors.

David Stillman (2017), researcher, writer, and speaker in generational studies explains his ideology on the evolution of naming of the generations. He claimed that the naming of generations started with Baby Boomers, who were born between 1946 and 1964 when the birth rates increased from 03 million to 04 million per year. The previous generation was called the "Silent Generation" because they were perceived as uncommunicative and passive in the workplace. However, this name did not match their achievements, such as overcoming the great depression, winning two world wars and witnessing the first moon landing (Stillman & Stillman, 2017). Therefore, in the 1990s, David Stillman (2017), proposed the term Traditionalists, which was originally used by Time Magazine in 1951 but had been forgotten. In 1991, a cohort of individuals known as Generation X emerged. This generation faced various challenges in their upbringing and development, such as having working or single parents, lacking adult supervision after school and witnessing parental unemployment (Stillman & Stillman, 2017). However, when it came to

symbolizing the next generation the name that appeared on screen was Gen Y. It was when the historians Howe and Strauss (2000) coined the name Millennials in the book "Millennials Rising" that the term Gen Y was under-utilized.

Today, the limelight of employers is Generation Z. This cohort has experienced technological changes as a constant feature of their existence. In fact, a survey by Deloitte (2018) shows that more than 51% of Gen Z prefer working in the tech sector. According to Dimock (2019), the introduction of the iPhone in 2007 and the subsequent developments in mobile technology, such as Wi-Fi and high-speed cellular networks, enabled Gen Zers to access the internet and social media from anywhere and anytime. Thus, he claims that this constant and on-demand availability of information and communication has shaped the way Gen Zers interact with the world and each other, but its effects are still being studied as this generation is entering the workforce.

On the contrary recent studies have attempted to examine how Gen Z differ from previous generations in various aspects of their lives, such as their views, goals, and habits. The results revealed significant changes in the current generation of youth compared to their predecessors, indicating that they have distinct characteristics and preferences (Vidya Jha, 2021), attitudes and value systems (Fodor *et al.*, 2017; Fodor *et al.*, 2018).

The aim of this review was to examine the new generational cohort and its unique features, such as work ethics, characteristics, and lifestyles. These features are important to understand because they influence various aspects of

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society and organizations. However, some part of the existing literature claims that Gen Z is a continuation of the previous generation, Millennials. This creates challenges in distinguishing Gen Z from Millennials. Therefore, this review was guided by the following two research questions:

RQ1: What classifies Generation Z's differences compared to other generational cohorts?

RQ2: How is Generation Z different in terms of their attributes according to reviewed empirical studies?

The article presents a systematic literature review methodology and its results to address the research questions. It then discusses the findings and their implications for Gen Z research, theory, and practice. The article ends with a conclusion section.

## METHODOLOGY

A systematic literature review aims to provide transparent and rigorous reporting of the steps involved in finding, selecting, and evaluating relevant studies for a research topic (Barhate & Dirani, 2021). Therefore, this paper describes the details of the search strategy, the screening process, and the inclusion and exclusion criteria that were applied.

First, the researcher identified the literature relevant to the topic by searching for research specific to Generation Z mainly on the Google Scholar database. The following keywords were used to assist the literature search: "Generation", "Generation Z", "Gen Z", "characteristics", "attitudes", and "attributes". Then a systematic literature review on Gen Z was conducted by selecting the most pertinent sources from the initial search results, which included journal articles, online published newspaper articles, blogs, and industrial reports published after 2007. The following inclusion and exclusion criteria were applied to refine our search results.

The inclusion criteria were as follows:

1. The central phenomenon of this article is Generation Z. Hence, all articles selected included keywords related to Gen Z in their abstracts.
2. Published books and industrial reports were included to ensure evidence-based research is used for this extensive literature review.
3. The aim of this study is to explore the Gen Z cohort from various perspectives and contexts.

Therefore, the literature review included Gen Z research from different regions and countries.

Guided by the inclusion criteria articles for the literature survey were obtained. To ensure more articles were referred to, the reference list of all the articles was used to navigate into further research.

The following exclusion criteria were used to filter the empirical studies and industrial reports that were reviewed:

1. The article excluded any information that was not relevant to the career goals, preferences or traits of Gen Z.
2. Articles that considered Gen Z as an extended cohort of Gen Y (Millennials) were excluded from the study.
3. Industrial reports that did not provide information specifically on Gen Z careers, characteristics, and aspirations were eliminated.

## RESULTS AND DISCUSSION

In this section firstly an overview of Generation Z is elaborated to answer research question one. Then, this is followed by a discussion about the characteristics of Generation Z which provides answers to research question two.

### Conceptualizing "Generation Z".

Gen Z representing 30% of the total global population (OECD, 2021) has its own set of values, attitudes, and beliefs. It is not identified through only one stereotype but rather different ways of being themselves. According to UN population data projections, Generation Z will comprise nearly a quarter of the global labour force in 2020, as they transition to adulthood (Statista, 2021). This emphasizes the importance of understanding the new cohort who will be taking the leading role soon.

Gen Z is no different, but there is an important historical event you can use as a milestone to determine whether someone is in Gen Z. There are growing appeals to Generation Z's birth year. While some researchers argue that this generation is born after 1995, several authors include people born after 1990 and 2000 or later (Robak & Albrychiewicz-Słocińska, 2019).

**Table 1: Differences in identifying Generation Z birth years**

Birth Years	Author(s)
Born in the early 1990s and early 2000s	Arar & Yuksel (2015)
Born between mid-1990 to mid-2000's	Dwivedula <i>et al.</i> , (2019)
Born between mid-1990 to 2004	Sidorcuka & Chesnovicka, (2017)
Born after 1990	Booz & Company, (2010)
Born after 1995	Chillakuri (2020); Dolot (2018); Chillakuri & Mahanandia (2018); Robak & Albrychiewicz-Słocińska (2019); Berkup (2014)
Born between 1995-2010	Jayathilake & Annuar (2020); Agarwal & Vaghela (2018); Kirchmayer & Fratričová (2017); Bencsik <i>et al.</i> , (2016); Jiri (2016); Fodor & Jaeckel, (2018); Diaconu & Dutu (2020); Kirchmayer & Fratričová (2017); Kirchmayer & Fratričová (2018); Huțanu <i>et al.</i> , (2018); McKinsey & Company (2018)
Born between 1995 – 2009	Cseh-Papp <i>et al.</i> , (2017)

Born between 1995-2012	Stillman & Stillman (2017); Wilson <i>et al.</i> , (2017); Singh (2014); Barhate & Dirani (2021); Deloitte (2018)
Born between 1995 – 2015	Koulopoulos & Keldsen (2014) (as cited by Chareewan <i>et al.</i> , (2020)
Born after 1995	Tang (2019); Agarwal & Vaghela (2018); Maioli (2016); Fratričová, & Kirchmayer (2018); Bulut & Maraba (2021); Bieleń & Kubiczek (2020); Hampton & Welsh (2019); Adecco (2015)
Born after 1995 and raised during the 2000s	Wilson <i>et al.</i> , (2017)
Born in 1996 and after	Hameed & Mathur (2019); Bejtkovsky (2016)
Born between 1996 - 2010	Kodithuwakku <i>et al.</i> , (2018); Scott (2016) (as cited by Chareewan <i>et al.</i> , (2020)
Born between 1996 - 2011	Lanier (2017)
Born between 1996 - 2012	Schwieger & Ladwig (2018); n-gen People Performance Inc., (2017)
Born between 1996 – 2013	Grow & Yang (2018)
Born after 1997	Jayathilake (2019)
Born in 1998 - present	Otieno & Nyambegera (2019)
Born before and after 2000	Çora (2019)
Born after 2000	Ozkan & Solmaz (2015)
Mid 1990s to Mid 2000	Lalić <i>et al.</i> , (2020)

Source – Author's findings

There is no consensus on the exact birth years that define the Z-Generation, but most sources agree that it includes people who were born after 1995. However, some studies also consider those who were born after 1996, 1997 or 1998

as part of this cohort. Apart from detailed time lanes literature highlights the following alternative terms authors used to address this generation.

**Table 2: Generation Z alternative names**

Sub-theme	Citation
Digital Natives	Fodor <i>et al.</i> , (2018); Fodor & Jaekel, (2018); Diaconu & Dutu (2020); Kirchmayer & Fratričová (2017); Kirchmayer & Fratričová (2018); Bejtkovsky (2016); Lalić <i>et al.</i> , (2020); Huțanu <i>et al.</i> , (2018); Lanier (2017); McKinsey & Company (2018); Deloitte (2018); Grow & Yang (2018); Booz & Company (2010)
Gen Tech	Vidya Jha (2021); Dolot (2018)
Post-millennials	Vidya Jha (2021); Chareewan <i>et al.</i> , (2020); Huțanu <i>et al.</i> , (2018); Barhate & Dirani (2021); Dolot (2018)
iGeneration	Vidya Jha (2021); Chareewan <i>et al.</i> , (2020); Tang (2019); Çora (2019); Agarwal & Vaghela (2018); Bejtkovsky (2016); Huțanu <i>et al.</i> , (2018); Barhate & Dirani (2021);
Gen Wi-Fi Zoomers	Vidya Jha (2021)
Homeland Generation	Chareewan <i>et al.</i> , (2020); Diaconu & Dutu (2020); Agarwal & Vaghela (2018)
Centennials	Tang (2019); Huțanu <i>et al.</i> , (2018);
Generation V	Diaconu & Dutu (2020);
Generation C (connected)	Diaconu & Dutu (2020); Kirchmayer & Fratričová (2017); Booz & Company (2010);
Generation Cox Internet Generation Google Generation The New Silent Generation	Diaconu & Dutu (2020);
App Generation	Agarwal & Vaghela (2018);
Generation Quiet The Next Generation The New Silent Generation	Bejtkovsky (2016);
.com Generation Facebook Generation	Huțanu <i>et al.</i> , (2018)
The Sharing Generation	Barnes & Noble College Insights (2018);
Generation Me	Glass (2007)
Online Generation, Switchers,	Dolot (2018)

Always clicking, R Generation; Responsibility generation	
Children of Internet, Media Generation, .com Generation	Berkup (2014)

Source: Author's findings

Having been brought up in the technology era, and the availability of the internet is always at hand it is not surprising that Generation Z is alternatively addressed by technological terms such as digital natives, Facebook generation, online generation etc. Among many other things, Generation Z is the first generation to grow up as a cohort of "always-on" internet connection - knowing only the era of technology and not anything before.

### **Characteristics of Generation Z**

Gen Z has a unique viewpoint of everything they encounter. Born and raised in an environment of technological

advancement, they always think ahead while taking important steps. Having an inclusive thinking Gen Z is unique and impressive. Therefore, they have higher expectations than previous generations, especially in terms of their career. For this reason, it is important for employers to understand and act on Gen Z's needs to get the best out of this tech-savvy generation of workers to achieve goals together. Having that in mind, going by the literature the present study identifies the characteristics and expectations of generation z as mentioned below.

**Table 3: Generation Z characteristics**

Theme	Sub - Theme	Citation
Communication	Social Media Driven (Reflexive media users)	Fodor <i>et al.</i> , (2018)
	In-person communication	Hope (2016) (as cited by Chareewan <i>et al.</i> , (2020)); Agarwal & Vaghela (2018); Dan Schawbel (2014) (as cited by Agarwal & Vaghela (2018); Lalić <i>et al.</i> , (2020); Huțanu <i>et al.</i> , (2018); Barnes & Noble College Insights (2018)
	Avoid mutual communication	Kılınc & Varol (2021); Deloitte (2018)
	Texting (instant messaging)	Tang (2019); Çora (2019); Agarwal & Vaghela (2018); Bieler & Kubiczek (2020)
	Communicate virtually	Çora (2019); Fratričová, & Kirchmayer (2018); Bejtkovsky (2016); Deloitte (2018)
	Informal Communication	Agarwal & Vaghela (2018)
Socialization	Via Internet (online)	Kılınc & Varol (2021); Bieler & Kubiczek (2020); Lalić <i>et al.</i> , (2020);
	Social Media	Çora (2019)
	Social Networking	Agarwal & Vaghela (2018); Maioli (2016); McKinsey & Company (2018); Jiri (2016); Sidorcuka & Chesnovicka (2017)
Core Values	Environmentally Conscious (Green Behavior)	Fodor <i>et al.</i> , (2017); Çora (2019); White Paper (2011) (as cited by Agarwal & Vaghela (2018); Jiri (2016); Sidorcuka & Chesnovicka (2017)
	Social Activism	Bulut & Maraba (2021); Barnes and Noble College Insights (2018)
	Religious/ spiritual	McKinsey & Company (2018)
	Honesty	Çora (2019); Agarwal & Vaghela (2018); Otieno & Nyambegera (2019)
	Happiness	Ozkan & Solmaz (2015); Jiri (2016)
	Responsible	Diaconu & Dutu (2020); Huțanu <i>et al.</i> , (2018)
	Internal Motivation	Fodor <i>et al.</i> , (2018); Singh (2014) (as cited by Vidya Jha, (2021); Mahmoud <i>et al.</i> , (2020); Bencsik <i>et al.</i> , (2016); Jiri (2016); Agarwal & Vaghela (2018); Otieno & Nyambegera (2019)
	External Motivation	Huțanu <i>et al.</i> , (2018)
	Cultural Diversity	Kılınc & Varol (2021); Agarwal & Vaghela (2018); Mahmoud <i>et al.</i> , (2020); Maioli (2016); Bulut & Maraba (2021); Wilson <i>et al.</i> , (2017); Lubis <i>et al.</i> , (2019)
	Transparency	Kılınc & Varol (2021)
	Loyalty	Diaconu & Dutu (2020); Jiri (2016); Chillakuri & Mahanandia (2018)
	Mutual Respect	Bieler & Kubiczek (2020)
Career Decisions	Job Hopping	Fodor <i>et al.</i> , (2017); Çora (2019); Mărginean (2021)
	Career Choice: Tech Industry	Glassdoor (2019)



	Prefer regular employment rather than freelance	McKinsey & Company (2018)
Consumer Behavior	Online shopping	Diaconu & Dutu (2020);
Attributes	Self - Confidence	Said <i>et al.</i> , (2020); Kılınc & Varol (2021); Çora (2019); Maioli (2016); Bieler & Kubiczek (2020); Ozkan & Solmaz (2015); Barhate & Dirani (2021); Hampton & Welsh (2019); Maioli (2016); DELL Technologies (2018)
	Independent	Said <i>et al.</i> , (2020); Fodor <i>et al.</i> , (2017); Peterson (2014:1) as cited by Arar & Öneren, (2018); Kılınc & Varol (2021); Grow & Yang (2018); Çora (2019); Bulut & Maraba (2021); Ozkan & Solmaz (2015); Adecco (2015); Deloitte (2018); Barnes & Noble College Insights (2018); Berkup (2014); Arar & Yuksel (2015); Sidorcuka & Chesnovicka (2017); Wilson <i>et al.</i> , (2017); Agarwal & Vaghela (2018); Chillakuri & Mahanandia, (2018); Schwieger & Ladwig (2018); Chillakuri (2020)
	Individualistic	Vidya Jha, (2021); Kılınc & Varol (2021); Tang (2019); Çora (2019); White Paper (2011) (as cited by Agarwal & Vaghela (2018); Bulut & Maraba (2021); Bieler & Kubiczek (2020); Huțanu <i>et al.</i> , (2018); Barhate & Dirani (2021)
	DIY	Vidya Jha, (2021); Agarwal & Vaghela (2018); White Paper (2011) (as cited by Agarwal & Vaghela (2018); Bulut & Maraba (2021); Huțanu <i>et al.</i> , (2018); Barhate & Dirani (2021); Adecco (2015); Barnes & Noble College Insights (2018); Schwieger & Ladwig (2018); Otieno & Nyambegera (2019); Chillakuri (2020)
	Creativity and innovation	Kılınc & Varol (2021); Bulut & Maraba (2021); Bieler & Kubiczek (2020); Lalić <i>et al.</i> , (2020); Kılınc & Varol (2021); Sidorcuka & Chesnovicka (2017)
	Multi-tasking	Fodor <i>et al.</i> , (2018); Fodor <i>et al.</i> , (2017); Micoleta (2012) (as cited by Arar & Öneren, (2018); Kılınc & Varol (2021); Çora (2019); Mahmoud <i>et al.</i> , (2020); Maioli (2016); Fratričová, & Kirchmayer (2018); Bulut & Maraba (2021); Cseh-Papp <i>et al.</i> , (2017); Adecco (2015); Berkup (2014); Jiri (2016); Sidorcuka & Chesnovicka (2017); Wilson <i>et al.</i> , (2017); Chillakuri & Mahanandia (2018); Otieno & Nyambegera (2019); Robak & Albrychiewicz-Słocińska (2019); Lubis <i>et al.</i> , (2019)
	Tech Savvy	Singh (2014) as cited by Vidya Jha, (2021); Kılınc & Varol (2021); Tang (2019); Çora (2019); Agarwal & Vaghela (2018); Amanda Slavin (2015) as cited by Agarwal & Vaghela (2018); Bulut & Maraba (2021); Bieler & Kubiczek (2020); Lalić <i>et al.</i> , (2020); Huțanu <i>et al.</i> , (2018); Lanier (2017);
	Social Media savvy	Adecco (2015); Jiri (2016); Schwieger & Ladwig (2018); Lubis <i>et al.</i> , (2019)
	Smart	Fodor <i>et al.</i> , (2017);
	Entrepreneurial	Peterson (2014:1) as cited by Arar & Öneren, (2018); Kılınc & Varol (2021); Çora (2019); Dan Schawbel (2014) as cited by Agarwal & Vaghela (2018); Bulut & Maraba (2021); Bieler & Kubiczek (2020); Huțanu <i>et al.</i> , (2018); Deloitte (2018); Barnes and Noble College Insights (2018); Arar & Yuksel (2015); Wilson <i>et al.</i> , (2017); Agarwal & Vaghela (2018); Chillakuri & Mahanandia (2018); Schwieger & Ladwig (2018); Dwivedula <i>et al.</i> , (2019); Otieno & Nyambegera (2019); Lubis <i>et al.</i> , (2019); Chillakuri (2020)
	Take initiative	Kılınc & Varol (2021); Fodor <i>et al.</i> , (2017);
	Pragmatic/Realistic	Kılınc & Varol (2021); Fodor <i>et al.</i> , (2017); Grow & Yang (2018); ÇORA (2019); Dan Schawbel (2014) as cited by Agarwal & Vaghela (2018); Fratričová, & Kirchmayer (2018); Kirchmayer & Fratričová (2018); Mărginean (2021); Lanier (2017); McKinsey & Company (2018); Kılınc & Varol (2021)
	Materialistic	White Paper (2011) as cited by Agarwal & Vaghela (2018); Kirchmayer & Fratričová, (2018); Lalić <i>et al.</i> , (2020); Booz & Company, (2010)
	Ambitious	Maioli (2016); Bulut & Maraba (2021); Huțanu <i>et al.</i> , (2018);

	Adaptability	Kılınc & Varol (2021); Tang (2019); Maioli (2016); Huțanu <i>et al.</i> , (2018);
	Collaborative	Hampton & Welsh (2019); Cseh-Papp <i>et al.</i> , (2017); Maioli (2016); Diaconu & Dutu, (2020); Kılınc & Varol (2021)
	Attention to detail	Huțanu <i>et al.</i> , (2018)
Negative points	Short attention span	Diaconu & Dutu (2020); Maioli (2016); Huțanu <i>et al.</i> , (2018); Lanier (2017); Deloitte (2018); White Paper (2011) (as cited by Agarwal & Vaghela (2018); Bejtkovsky (2016); Sidorcuka & Chesnovicka (2017); Wilson <i>et al.</i> , (2017); Agarwal & Vaghela (2018); Otieno & Nyambegera (2019)
	Soft skill Gap	Robert Half (2019)
	Lack interpersonal skills	Bejtkovsky, (2016)
	Not good with words and emotions	Fodor <i>et al.</i> , (2017)
	Not good listeners	Bejtkovsky (2016)
Dislikes	Authoritarian rule	Kılınc & Varol (2021); Ozkan & Solmaz (2015)
	Hierarchical Structure	Bieleń & Kubiczek, (2020)
	Monotonous/Routine Task	Maioli (2016)

Source: Author's findings

## DISCUSSION

One of the challenges of studying generational cohorts is defining their boundaries and characteristics. In this paper, we focus on the generation commonly known as Gen Z, which is the youngest and most diverse generation in the world today. We explore two main areas that differentiate Gen Z from other generations: their birth years, alternative names, and attributes.

The birth years of Gen Z are not universally agreed upon, but most studies suggest that they are the cohort born after 1995 (Chillakuri, 2020; Dolot, 2018; Berkup, 2014; Kirchmayer & Fratričová, 2017; Bencsik *et al.*, 2016; McKinsey & Company, 2018; Cseh-Papp *et al.*, 2017; Stillman & Stillman, 2017; Wilson *et al.*, 2017; Singh, 2014; Barhate & Dirani, 2021; Deloitte, 2018; Tang, 2019; Bulut & Maraba, 2021; Adecco, 2015). This means that they are the first generation to grow up with the internet, social media, smartphones, and other digital technologies that have shaped their worldview and behaviour.

Another area that distinguishes Gen Z is the variety of names they are referred to by different sources and contexts. Some of the common names include iGen (Vidya Jha, 2021; Chareewan *et al.*, 2020; Tang, 2019; Agarwal & Vaghela, 2018; Bejtkovsky, 2016; Barhate & Dirani, 2021), Digital Natives (Fodor *et al.*; Diaconu & Dutu, 2020; Kirchmayer & Fratričová, 2018; Bejtkovsky, 2016; Lalić *et al.*, 2020; Huțanu *et al.*, 2018; Lanier, 2017; McKinsey & Company, 2018; Deloitte, 2018; Booz & Company, 2010), post-millennials (Vidya Jha, 2021; Chareewan *et al.*, 2020; Huțanu *et al.*, 2018; Barhate & Dirani, 2021; Dolot, 2018) and Zoomers (Vidya Jha, 2021). Each name reflects a different aspect of Gen Z's identity, especially their digital nativism. For instance, they are also known as Gen-Tech (Vidya Jha, 2021; Dolot, 2018), Generation C (connected) (Diaconu & Dutu, 2020; Kirchmayer & Fratričová, 2017; Booz & Company, 2010), Internet Generation (Diaconu & Dutu, 2020), App Generation (Agarwal & Vaghela, 2018); Facebook Generation (Huțanu *et al.*, 2018), Online Generation (Dolot, 2018) and .com Generation (Berkup, 2014) for this reason.

The communication preferences of Generation Z have been a subject of interest for many scholars and researchers. Generation Z is often compared and contrasted with other generations, such as Millennials, Generation X, and Baby

Boomers, in terms of their values, attitudes, behaviours, and preferences. There is no consensus among the researchers on the preferred mode of communication of Generation Z. Some studies suggest that Generation Z prefers face-to-face communication (Agarwal & Vaghela, 2018; Lalić *et al.*, 2020; Huțanu *et al.*, 2018; Barnes & Noble College Insights, 2018) over other forms of communication, while others contend that Generation Z avoids direct interaction (Kılınc & Varol, 2021; Deloitte, 2018) and favours texting (Tang, 2019; Çora, 2019; Agarwal & Vaghela, 2018; Bieleń & Kubiczek, 2020), virtual communication (Çora, 2019; Fratričová, & Kirchmayer, 2018; Bejtkovsky, 2016; Deloitte, 2018), and social media platforms, especially to socialize via the internet (Kılınc & Varol, 2021; Bieleń & Kubiczek, 2020; Lalić *et al.*, 2020).

Besides their communication preferences, several studies show that Generation Z has a set of altruistic values that reflect their concern for the environment (Fodor *et al.*, 2017; Çora, 2019; Jiri, 2016), social justice (Bulut & Maraba, 2021; Barnes and Noble College Insights, 2018), and cultural inclusion (Kılınc & Varol, 2021; Agarwal & Vaghela, 2018; Mahmoud *et al.*, 2020; Maioli, 2016; Bulut & Maraba, 2021; Wilson *et al.*, 2017; Lubis *et al.*, 2019). They also value personal traits such as loyalty (Diaconu & Dutu, 2020); Jiri, 2016; Chillakuri & Mahanandia, 2018), honesty (Çora, 2019; Agarwal & Vaghela, 2018; Otieno & Nyambegera, 2019), responsibility (Diaconu & Dutu, 2020; Huțanu *et al.*, 2018) and intrinsic motivation (Mahmoud *et al.*, 2020; Bencsik *et al.*, 2016; Jiri, 2016; Agarwal & Vaghela, 2018; Otieno & Nyambegera, 2019). Generation Z is willing to challenge the established norms and seek more from themselves and others. They are motivated by a sense of purpose and a wish to contribute positively to the world.

According to various sources (Vidya Jha, 2021; Kılınc & Varol, 2021; Tang, 2019; Çora, 2019; Bulut & Maraba, 2021; Bieleń & Kubiczek, 2020; Huțanu *et al.*, 2018; Barhate & Dirani, 2021), Generation Z stands out for their individualistic and independent mindset (Said *et al.*, 2020; Fodor *et al.*, 2017; Grow & Yang, 2018; Çora, 2019; Bulut & Maraba, 2021; Ozkan & Solmaz, 2015; Adecco, 2015; Deloitte, 2018; Barnes & Noble College Insights, 2018; Berkup, 2014; Arar & Yuksel, 2015; Sidorcuka & Chesnovicka, 2017). They are also called the DIY (Do It Yourself) generation (Vidya Jha, 2021; Agarwal & Vaghela, 2018; Bulut & Maraba, 2021; Huțanu *et al.*, 2018; Barhate & Dirani, 2021; Adecco, 2015; Barnes & Noble

College Insights, 2018) for their creative and innovative abilities (Kılınc & Varol, 2021; Bulut & Maraba, 2021; Bielen & Kubiczek, 2020; Lalić *et al.*, 2020; Kılınc & Varol, 2021; Sidorcuka & Chesnovicka, 2017). Moreover, they have an entrepreneurial spirit (Kılınc & Varol, 2021; Çora, 2019; Deloitte, 2018; Barnes and Noble College Insights, 2018; Arar & Yuksel, 2015; Wilson *et al.*, 2017; Lubis *et al.*, 2019; Chillakuri, 2020). While some researchers argue that Gen Z can handle multiple tasks at once (Fodor *et al.*, 2018; Çora, 2019; Mahmoud *et al.*, 2020; Maioli, 2016; Fratričová, & Kirchmayer, 2018; Bulut & Maraba, 2021; Cseh-Papp *et al.*, 2017; Adecco, 2015; Berkup, 2014; Jiri, 2016), others suggest that they tend to lose focus quickly (Diaconu & Dutu, 2020; Maioli, 2016; Huțanu *et al.*, 2018; Lanier, 2017; Deloitte, 2018).

## CONCLUSION

This paper has explored the characteristics and features of Generation Z, a cohort that is entering the workforce and shaping the future of various sectors. The paper has discussed how Generation Z differs from other generations in terms of their birth year, alternative names, and unique attributes. The paper has shown that Generation Z is generally considered to be born after 1995 and has grown up with digital technology as an integral part of their lives. Therefore, they are also known as digital natives, iGeneration, .com generation, Gen tech, Zoomers, and other names that reflect their familiarity and affinity with technology. The paper has also highlighted the distinctive traits of Generation Z, such as their independence, entrepreneurship, altruism, internal motivation, and short attention span. These traits have implications for how Generation Z interacts with others, learns new skills, pursues their goals, and contributes to society.

The implications of this paper are twofold. First, it contributes to the existing body of knowledge on generational differences and provides a comprehensive overview of Generation Z as a distinct cohort. Second, it offers practical insights for managers, marketers, educators, and policymakers who need to understand and engage with Generation Z effectively. By recognizing the characteristics and needs of Generation Z, these stakeholders can design strategies and policies that cater to their expectations, and values and leverage their strengths and potential.

The paper concluded that Generation Z is a complex and dynamic cohort that challenges the existing norms and expectations of the corporate sector. It suggested that organizations need to understand and adapt to the needs and values of this generation in order to attract, retain, and engage them effectively. The paper also recommended that future research should further explore the diversity and complexity of Generation Z across different contexts and cultures and examine the challenges and opportunities that they face in a rapidly changing world. Furthermore, the paper called for more empirical studies that examine the impact of Generation Z on various domains, such as education, economy, society, and culture.

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# Exploring and Reorienting the Challenges and Reinventing Revitalized Strategies in Teaching English for Certificate-Level Students at the SLITHM Colombo Campus

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## Abstract

*Acquiring proficiency in the English language poses various difficulties for students enrolled in Certificate Level batch no.334 at the Sri Lanka Institute of Tourism and Hotel Management (SLITHM). The objectives of this research study were to identify the obstacles encountered by the students in their English language learning journey and explore effective strategies to overcome these challenges. A survey questionnaire was employed as part of a quantitative research design to ascertain the specific challenges faced by the students during the process of learning English. A total of 100 students, randomly selected from all five disciplines, with 20 students from each, were interviewed as part of a qualitative research design to determine the most successful learning strategies for overcoming the existing obstacles. Purposeful sampling was utilized to select five participants from each discipline who had achieved the highest grades in English at the G.C.E. (O/L) examination, with the aim of identifying the most efficient learning strategies to conquer the current challenges. The research findings revealed that the majority of students considered the influence of their mother tongue to be the most significant hurdle, followed by limited exposure to fluent English, inadequate resources, and a lack of self-motivation in learning the language. In comparison, a small percentage of students expressed that a restricted vocabulary, outdated teaching methods, and a negative attitude towards the subject also impeded their progress in learning the English language. The findings further indicated that a student-centered approach to learning, incorporating innovative teaching methodologies and the utilization of technology, would yield positive results. Additionally, the introduction of e-learning facilities was found to effectively address almost all of the current challenges faced by the students.*

**Keywords:** Certificate-Level, Challenges, English, Strategies, Teaching

## INTRODUCTION

Without a doubt, English has emerged as the global language of communication, embodying the diverse dynamics of our time such as globalization, networking, economic integration, the Internet, and its extensive usage, thereby making it a significant symbol of our era. It has been a topic of extensive debate and contention. According to Crystal (2001), English has been perceived as a threat to local dialects and traditions, while its widespread adoption has been viewed as a potential danger to the standardized form of the language. English is being embraced in various non-mainstream subcultures as well as in industries such as business and science, as a means to facilitate communication on a global level. The prominence of the English language as a global medium exerts a substantial impact on various aspects of Sri Lankan society, including international relations, economic matters, education, and more. A high level of proficiency in English is also a crucial requirement when seeking a desirable occupation. Nunan's work from 2005 can be paraphrased as follows: "As stated by Nunan in his publication in 2005, the English language

serves as a universally recognized medium of communication across different countries and cultures. Acquiring it can ensure access to opportunities for international trade, tourism, higher education, and an enhanced quality of life.

English is the most widely used language worldwide, commonly known as a "global language." It serves as a second language in many countries and is the common language of our current era. Due to the significant diversity in ethnicity and language in Sri Lanka, English is extensively utilized as both a means of communication and a connecting language for inter-state and intra-state cooperation. The Sri Lanka Institute of Tourism & Hotel Management (SLITHM), formerly known as the Ceylon Hotel School, is a leading institution in providing comprehensive training for the hospitality industry. They cater to various levels, such as vocational courses and advanced professional programs, to meet the needs of local and global markets. SLITHM has created a valuable environment that helps enhance the English language proficiency of its students. Undoubtedly, it

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has been challenging to develop a skilled workforce that can meet the demands of the expanding hospitality industry, which has experienced significant growth in recent decades. To enroll in a Certificate program in one of five areas of study (Food & Beverages, Professional Cookery, Pastry & Bakery, Housekeeping, and Front Office), students must possess a G. CE credential. To be eligible, candidates must have at least six O/L passes, including two S passes in English and Mathematics, achieved in no more than two sittings. Additionally, they must have three credit passes and another pass, or be at the Craft level at SLITHM. A one-year industrial training in the relevant field is required, but those who are already employed in the hotel industry with two years of industrial training may also apply. Candidates must be 18 years of age or older to be considered. Furthermore, English holds a fundamental place in the syllabus of the Certificate level. Despite the widespread use of English and its increasing importance in Sri Lanka, several students pursuing Certificate courses at SLITHM Colombo Campus face multiple challenges in learning the language. This indicates that despite receiving formal education in English for thirteen years, they are unable to make effective progress. The struggles faced by students at the Certificate level have made it difficult for them to acquire the necessary proficiency in English, which is crucial for practical applications, particularly in sectors such as tourism and hospitality. Achievements in language learning are not solely determined by the teaching and learning process but are also influenced by external factors such as interference from the mother tongue, the learning environment, and the English language education system. In today's interconnected world, the ability to communicate effectively in English is essential for students pursuing a Certificate.

(i) To investigate and realign obstacles the students at the Certificate Level encounter in acquiring and perfecting their English skills.

(ii) To innovate and revamp approaches to enhance the pedagogy for bettering the learning and mastery of English by students at the Certificate Level.

Given the considerable number of students enrolled in Certificate Level programs at SLITHM's provincial colleges, it is crucial to prioritize the exploration and realignment of the current challenges faced by these students in order to develop fresh strategies for teaching English that will benefit them.

## LITERATURE REVIEW

The literature on the topics of this study is reviewed in this section. The assessments cover topics and factors that influence English language teaching and learning. Previous researchers have considered a variety of factors and come up with a comprehensive understanding of the challenges in teaching English as follows.

Ahmed (2015) argues that motivation is needed to learn English. Motivation is very important when learning English. Whatever they study, students with a strong desire to learn English will succeed. As Suryasa, Prayoga, and Werdistira (2017) have pointed out, there are two sources of inspiration that influence English language learning, namely integrated specific inspiration and instrumental inspiration. Integrated inspiration is our desire to learn English to speak with people from different cultures communicating in a similar language. In contrast, tool inspiration is the need to learn a language for obvious goals, such as finding a new line

of work and completing a review. Besides inspiration, learning English also requires self-efficacy and self-regulation, especially from teachers. This aspect will help teachers become more proficient in teaching English to students.

To learn English, three elements are especially important to support the four English skills:

pronunciation, vocabulary, and grammar. The term "micro-skills of English skills" refers to these three aspects. These skills are difficult for students to acquire. Students discovered a number of factors that negatively affected their pronunciation skills. Poor pronunciation, according to Soleh and Muhaji (2015), is due to the following factors;

- (i) strong influence from the mother tongue;
- (ii) difficulty to sound consonants and vowels properly;
- (iii) difficulty to identify homographs and homophones, and
- (iv) difficulty to pronounce the vocab well.

Besides students, negative factors also come from teachers. The following are the negative effects of a teacher:

- (i) Teachers ignore to correct students' pronunciation;
- (ii) Teachers are too lazy to correct students' pronunciation whether the students' pronunciation is  
right or wrong; and
- (iii) Teachers are not aware that pronunciation is essential in English communication

Learning English also incorporates vocabulary as one of its difficulties. Students lack the vocabulary to write an essay. Since students like to build their ideas with "Google Translate", teachers are faced with many unstructured sentences. Teachers still find many grammatical errors in students' writing, as well as pronunciation and vocabulary errors. Sometimes students are not aware of the purpose of tenses. They don't know how to use them properly, such as how to use simple tense and simple continuous tense properly (Lubis, 2017).

In reading, students find pronunciation a typical problem when reading aloud. Sholeh and Muhaji (2015) argue that students have difficulty pronouncing some words because their mother tongue is strongly influenced by and familiar with the English environment. Another challenge students face in acquiring reading skills is comprehension. Students have difficulty listening due to a lack of understanding and difficulty controlling the rate at which speakers convey their message through their pronunciation. Students with this disorder have poor listening skills because they cannot ask the reader to repeat what they have just read in a listening passage. This statement is consistent with Megawati (2016), who stated that difficulties in learning English are due to ignorance and difficulty controlling the speaking speed of words.

Students with poor writing skills often lack knowledge of vocabulary and grammar, so they struggle with grammar and vocabulary problems. According to Prihatmi (2017), good sentence structure is essential for writing. Students' limited knowledge of the topic they want to write about makes it difficult for them to connect one sentence to another, which is another problem for their writing skills. Prihatmi says that students get confused when they say a phrase to others because they don't have enough understanding of the title.

According to Sholeh and Muhaji (2015), students struggle with pronunciation, vocabulary, and grammar when it comes to their speaking skills. Speaking is supported by

these three micro-skills. In addition, the literature review outlines four main problems faced by English teachers, including students' language skills, appropriate teaching strategies, and insufficient resources (Garcia, 2020). Similarly, Bradford (2016) identified four types of challenges encountered in English language teaching, namely linguistic difficulties, cultural challenges, structural challenges and institutional challenges. Language challenges are the challenges faced by teachers and students involved in the teaching-learning process as a result of language challenges. Non-native speakers often encounter these problems because they find it difficult to understand the English accented by native teachers (Ammon & McConnell, 2002) and the content of lessons taught in English in general (Ammon & McConnell, 2002; Hellekj, 2010). On the other hand, students face many difficulties in teaching English because they do not have enough English proficiency to understand academic materials published in English. According to Wilkinson (2013), this refers to Dutch students who have difficulty in the English curriculum at Maastricht University due to their lack of English proficiency. In general, the English language teaching literature is concerned that students are not proficient in English, often related to self-perception or touching on basic assumptions (Huang, 2015). On the other hand, English teachers are concerned about the language barrier posed by differences in students' skill levels, and teachers' ability to deal with this diversity in addition to their language levels.

According to Bradford (2016), the cultural challenge is the mismatch between the characteristics and expectations of domestic and foreign students. The experience of English teachers has a significant impact on cultural challenges. For example, a British lecturer may be familiar with a highly interactive teaching style; however, this style is not considered to be primarily active in Thai university classrooms, where students prefer to learn passively (King, 2013).

Structural challenges in teaching English relate to the overall consistency of the program and include issues related to insufficient numbers of English classes and support staff not being able to work with them. different population groups. (Bradford, 2016:4). According to Byun et al (2011), several studies indicate that potential English teachers show reluctance due to a lack of confidence related to a lack of training or financial incentives.

The (institutional) identity challenge concerns the way the English language is viewed from the outside and the identity of the English curriculum, English teachers' teaching, and student enrollment (Bradford, 2016). According to Knight (2015), a growing concern of higher education institutions desiring internationalization is the identity of the institution, especially concern about how it is perceived by the rest of the world, such as in the global rankings (Knight, 2015).

There are strategies to overcome barriers to learning English. Teachers and students can use a variety of methods to overcome difficulties in learning English. To address pronunciation challenges, students and teachers can use songs as a pronunciation aid, as noted by Farmand and Pourgharib (2020). Songs can also be used to improve listening skills. Students may be asked to listen to songs to complete an incomplete lyric taught by the teacher. According to Safranj (2015), in addition to songs, watching movies in English can help improve listening skills.

Flashcards can help students and teachers improve their vocabulary. Hung (2015) says flashcards can help you update your vocabulary. According to Abbasian and Ghorbanpour, the method of reading can also be used to emphasize and control vocabulary. According to Walters and Bozkurt (2009), vocabulary notes can also be used to learn vocabulary. Reading methods can also be used to improve reading skills, as this activity allows students to read, read, and read. According to Day (2012), the reading method allows students to read many times, especially extended reading. In other words, when students read reading material aloud, it also trains their pronunciation skills. Because it allows students to read and read, reading magazines or articles in English can be included in extended reading. In any case, broad reading is used not only to understand possibilities but also to control punctuation according to Lee (2015). Mai and Tuan (2015) also suggest that teachers can help students improve their writing and speaking skills by providing feedback on their writing and speaking practices. Therefore, it can be summed up that the challenges in teaching English are an important aspect with no academic consequences if the solutions are not addressed in further research.

## MATERIALS & METHODS

Since this research combines both scientific and quantitative methods and humanistic qualitative methods to achieve the objectives, this study is a blend of the philosophies of positivism and interpretation. Since this study included a mixed approach used in this research paper, the above philosophies were adopted. Because this study included exploratory questionnaire questions and affirmative interview questions, a mixed approach was used. The data were obtained by both inductive and deductive methods.

The research strategies used in this study were an online quantitative survey including questionnaires and a qualitative interview consisting of semi-structured interviews. The questionnaire reached a significantly higher number of participants (100) and collected a larger amount of data needed for this study. In addition, the qualitative interview provides access to rich information from five respondents selected from each Certificate major. Both quantitative and qualitative research designs are used in this research study. A good way to get firsthand information from Certificate level students at the Colombo Campus of SLITHM is to use a questionnaire. Meanwhile, Creswell (2012) says that interviews are ideal for interviewing participants who are comfortable sharing ideas, are articulate, and do not hesitate to speak up.

The purpose of this study is to investigate the challenges that Certificate level students encountered and how these challenges affected how well they learned English. The objective was to identify these challenges and gain insights from Certificate level students regarding the kinds of motivations that motivated them to learn English and the effects of mother tongue interference on English language acquisition. This study included 100 Colombo Campus, SLITHM participants. The instructions of the questionnaire helped participants comprehend the purpose of the research, the research questions, and how to complete the questionnaire. Moreover, the interview questions assisted the 05 selected respondents from the 05 disciplines of the Certificate level classes who had already obtained 'A' grades in the G.C.E (O/L) for the English language to provide their

views to beat the challenges of learning and mastering English.

Since this study included both qualitative and quantitative methods, mixed methods were used in the study. The time frame is a horizontal one as the course length of the Certificate students is 5 months. Thus, data were collected from questionnaires and interviews in the third month of their 5-month course. As a result, data is only collected at one point in time due to the short duration of the certification course.

A questionnaire for an online survey was used to collect data. 100 respondents from the Colombo Certification Facility, SLITHM participated in this study using simple random sampling for data collection. Random sampling simply means that everyone has an equal chance of being selected (Fang, 2013). For 05 interviewees, a purposeful sampling method was used.

Step 1: Rate the percentage of each sentence in sections B, C, D, E, and F.

2nd step: Use descriptive statistics to describe the data and display the data as a graph in each section.

(i) Perceptions of Certificate level students about barriers to learning English, such as motivation and barriers to mother tongue, have been summarized in Section B.

(ii) Section C summarizes the reason and intention to learn English, for example to pass exams or to enjoy movies or music in English.

(iii) Section D summarizes whether teaching methods play a central role in the English language learning of Certificate level students, such as the method of teaching interpreting that limits and affects English skills. English communication of Certificate level students. (iv) Section E summarizes the time that the certificate student spends learning English each day.

(v) Section F summarizes the problems that hinder the mother tongue in learning English, such as negative syntactic transfer.

Step 3: Explain the solutions participants like to use to overcome challenges.

The questionnaire used in this study has six parts. All questions are open. Respondent's personal details, such as gender, year of English study, and English proficiency, are covered in Part A. From the respondent's point of view, the purpose of Part B is to investigate challenges that prevent them from learning English. Section C aims to learn more about the motivations that influence English learners at the certificate level and the respondents' reasons and intentions to learn English. Learners answer questions about the effectiveness of teaching methods in Part D. Part E includes details about how long it takes to learn English. Part F investigates interference from the mother tongue while for Part F, students must rate each survey on a five-point Likert scale as strongly agree (5), agree (4), or neutral (3), disagree (2) and strongly disagree (1). This questionnaire is robust and reliable because the questions have been modified from several types of published studies. Reasons and intentions for learning English are revised by Wong (2011), part of the teaching methods is modified by Julius (2013) and part of interference from the mother tongue is modified by Dong (2014). The questionnaire provides data on the challenges as well as the reasons and motivations for learning English from the perspectives of different Certificate students.

Interviews were conducted with 05 people selected from 05 subjects of the certificate classes, who scored "A" in the G.C.E (O/L) English exam and got high marks in the test. Check out their tips for tackling the challenges of learning and mastering English. Each interview was conducted individually in a conversational manner after the implementation of the questionnaire. The interviews were conducted in a non-threatening and stress-free environment to help respondents express their feelings about learning English. Respondents were asked to answer four questions. Each student has to give suggestions for four questions. The first question, "How will you overcome your low motivation to learn English?" has been modified from Qi (2014). The second question, modified by Kumar and Sailaja (2015), is "How do you think English teachers should change the way they teach?" The third question "How do you avoid and overcome Chinese interference in English?" has been modified. The last question "How will you overcome the problem of not having enough time to study English in university?" has been modified since Sundqvist (2008).

The probability sampling method and non-probability sampling method were used in this study. The randomly selected 100 respondents from the Colombo Certificate level discipline, SLITHM were selected using simple random sampling for data collection which is a probability sampling method. Random sampling was used to collect respondents' personal information, to investigate the challenges preventing them from learning English, and to learn more about the motivations that influence English learners at the high school level. The level of certification and the reasons as well as the intention of the respondents to learn English, investigate the influence of teaching methods, and investigate the mother tongue interference. A stratified sampling method was utilized. For 05 participants from 05 interview subjects, the purposeful sampling method used is the non-probability sampling method. Purposeful sampling was used to collect the views of Certificate students on addressing the challenges of learning and mastering English.

## RESULTS & DISCUSSION

### *Data Analysis and Interpretation of Research Question 1*

Research Question 1: What are the challenges faced by Certificate level students in learning the English language?

- What is the challenge that is most frequently faced by Certificate level students in learning the English language?
- What is the challenge that is least frequently faced by Certificate level students in learning the English language?

There are mainly 4 types of challenges that Certificate students face, such as native language interference, self-motivation, time allotted, and teaching strategies and techniques. Forty-two percent of respondents said native language interference is the most important challenge for English language certification students. In contrast, only 17% of respondents indicated that the teaching strategies and techniques used were a challenge for them. About 21% of respondents said that self-motivation affects learning English. 20% of respondents believe that time allocation affects English learning. Ellis (1999) believes that a first language will hinder the acquisition of a second language by



Certificate level students because of the difference between the two languages.

**Motivation for English Learning:** Regarding the motivation to learn English certificate students, 40.2% of respondents explained that the purpose of learning English is to migrate to an English-speaking country in the first world, accounting high percentage best. In addition, 25% of respondents mentioned learning English to get a promising job in the hospitality industry, which is the second highest percentage. Another relatively high percentage (13%) of respondents learn English because they think it will one day be useful for them to get promoted. About 10 people think it will help them when they travel abroad to experience a foreign culture or take part in the international English language testing system (IELTS) exam abroad. Very few respondents (3%) said they learn English because they want to understand the British way of life and culture, 4.5% said they learn English for social purposes and 2.3% said they learn English due to the persuasion of their parents. According to Hill (2003), motivation plays an important and decisive role in learning English at the university level. Seda and Zahitjan (2016) also show that students will be more successful in learning English if they are more motivated.

**Attitude toward Teaching Method:** As noted, more than a quarter of the respondents (27%) believe that English teachers do not create a favorable English learning environment and opportunities to communicate with English speakers in the classroom, and this is confirmed. Determination is the biggest challenge for English teachers. teaching techniques. On the other hand, only 10% of respondents mentioned inappropriate teaching as a challenge. Meanwhile, 1/5 of the respondents (20%) said they experienced flexible teaching methods and rich classroom activities when learning in a student-centered learning environment. This is consistent with the results obtained by Yang and Yuen (2014).

According to the results of the research conducted, 65% of the respondents commented that the negative evaluations of English teachers' teaching such as boring English lessons, do not attract students' interest. them, there is no positive learning atmosphere and the teaching is not effective. flexible enough. Comments by Li (2009) agree with this result. Hughes (1989) calls this the negative washout effect. This type of teaching poses a challenge and explains why English classes are not engaging while university students do not have the opportunity to interact with English speakers.

**Time Allocation for Learning English:** 40% of respondents have only one hour to study English per day while 27% of respondents said they do not have time to learn English because they have to work part-time to earn a living. However, 10% of respondents expressed interest in learning English which can last two hours a day, and 19% of respondents have more than two hours to study English per day. Interestingly, two-thirds (67%) of the respondents do not have at least two hours a day to study English. According to Pearson (2004), learning a language takes time. Due to the limited time available for language learning, very little is learned in terms of knowledge and practice. As a result, students have more time to learn English. Extra lessons outside of class time will help students improve their English proficiency more than those who do not (Sylvén, 2004:2006).

**Attitude towards Interference of Mother Tongue:** 35% of respondents "agree" that Sri Lankan thinking patterns influence foreign language learning and 30% of respondents

"strongly agree" that Sri Lankan thinking patterns influence foreign language learning. Since Sri Lankan thought uses indirect expressions to avoid refuting others, the British way of thinking is more direct because they prefer to express their feelings directly by speaking frankly. "no" to others without hurting other people's values (Jin and He, 2013). This is a major contributing factor related to mother tongue interference. Interestingly, an equal number of respondents (30%) disagreed with this factor. The rest (20%) did not know if their English learning was influenced by the Sri Lankan way of thinking. Around 34% of respondents 'strongly agree' that their Sinhalese pronunciation has influenced their English pronunciation and 39% of respondents 'agree' with this. This is consistent with Zhang and Yin (2009) that the pronunciation of a second language is influenced by the mother tongue. A small number of respondents (17%) noted that English pronunciation was unrelated to Sinhala pronunciation, while 18% were 'unlikely'.

In addition, it is interesting that 40% of the respondents "strongly agree" that the pronunciation of the Sri Lankan dialect has influenced the pronunciation of the English language, and 30% also "d'OK". This is consistent with research by Luo (2014), where only 12% of respondents "disagree" while 6% of respondents are uncertain.

### **Data Analysis and Interpretation of Research Question 2**

Research Question 2: What are the strategies to overcome the challenges in learning English among Certificate level students? In view of the data gathered from the interviews, coming up next is a portion of the strategies proposed to beat the challenges in learning the English language.

#### **How would you overcome the low motivation in learning the English language?**

Professional Cookery Certificate 1 student proposes to form an English study group. Studying with peers will make all participants in this study feel comfortable and happy. For Certificate 1 students, Certificate students who lack motivation and motivation to learn English will readily accept encouragement and support. Therefore, Trainee 1 believes that this strategy of forming study groups will improve English language learning for Certificate level students. According to student 1, when they study English together, they can encourage and support each other, which is very beneficial for the whole group because it creates interest in learning English students. At the same time, Gao and Cheng (2003) suggest that the key factors for dealing with the loss of motivation are the availability of opportunities and ongoing encouragement and support.

Students with a Level 2 Certificate of Food and Beverage Discipline suggest that the reason for learning English should be reconsidered and that taking different types of English tests is a possible method to overcome the situation. lack of inspiration. Learning English should not be done just to progress academically. It's important to remember that a person's worth cannot be measured by scores. Test scores and certificates should not be used as general evidence of university students' language proficiency. After careful consideration, you should try to change your impression of learning English and the reason or goal of taking the English test, find ways to reduce stress and anxiety, and nurture the energy and English learning inspiration. This is consistent with the views of Liu and Jackson (2008). This shows that assuming the stress of the test is low, the ability to learn English will be better. This is consistent with Krashen's (1988) speculation about the affective filter hypothesis

channel, in which Krashen asserts that students with high inspiration, fearlessness, mental self-portrait, and irritability low and extroverted would be better language. Conversely, low motivation, low self-esteem, anxiety, introversion, and inhibition can increase affective filtering, resulting in a "mental block" that prevents language acquisition from possible input understand. Certificate students in Pastry and Pastry majors believe that Certificate students need to actively participate in classroom activities to overcome their lack of motivation to learn English. This is supported by Wang (2014). Therefore, student number three agrees that the most effective strategy to increase the number of opportunities for Certificate students to interact with their classmates and exchange ideas in class is to interact with their classmates in English. Acquiring the skills to develop independent study habits is an important technique for persuading students at the English Language Certificate level.

#### **How do you think the English lecturer should change the way he/she teaches?**

Regarding the problem of mother tongue interference, student 4 of the Certificate Housekeeping discipline came up with the idea to conduct a contrast analysis between English and Sinhalese to help the students of the Certificate class understand the difference. In the usage of the two languages. Odlin (1989) states that collation analysis remains the most effective method for predicting mother tongue interference. Certificate students mention that unraveling issues of similarities and differences between two completely different languages will allow certificate students to see potential mistakes and focus more on avoiding these errors.

Certificate Level Front Office Discipline Level student 5 was motivated to develop essential information on vocabulary/terms, grammar rules, and syntactic structures for Certificate-level students to identify Sinhalese language interference. In general, students with certificates were more likely to use repetitive mnemonics while taking the test, which did not affect them as deeply and was not difficult to take for granted. (Richard, 2001). For example, Certificate level students argue that emphasizing understanding the vocabulary and grammar rules of a language associated with real-life situations helps Certificate level students remember all the rules. grammar and word choice in different contexts more efficiently and accurately. In addition, students of Course 5 are suggested to pay attention to intonation, pronunciation, and standard English listening as much as possible. For example, instead of following the traditional listening practice that requires Certificate level students to answer questions or choose the right or wrong option during the listening process, engage in more activities like pairing words with sounds. , which is a useful strategy for Certification. students with serious dialects to modify their pronunciation.

#### **How would you overcome the problem of lack of sufficient time to study English at the Colombo Campus?**

Two suggestions were given to solve the challenge of lack of time to learn English. To begin with, student 4 from Housekeeping discipline emphasized the importance of practicing English pronunciation by listening to more English songs and English news on TV. According to the students, it is not important to grasp the importance of the word/phrase/clause/sentence. According to this student, watching movies in English is another way to learn more common English phrases and expressions. This will be

helpful for Certificate students to apply the language and information rules they learned in class to relate to the real world. Office Discipline Certificate 5 students that Long-range Interpersonal Communication is an important approach to learning English when we need more learning opportunities. Today, technology will help in their research. Even if you don't understand English very well, you can still self-study English on the Internet by browsing foreign websites (Mohammad, 2011). This can spread classroom knowledge outside of the classroom. Therefore, virtual environments are often considered a useful and interesting solution to the problem of lack of time to improve English skills (Higgins, 2009).

## **CONCLUSION**

This study identified four challenges that certificate students face at SLITHM, the Colombo campus, in learning English. It is motivation, mother tongue interference, lack of time, and teaching methods. Most of the respondents felt that the challenge of mother tongue interference had the most impact on Certificate students while the teaching methods used in teaching English had the least impact on learning. Certificate student. In this scenario, it is clear that the native language of the Certificate student has a significant influence on the rules of grammar, vocabulary, morphology, phonology, semantics, phonology, and thought patterns. , English spelling, and syntax. The strategy to overcome the mother tongue interference is to equip the basic knowledge of vocabulary and grammar rules to connect with real experience related to the hospitality and tourism industry. It's about getting over incorrect word choices and grammatical structures. For English pronunciation, the strategy is to keep practicing and focus on pronunciation, intonation, and eliminating stereotypes about the mother tongue.

Establishing study groups to learn, discuss and exchange information is a strategy to overcome the lack of motivation to learn English. Motivation can be enhanced by getting support and encouragement from others. Furthermore, these Certificate students should embrace the motivation to learn English and change their negative views about the English language and the English test. Students at the certificate level should actively participate in English course activities to stimulate their interests and avoid becoming too dependent on their English teachers. Using social media to gather new information in English or to consolidate information obtained on the Internet and foreign websites is essential for Certificate students who are short on time. Certificate students can easily access and download English songs and movies to increase their exposure to spoken English and become familiar with the language. In addition, English teachers should adopt a student-centered teaching approach so that Certificate level students enjoy and benefit from participating in a variety of activities designed to encourage them to learn. English.

The cultivation of grade-specific skill-based routines, such as group discussions and appropriate language training at home, in a supportive environment with the active and willing cooperation of parents, can promote the cause and cause of English teaching and learning. Most of the time should be spent practicing English. Certificate students must strive to understand the subtleties of the cycle, including language progression, so they must develop, coordinate, and foster their own speaking and writing skills, with self-control. certain guidance when appropriate. Self-education

and language practice are irreplaceable independent activities. At the same time, it's equally important to remember to never be too picky about your tongue. Pronunciation is something that is established in metabolism, so it doesn't have to be the same as that of a native speaker. After all, the human element of initiative and individual effort must be given the highest priority; Then, advanced technology and innovation can help uncover and redirect challenges and reinvent new strategies in teaching English to certificate-qualified students at the SLITHM Colombo Campus.

This study is designed to meet the needs of Certificate level students who have difficulty learning English. It is recommended that further studies be conducted on a large number of Certificate students from the other eight SLITHM schools in the region to alleviate limitations due to the small number of participants not being able to form a basis for further study. a general conclusion. In addition, further studies used full samples of different levels of SLITHM such as manual level, management level, intermediate level and senior level, as well as direct observations and Test survey, can identify problems in learning English accurately and widely. The results of this study show important practical implications for certificate students as well as English language teachers. This study has demonstrated that motivation, mother tongue interference, time allocation and teaching methods are the main factors influencing English language learning at SLITHM. In addition, this research also makes English teachers and certificate students aware of the importance of learning English. First of all, it helps Certificate students understand that the purpose of learning English at SLITHM is not just to get a job or get a degree/certificate. Students at the certificate level should change their perception of learning English. Second, language learning must take into account the language learning context. To help Certificate level students improve their academic performance, attention should be paid to the content of English language instruction, including curriculum, textbooks, activities, and learning tasks for Certificate level students. find learning English personally meaningful and building relationships with the globalized world as English speakers. In addition, through this study, English teachers should note that certificate students need to focus on cultivating a positive interest and attitude toward learning English using teaching methods. better teaching, such as cooperative learning or communicative language teaching. In addition, English teachers can provide certificate-level students with more opportunities to immerse themselves in the English environment by promoting meaningful interactions in English and making the classroom environment more favorable for language learning. In addition, student-centered learning with innovative teaching methods and the use of technologies such as smart classrooms, smart boards, Google classrooms, zoom platform, and Teams to teach English will yield positive results. In addition, it has been revealed that the introduction of e-learning facilities will help overcome the challenges faced by certificate students. Additionally, the introduction of Self-Action Centers (SACs) will help certificate-qualified students improve their listening and speaking skills on a more personal level. Tan, et al. (2016) also pointed out that language learning activities carried out in a safe, conducive, and stress-free learning environment will help remove fear when learning English.

No doubt, Certificate students trying to learn English as a second language face challenges that combine low

proficiency, lack of correspondence, and improvement in grammar and vocabulary. , lack of inspiration and stress at work. They do not understand important structures of the language, which impairs their communication skills and makes them less likely to participate in international education and employment programs. To begin with, educators need a solid understanding of the underlying issues that can contribute to low morale and skepticism toward English. For example, special English programs can be developed taking into account some of the issues that arise when students are just starting to learn English as well as their family circumstances. High-achieving Certificate students should be rewarded and motivated to participate in programs that raise morale for low-achieving Certificate students. Supplemental lessons can be applied to students who are weak at the certificate level after school to help them further improve their English skills. As a result, there will be less gap with their first language counterparts and a smoother transition.

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# Social Success of the Women Workers in the Garment Industry in Sri Lanka: A Case of Women Workers in Katunayake Free Trade Zone

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## Abstract

*There are a number of Free Trade Zones (FTZ) in Sri Lanka, which house a variety of industrial businesses, including garment manufacturers. Most of the workers on the factory floor are women who work as machinists. Scholars highlight labor exploitation, gender subordination, and social perceptions in the apparel sector. But there is no research to explore the social success of women employees in the apparel sector. This research adds to the literature by providing empirical information from the Sri Lankan clothing industry about the success of women in the Sri Lankan apparel industry. A qualitative approach utilizing information gathered from interviews with female shop floor employees in the garment industry who work in export processing zones (EPZs). Thematic analysis was used as the analysis tool to process the research. The analysis identifies how those women workers started their careers as women machinists at a young age, and with time, they successfully adapted to the job role and the evolution of their lives through social aspects. Contrary to the social acceptance within the Sri Lankan context that women prefer government jobs, women have mentioned they prefer and that it is better to be a woman machinist. Finally, this paper concludes that women machinists have succeeded in their lives in social aspects by achieving work-life balance, well-structured families with educated children, and recognition and respect from the villagers and the whole society.*

**Keywords:** Free Trade Zone, Garment Industry, Social Success, Women Workers

## INTRODUCTION

There are several Free Trade Zones (FTZ) in Sri Lanka, primarily three FTZs named Katunayake, Biyagama, and Koggala, along with three additional mini-export processing zones in Mirigama, Malwatte, and Wathupitiwala. According to the World Bank, an FTZ is a "fenced-in industrial estate that specializes in export-oriented manufacturing and offers its resident firms free-trade conditions and a liberal regulatory environment". Sri Lanka's economy relies heavily on the apparel manufacturing sector, which increases the nation's income, employment rate, foreign exchange, and direct investments. More than 250 apparel factories have been developed in Sri Lanka's garment sector private ownership by domestic and international investors, in both EPZs and village areas (Samarakoon et al., 2022). The value of apparel exports was \$2,098.28 million in 2019. Sri Lanka exports clothing, including streetwear, lingerie, swimwear, athletics, uniforms, and children's clothing. The bulk of the workforce in the sector is made up of female employees, who are mostly employed in lower-level positions on manufacturing floors (Samarakoon et al., 2022 as cited in Gunatilaka, 2019; Jayawardena, 2014; Lynch, 1999; Madurawala, 2017; Seneviratne, 2011). According to the literature on female shop floor employees in the Sri Lankan clothing sector, impoverished, rural, and rural migrant

women make up the majority of the labor on the shop floor (Hewamanne, 2003). Scholars indicated that women who work in garment factories come from rural villages with the intention of achieving success but fail to achieve what they want to achieve. As Mani (1989) demonstrates, women are affected by negative social-political rhetoric, even when they are not the subject of discourse or policy decisions, due to their lack of power and the propagation of negative perceptions of women without addressing issues of inequality. The Sri Lankan garment sector is very important economically and socially. Many scholars (Samarakoon et al., 2022, as cited in Mirza & Ensign, 2021; Perry, 2012; Ruwanpura & Wrigley, 2011) studied the economic aspect of women workers in the garment industry. However, scholars have not given adequate attention to studying the social success of women workers, particularly in the garment industry in Sri Lanka. Therefore, this study aims to investigate the social success of women workers in the garment industry in Sri Lanka

## LITERATURE REVIEW

Social identity theory is a psychological concept that offers valuable insights into understanding the social success of

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women workers within various contexts. According to this theory, individuals derive their sense of identity and self-esteem from the groups they belong to, and their behavior is influenced by the desire to maintain a positive social identity. In the case of women workers, their social success can be explained through the lens of social identity theory. In the workplace, women workers may experience challenges and discrimination due to gender stereotypes and societal expectations. However, when women identify with their gender as a social category, it can lead to positive outcomes. For instance, women may form strong social bonds and support networks with other female colleagues, creating a sense of solidarity and empowerment.

Moreover, identifying as a woman worker can foster a collective identity that promotes the pursuit of common goals and objectives. This shared identity may lead to increased confidence, motivation, and resilience, enabling women to overcome obstacles and achieve career success. In addition, organizations that foster an inclusive and supportive environment for women workers can enhance their social identity. When women perceive that their workplace values and respects their gender identity, they are more likely to experience a sense of belonging and commitment to the organization, leading to greater job satisfaction and productivity.

Overall, social identity theory provides a valuable framework for understanding the social success of women workers. By recognizing the significance of their gender identity and promoting an inclusive and supportive workplace culture, organizations can contribute to the empowerment and success of women in the workforce. Embracing social identity theory can pave the way for gender equality and more equitable opportunities for women, fostering a diverse and thriving workforce.

Social identity theory is an interactionist social psychology theory that examines the function of self-conception and associated cognitive processes and social beliefs in group activities and intergroup connections. Social identity theory has been significantly expanded through a variety of sub-theories that focus on social influence and group norms, leadership within and between groups, self-enhancement and uncertainty reduction motivations, deindividuation and collective behavior, social mobilization and protest, and marginalization and deviance within groups. The idea has also been utilized and expanded to explain organizational phenomena as well as the dynamics of language and speech style as identification signals (Hogg, 2016). Accordingly, this research is related to Social identity theory. Following are the empirical findings refereeing to different literature.

#### **Apparel sector and preference for women machinists**

The study intends to explore the social aspects of the success of women working in garment factories in Sri Lanka. Thus, the literature review covers previous studies relating to garment workers and their lives. According to Hakimian (2011), FTZs are established with the primary purpose of attracting foreign direct investment (FDI) and creating a diverse industrial base in order to enhance manufactured exports and achieve long-term economic diversification and development. More than 990,000 employment are supported by the clothing sector in Sri Lanka (Mirza & Ensign, 2021), which accounts for 33 percent of the country's total manufacturing workforce (Asia Garment Hub, 2021). More than 78 percent of the industry's operational grades (such as machinists) are occupied by women (Asia Development Bank, 2020). The Katunayake

Free Trade Zone only produces goods for export, with foreign investments enabling a variety of free trade privileges, including tax holidays, use of subsidized land and buildings, reduced customs taxes, and duty-free entry of equipment and raw materials (Hewamanne, 2008). Company's preference for women machinists results of their discipline. Women are inherently less inclined than men to join trade unions, and they are also better suited for repetitive, monotonous work in the manufacturing industry. (Samarakoon et al., 2022) Barnes and Kozar (2008) believe that due to their lower levels of education, women may be recruited at a reduced pay in a cost-effective way. Women are usually seen to be more exploitable than males, and it is exactly this portion of the female population that endures the greatest abuse and prejudice in the garment business. According to Ahmed (2004), the advantage of these garment factories is that expanded employment opportunities for those who were born into poverty or were affected by a sudden disaster.

#### **Individual social success and failure**

According to Vykopalová (2013), a person's core existential and social requirements and the manner they are met define their level of living, which indicates that social success is dependent on the person's financial situation and again correlates with behavior. Work is a crucial component of socialization that includes aspects of self-fulfillment and social connection. It also serves as a way to rise socially, which is often linked to both internal and external rewards. Lack of interpersonal social interaction creates feelings of isolation, which raises the risk of criminal or delinquent conduct, which helps people succeed in society. People use social networks to satisfy their social demands. Social integration, a bright future, the lack of health hazards, and the ability to meet basic needs for survival are all directly related to one's feeling of safety. An rise in the negative social phenomena linked to social failure is indicated by a decline in the quality of living, an increase in unemployment, and a decline in the possibility of social integration. Furthermore, according to Vykopalová (2013), poor economic circumstances have a range of social repercussions, including unemployment, poverty, and deprivation, which raise the frequency of crime, homelessness, and other detrimental social phenomena in our lives.

#### **Starting and adaptation to career life**

Literature depicts a variety of ways in which garment machinists in FTZ began their careers. The recruitment process relies heavily on word-of-mouth. The use of formal advertising methods such as newspapers and posters is extremely limited. Instead, they notify the current employees, who will subsequently notify their neighbors, friends, and sisters (Amin, Diamond, Newby, & Naved, 1998). Schlegel (1995) asserts that starting a job as a garment worker is the first stage in the development of adolescence, which involves activities such as the social and personal control of sexuality, the impact of peers and social organizations, and the development of work skills. However, according to O'Donnell and Williamson (2017), the major corporations in global supply chains use their dominating position to impose pressure on suppliers in underdeveloped countries to produce items quickly and at cheap rates. These pressures are subsequently transmitted to workers, leading to low salaries, increased job intensity, and health and safety concerns. (Reinecke et al., 2018; Wright and Kaine, 2015).

### Social Interaction

Concentrating on how women in garment factories interact with society, Amin et al. (1998) assert that women who migrate to cities have a good quality of life. Hewamanne (2008) asserts that as new employees engage with society, their social, moral, and cognitive circumstances and attitudes might undergo quick changes. Women acquire self-assurance and a feeling of modernity when exposed to new social networks and lifestyles (Standing, 1989). Despite their financial independence, rural Sri Lankan women who accepted wage employment in multinational companies have been vilified for breaking traditional patriarchal norms (Lynch, 2007). In Sri Lankan society, the inherent feminine value of *lajja-baya* (shame and fear of transgression) has aided male managers in their pursuit of disciplined and compliant manufacturing workers. Female employees in EPZs who defy these customary boundaries are referred to as "bad girls" (Lynch, 2007) or "bad whores" (Hewamanne (2008a, p. 35)). This labeling could be the result of social notions that rural women should live under the supervision of their dads or brothers and that society is unable to acknowledge their emancipation from this kind of patriarchy in the EPZs (Lynch, 2007). In addition to that, Amin et al. (1998) add that they have a positive self-image and a higher quality of life than others in the villages due to their higher income and ability to operate technologically advanced machines.

### Role in family and Employment

Multiple scholars have remarked on how these women connect with their families in diverse national settings. In terms of family influence, the advantages of garment factory labor for women in Bangladesh at best. (Kibria, 1995). In the context of Sri Lanka, most women who make these garments make a concerted effort to achieve a successful family life, and these women also strive to educate their children (Amin et al., 1998). According to Barnes, Wendy D., and Joy M. Kozar (2018), it is somewhat difficult for a garment employer to become pregnant. Sadullah, M. Niaz, and Fahema Talukder (2019) were able to conclude a recommendation regarding the provision of childcare facilities in their writings. The results suggest that practices that improve worker well-being make it easier for workers to get childcare at work and put more women in positions of power, both of which are likely to improve worker well-being even more.

### Health

When we consider the health conditions of female machinists in garment factories, we find that they suffer from eye, ear, and lung damage, as well as pain. Although the Sri Lankan Board of Investment has established industrial safety standards, they are not implemented (Hewamanne, 2008). According to the findings of Harrington (2004) in the United States, the reasons for these health issues are as follows: Complaints about conditions include limited access to toilets, poor ventilation, headaches, back pain, vision loss, and being yelled at, publicly humiliated, or slapped. Each worker performs the same small task hundreds or thousands of times per day, creating health concerns due to the repetitiveness and high speeds of the labor process.

### sexual orientations with social acceptance

According to the findings of a study conducted at the Katunayake Free Trade Zone, society has a negative view of female machinists relating to sexual orientations in contrast to social acceptance. Thus, FTZs are called "ganika puraya"

(cities of prostitutes). The women were subjected to sexual harassment and abusive sexual relationships. (Hewamanne, 2008). There are situations in which even single employees with irregular menstruation are concerned about pregnancy. This may be the result of women working alongside young men for extended periods of time without family supervision (Hewamanne, 2008). Garment workers find their source of income in the informal economy, such as the sex industry. According to Harrington (2004), even employees who continue to work in the garment industry work additional hours in the informal sector to increase their incomes. They work as domestics in private homes, prepare goods for street vendors, and engage in sex work. The expansion of the sex industry is a result of the inability of other informal sector jobs to satisfy women's needs. The women earn these informal incomes without considering the limits of the law and are subject to harassment, evictions, and possible penalties. Women who work as machinists are referred to as "bad girls" (Lynch, 2007) or "bad whores" (Hewamanne, 2008a, p. 35). This labeling could be the result of social notions that rural women should live under the supervision of their dads or brothers and that society is unable to accept their independence from this form of patriarchy in the EPZs (Lynch, 2007). In accordance with this view, there is a dearth of research in exploring the social life and the social success of women machinists. Filling this gap in this environment, it is vital to explore how rural, impoverished women workers, who have been given a negative identity in society, are marginalized in the factory context by organizational processes and practices, and how they attain societal roles as women machinists. There are studies on the Sri Lankan apparel industry and its employees, but none on the social success of female machine operators. This study investigates the lives of women in the Katunayake Free Trade Zone in order to determine "whether the women machinists in garment factories achieved social success in their lives."

### METHODOLOGY

The analysis sought to determine whether women machinists in Sri Lankan garment factories have achieved social success as women machinists in FTZ. This descriptive research project concludes that women machinists in Sri Lankan garment factories have achieved social success in life by considering a variety of perspectives, perceptions, and ideas regarding social factors. The study employs an inductive methodology for its research. This study collects more detailed, in-depth, and objective data employing a qualitative technique for data collecting. The selected technique for the research project is the case study method, in which data is collected on a specific item, event, or activity, such as a business unit or organization (Saunders et al., 2009). Choosing participants from various geographical locations allowed us to produce a comprehensive data collection and gain wide knowledge covering a cross-section of people from various socioeconomic backgrounds. In this study, it is determined that data will be collected only once per period. Here, the unit of analysis is the female workers in the garment industry. The population of the study consists of all female machine operators in Sri Lankan garment factories.

In Sri Lanka, there are primarily three FTZs named Katunayake, Biyagama, and Koggala; the study will be conducted in the Katunayake FTZ. This research employs the non-probability sampling technique of convenience sampling, in which a sample is drawn from a population at

the researcher's discretion. Twenty female machinists will be chosen from the Katunayake FTZ. In this research context, the researcher has chosen the interview method in order to identify the ideas and perspectives of the women machinists, obtain feedback, and build confidence and trust with the garment women so that the research can be successful. In addition, it will have benefited from establishing rapport with the participant and receiving authentic responses to the interview questions. As the research focuses on understanding the participants' ideas, perceptions, attitudes, and suggestions, fewer formal relationships with garment women would be useful for data collection. Through document analysis, secondary data was gathered. As this topic has been extensively discussed by previous authors and researchers in both local and international contexts, a substantial amount of data on garment women in zones was gathered from published research articles, journals, books, and other sources.

Interviews were conducted with female machinists at their boarding locations, speaking with them politely and emphasizing that their privacy would not be compromised. Participants were given additional assurances regarding the confidentiality of the data, and consent was obtained from all participants to record the interview. The interviews were done in their native and most comfortable language, Sinhala. All participants gave their permission to record the interviews. The interview guide was produced, and questions were asked in accordance with its order. To acquire new insights and keep the interview flow, more questions were asked. By re-listening to the voice recordings and referring to the notes taken, transcripts were constructed. The data acquired via semi-structured interviews, participant face and body expression

observations, and secondary document analysis were analyzed using thematic analysis. The data acquired via semi-structured interviews, participant face and body expression observations, and secondary document analysis were analyzed using thematic analysis. According to Braun and Clarke (2006), there were six phases of thematic analysis. The first step was to familiarize yourself with the data by repeatedly listening to the voice recordings and reading the transcripts. The second step was to search for themes by analyzing what factors were repeatedly mentioned and observed. The final stage was to discover patterns among the data acquired from the female machinists and the facts gained through analyzing the participants' faces and bodily responses. During the review, subthemes were identified for each research topic after the identification of themes and patterns. It is feasible to find subthemes for some of the recognized primary themes. Some topics were excluded from the lists because they lacked adequate proof throughout the assessment process. Finally, the themes were determined, and both the major themes and subthemes were given meaningful names. By evaluating data gathered via semi-structured interviews and observations of nonverbal expressions, the study aims and research questions were determined. The primary topics of discussion are the lives of women machinists prior to entering the garment industry, their roles as daughters, mothers, and siblings, their social views, and the social satisfaction they derive from working as women machinists.

## DATA ANALYSIS AND DISCUSSION

The researcher has summarized the 20 women machinist's details into a combined table and the following is the in-depth detailed table.

**Table 1 - Details of the participants**

	<b>Renuka</b>	<b>Malkanthi</b>	<b>Dhewika</b>	<b>Shanika</b>	<b>Meena</b>	<b>Kanthi</b>	<b>Prasadi</b>	<b>Malithi</b>	<b>Hemanthi</b>	<b>Jayanthi</b>
<b>From</b>	Kurunagala	Balangoda	Bandarawela	Kaluthara	Kilinochchi	Kurunagala	Mathale	Narammala	Ratnapura	Ampara
<b>Age</b>	30	33	20	30	30	33	30	35	37	28
<b>Nationality</b>	Sinhala	Sinhala	Tamil	Sinhala	Tamil	Sinhala	Sinhala	Sinhala	Sinhala	Sinhala
<b>Religion</b>	Buddhist	Buddhist	Hindu	Buddhist	Hindu	Buddhist	Buddhist	Christianity	Buddhist	Buddhist
<b>Duration of service</b>	5 years	11 years	6 months	4 years	9 years	7 years	13 years	13 years	4 years	5 years
<b>Married</b>	No	Yes	No	Yes	Yes	Divorced	Yes	Yes	Yes	Divorced
<b>Education up to</b>	OL	Not mentioned	Grade 10	AL (3S)	OL	Grade 10	OL	OL	OL	OL
<b>Siblings</b>	Younger Sister, elder brother	Younger Sister, younger brother	Elder sister, younger sister	Younger brother	Younger brother, 3 elder brothers, younger sister	Younger sister and Younger brother	Elder sister, younger brother	Younger brother	Elder sister, younger brother	2 younger sisters
<b>Live with Boarding place</b>	Alone	With younger sister	Alone	With husband	Alone	With daughter	With husband	With husband	Alone	Alone
<b>Basic salary</b>	23 000	21000	20 000	21 000	20 800	24 000	22 000	21 000	24000	23000
<b>Working Shifts</b>	6.30 am - 6.00 pm	6.00 am - 2.00 pm	6.00 am - 2.00 pm	6.00 am - 2.00 pm	7.30 am - 6.30 pm	7.45 am - 5.30 pm	7.30am - 6.30pm	6.30 am - 6.00 pm	7.30 am - 6.30 pm	6.30 am - 6.00 pm
		2.00 pm - 10.00 pm	2.00 pm - 10.00 pm	2.00 pm - 10.00 pm	6.30 pm - 06.00 am				6.30 pm - 06.00 am	



	Uththara	Hansani	Jayani	Uthpala	Sujeewa	Dilshani	Asanka	Bagya	Ashanthi	Ayanthi
<b>From</b>	Mirigama	Kadawatha	Ahaliyagoda	Galewela	Kegalle	Galnawa	Halawatha	Waligama	Gampola	Puttalam
<b>Age</b>	31	34	40	39	22	33	38	36	25	27
<b>Nationality</b>	Sinhala	Sinhala	Sinhala	Sinhala	Sinhala	Sinhala	Sinhala	Sinhala	Sinhala	Sinhala
<b>Religion</b>	Buddhist	Buddhist	Buddhist	Buddhist	Buddhist	Buddhist	Buddhist	Buddhist	Buddhist	Buddhist
<b>Duration of service</b>	6 years	6 years	21 years	16 years	10 months	10 years	17 years	14 years	6 years	7 years
<b>Married</b>	Yes	Yes	No	Yes	No	Yes	Yes	Yes	Yes	Yes
<b>Education up to</b>	AL(3S)	OL	OL	Grade 10	Grade 10	OL	OL	OL	AL(1S)	OL
<b>Siblings</b>	Younger Sister	2 Younger brothers	3 elder sister	Younger Sister, elder brother	Younger brother	Elder sister	2 younger sister, Younger brother	Elder Sister	2 elder brother	Younger Sister, elder brother
<b>Live with Boarding place</b>	With husband	With husband	Alone	With husband	Alone	With husband	With husband	With husband and daughter	With husband	Alone
<b>Basic salary</b>	21000	23000	24000	23000	20000	21 000	23000	22 000	20000	21 000
<b>Working Shifts</b>	6.00 am - 2 .00 pm	7.30 am - 6.30 pm	7.30 am - 6.30 pm	6.00 am - 2 .00 pm	7.30 am - 6.30 pm	6.00 am - 2 .00 pm	7.30 am - 6.30 pm	6.30 am- 6.00 pm	6.00 am - 2 .00 pm	6.00 am - 2 .00 pm
	2.00 pm – 10.00 pm	6.30 pm - 06.00 am	6.30 pm - 06.00 am	2.00 pm – 10.00 pm	6.30 pm – 06.00 am	2.00 pm – 10.00 pm	6.30 pm - 06.00 am		2.00 pm – 10.00 pm	2.00 pm – 10.00 pm

### The lives of the women machinists before they join the garment industry

The majority of participants are from semi-urban or rural regions in Sri Lanka, and regional areas often have less educational resources, economic prospects, and infrastructure than metropolitan locations (Samarakoon et al., 2022 as cited in Amarasuriya, 2010). Prior to entering the clothing sector, the majority of our participants and their family members were involved in small-scale agriculture. Due to the unreliable and inadequate income they obtained from farming, however, many chose to seek job in the garment sector. Uthpala, a participant from Galewela, mentioned that her father and mother have been farming for a long time. But with the old age of his parents, she is now taking care of them with her earnings. Through the interviews, I have learned that in addition to financial hardships, there are women who have experienced terrorism and have lost family members. The following is Meena's explanation of her life prior to her arrival in the Katunayake region. *"The death of one of our eldest brothers (chutte aiya) My maternal grandmother died. uncles passed away. Numerous people died. The era of terrorism has ended. Now it's satisfactory."* (Meena)

The replies of numerous participants from remote areas indicated how poverty and family issues led them to forego their schooling and seek employment in the garment sector in order to support their families. Through the interview with Dhewika, she was able to explain why she halted her education due to their financial difficulties, despite their willingness to continue their education. She had every intention of completing her education but was unable to do so because she supported her family at a younger age.

*"We have so little. We encountered many obstacles. Even the mother and father are unable to provide assistance. This is why. I desired to complete the studies. I have searched for it multiple times. I eventually gave up. Otherwise, I intended to conduct OL's."* (Dhewika)

There are countless instances in the literature of how these women started their careers as garment machine operators

in FTZs. Assuming that such training is a precondition for a successful marriage, rural women are educated from infancy on home tasks such as child care, cooking, washing, and sewing. Therefore, rural women are seen to be adept in manually dexterous work, and therefore, these talents have become a need for employment in the garment sector (Samarakoon et al., 2022 as cited in Elson & Pearson, 1981). The recruitment process relies heavily on word-of-mouth. The use of formal advertising methods such as newspapers and posters are extremely low. Instead, they relay the information to the current workforce, who will then inform their neighbors, friends, and sisters (Amin et al., 1998). Consequently, women have entered the FTZ with the assistance of their neighbors, and two women have arrived with their husbands. I have also observed that these women become aware of the zone in another way. Meena explains her ideas as follows:

*"We arrived here with the assistance of the military." The factory's employees traveled to Kilinochchi. Personnel from the department of human resources were present. I worked in XY. "They came close to our Kilinochchi homes to select us."* (Meena)

According to her, factory HR departments are visiting rural villages to recruit workers. Meena adds that, despite the large number of employees recruited, she was the only one to remain at the garment factory for nine years. Prior to their arrival in the industrial zone, most female machinists encountered numerous family-related obstacles. Some female machinists have lost their parents, while others have cared for their children on their own due to the absence of their husbands. In terms of education level, these women have completed the tenth grade and have ended their education due to financial hardships.

### Caring for the family of a woman machinist as a daughter, mother, and sibling

#### Caring parents

Numerous academics have mentioned how female machinists care for their parents. In addition, it represents the fact that most of these women send a substantial

portion of their income to their families. According to the findings of Kibria (1995), since female machinists cover their own expenses, they have no obligation to financially support their families. In contrast some scholars, some women come solely to care for their families. Maduwanthi commented that, her parents are impoverished farmers whose primary source of income is farming. On the 10th of each month, when she receives her salary, she sends money to her parents. Five years of working in a garment factory allowed her to save enough money to build a house for her parents. Considering how frequently these participants visit their families, they prefer to return to the village on the tenth of each month, after receiving their pay.

*"Both the younger and older sister are there in my village. Each were married. So I sent them money. 10<sup>th</sup> is the day we receive our salary. When I receive my salary, I go home. Saturday and Sunday are holidays during our pay week. My father works in agriculture. He is not well currently. Even my mother has had an eye operation. My parents reside in the home I constructed."* (Renuka)

However, Ahmed (2004) introduced the subject of how machinists preserve familial bonds. According to him, young unmarried girls from impoverished rural households who had left their villages and gained more financial independence were no longer bound by the parent-child commitment characteristic of Bengali society. At the age of four, Kanthi's mother gave birth to her younger sister. Because of her father's later marriage to another woman, she experienced several adverse conditions. Her father died afterward. She has no communication with her brother and has entirely forgotten that they are related.

#### **Caring for children**

In the context of Sri Lanka, most women working in garment factories make a concerted effort to achieve personal and familial success, and these women strive to educate their children (Amin et al., 1998). In Sri Lanka, the differences in resources and facilities between urban and rural schools limit the opportunity for rural students to acquire the skills required by the present job market (Samarakoon et al., 2022 as cited in Alawattegama, 2020; Amarasuriya, 2010). Even though Sri Lanka has a free education system that is designed to give equal access to all students, educational achievement is mostly influenced by parents' capacity to pay for their children's education (Alawattegama, 2020; Herath, 2015). Students from low-income families are more likely to drop out of school in the midst of their elementary or secondary schooling. In this research, I have noticed that all the women with children wanted to make their children educated. Most of the machinists send their children to private tuition class spending money to make them educated. Malkanthi has stated that her 13-year-old son attends a good school in the village with her parents. They educate the son by enrolling him in classes for tuition. She intends to return to the village after resigning from her job when her son's G.C.E. Ordinary Level examinations approach. Kanthi is a single parent, as her husband abandoned her with their one and half-month-old child. Currently, she supports her daughter with her earnings. Due to her shift work, she misses her daughter. However, her 12-year-old daughter prepares her meals, goes to school, and returns home on her own. Kanthi provides the following clarification:

*"She eats alone at mealtimes. Occasionally, if I wake up early in the morning, then I cook. Otherwise, she cooks for her. She*

*knows. When she returns home from school, she cooks and eats by herself."*

She joined as machinists after her husband left her in order to look after her kid. Now she tries her best to give a better future to her daughter.

#### **Caring for siblings**

Machinists from rural regions manage their earnings by limiting non-essential costs and remitting monies to their siblings and parents for educational reasons (Amin et al., 1998). Maduwanthi has played a significant role by aiding her siblings in building a house and obtaining financial security.

*"I assisted financially with her wedding expenses." I have assisted with most tasks, such as building her a house. I've assisted her in obtaining electricity, among other things."* (Renuka)

Shanika has also cared for her siblings. Even the siblings of her husband are important to her, as she explains below.

*"He has a younger sister and a younger brother. I also take care of them. One of the sisters is quite small. Attending school. So distribute school stationery. Therefore, I care for both parties."* (Shanika)

Due to their poverty, obtaining commodities like as rice 10 allowed them fulfill their responsibility as mothers, sisters, or daughters to provide for the food and health needs of their family. Despite their subordinate status within the patriarchal family structure, this use of incentives seems to capitalize on the substantial contribution that these women are required to make to the everyday needs of the home (Elson & Pearson, 1981; Hancock et al., 2015; Jayaweera et al., 2007). Except for the woman who has lost her parents, everyone else sends money to her parents. Typically, this amount exceeds fifty percent of the woman's salary for her parents. All female machinists send money to their parents. Some women send money for their siblings' educational expenses. Thus, the data indicate that women machinists in garment manufacturers in Sri Lanka's Katunayake Free Trade Zone have attained family success, which complements to their societal success.

#### **The social view of a woman machinist**

##### **Attitudes of villagers**

According to Amin et al. (1998), they have a positive self-image and a higher quality of life compared to others in the villages because they have a higher income and can operate technologically sophisticated machines. Shanika also mentioned that the villagers welcomed her with open arms when she visited the village. The villagers approach her for conversation and have a favorable image toward her.

*"We depart village after a long delay. Typically, we visit every two to three months. Therefore, when everyone sees it, they gather and ask, when will you return back to the zone? etc."* (Shanika)

The female machinists have maintained positive relationships with the villagers in their towns. Amin et al. (1998) noted that within their society, they have a positive self-image and a higher quality of life compared to others in the villages due to their higher income and ability to operate technologically advanced machines. When visiting their relatives, the majority of female machinists agree with the researchers that they are warmly greeted by the peasants.

##### **How girls get on the wrong path**

The consensus within society is that female machinists behave poorly. There are instances in which women with irregular menstruation worry about becoming pregnant,

resulting in the creation of stories. This may be the result of women working alongside young men for extended periods of time without family supervision. (Hewamanne, 2008). Malkanthi has provided the following explanation for why these girls tend to take the wrong path while working in the zone:

*"When it is stated that working in the garment industry is undesirable, society reacts negatively."*

Since there are numerous incidents in the FTZ, the social view varies. Numerous young girls tend to engage in undesirable behavior. Many girls choose the incorrect path. Girls between the ages of 17 and 18 take the wrong path. Without knowledge, they engage in affairs with married men, including those with children. In the factory, numerous cases are occurring. (She enters a reflective state, waits a while in silence, and then resumes her low-spirited tone of voice.)

*"Once entering the factory, they immediately find a boyfriend. Then everything become obvious, and the girl quits her factory job. Then we knew that the boy has been married before."* (Malkanthi)

In the modern context, as it pertains to the participants, the social perspective on female machinists is positive, which contradicts the findings of the Hewamanne (2008). In addition, none of the participants mentioned women employed in the sex industry in the region as a source of income. These findings support the notion that women machinists enjoy a favorable social reputation and have achieved social success.

#### **Educational sessions conducted for women machinists by feminist activists**

From the interviews, I have learned that the factories sponsor educational sessions for newly recruited women to prevent them from taking the wrong path. According to Hewamanne (2008), she states that feminist activists hold workshops for female employees when they are free. Garment workers referred to them as "tharabaru ganu." Shanika considers these sessions to be productive based on the following:

*"Indeed, there are numerous programs. I believe this is why there are fewer incorrect views in society and why girls are being protected from the misbehaviors of males. Now, ninety percent of the time, the situation is favorable. When new girls arrive at the factory, they conduct these programs and instruct on how society functions."* (Renuka)

Prasadi, however, takes a more moderate stance, stating that, despite the existence of such programs, those who already followed to the wrong path cannot be stopped through these sessions, as follows:

*"The company organizes awareness sessions. Time periods are not defined. Mostly there will be two sessions per year, and those who attend will listen. There are girls who take the advantage of those sessions. However, there will be girls who choose the wrong path though there are productive sessions."* (Prasadi)

#### **Social satisfaction gained by working as a woman machinist**

According to Ahmed (2004), the garment industry has expanded employment opportunities for those who were born into poverty or were affected by a sudden disaster. Prasadi expressed a comparable viewpoint.

*"When I arrived, I was in a relationship but not married. We are so poor. Our mother and father worked day-to-day jobs to feed us. Not only am I present, but so is my brother. I planned to improve their quality of life. I simultaneously*

*made gold jewelry and purchased furniture. And together with my husband, we constructed a house. Now I have extensive experience with sewing."* (Prasadi)

She explains that the peculiar conditions the managers were under led to their pleasant and kind behaviors, which she took to be equal treatment for female shop floor workers. She considers these novel experiences in her working life. According to these analyses of various topics, some responses agree with the existing literature, while others disagree. Most participants were satisfied with their jobs. Some women believe that all jobs are equivalent and that all conditions and compensations are the same. The only difference between garment jobs and government jobs is that government jobs include a pension plan, while garment jobs include a fund. However, few employees are willing to switch jobs if they are offered a higher salary. Aside from that, they have no reason to switch jobs based on working conditions and are completely satisfied with their current position. In the context of Sri Lanka, most women who make these garments make a concerted effort to achieve a successful family life, and these women also strive to educate their children (Amin et al., 1998). According to the literature, female machinists make every effort to provide a quality education for their children. Sometimes these women are single mothers because their husbands have abandoned them, but they have the courage to improve their children's lives in order to better their own. Based on the above findings, it can be concluded that female machinists in Sri Lanka's Katunayake FTZ garment factories have achieved social success.

#### **CONCLUSION**

This study was directed to discuss the social success of women machinists in Sri Lankan garment factories, and this section discusses the study's contribution to the existing body of literature. According to the research of Amin et al. (1998), word-of-mouth is the most prevalent method of recruitment in garment factories. They relay the information to the current employees, who then inform their neighbors, friends, and sisters. The use of formal advertising methods such as newspapers and posters are extremely limited. With the interviews I discovered the fact that the factories' human resources departments are visiting rural villages to recruit workers. Amin et al. (1998) noted that women machinists have a positive self-image and a higher quality of life than others in the villages as a result of their higher income and their ability to operate technologically advanced, highly sophisticated machines. According to the findings, the women machinists' return home has been welcomed by the villagers, who share this opinion. Consistent with research findings, standing (1999) offers a positive assessment of this social interaction. Schlegel (1995) asserts that commencing a job as a garment worker is the first stage in the development of adolescence, which involves activities such as the social and personal control of sexuality, the impact of peers and social organizations, and the development of work skills. I found that, consistent with the literature, the participants swiftly acclimated to the new environment. According to the results of Horgan (2001), pregnant women are expected to work the same number of hours as non-pregnant women, including periods of obligatory overtime. In contrast, my study indicates that after seven months of pregnancy, women are not allocated hard work; they are not needed to sew, but must execute little jobs such as removing excess threads from completed

items. Thus, I bring an original discovery to the current body of research.

This research study is restricted in several ways. One of these limitations is that it is possible that women only revealed certain aspects of their stories when they were being interviewed. One of its other shortcomings is the presence of twenty female machinists. Additionally, there was a restriction placed on the amount of time that could be used for the research because it could only be completed over the course of two academic semesters.

This study will investigate the social success of women working in garment factories located in Free Trade Zones (FTZs) in Sri Lanka. The research will begin with a case study of the Katunayake FTZ, and it is possible that expanding the study to other FTZs in Sri Lanka will be one of the future projects. The lives of women working in garment factories that are located outside of FTZs could also be the subject of a study.

In addition, I recommend conducting research in order to gain a better understanding of the level of economic success enjoyed by female machinists working in the garment industry in Sri Lanka.

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# The Impact of Socioeconomic Status on the Self-Efficacy and English Language Proficiency of English Language Teachers in the Rural Area: A Case of Passara Education Zone in Sri Lanka

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## Abstract

*This paper examines the impact of socioeconomic status, on self-efficacy and English language proficiency among English language teachers in rural areas. The study utilizes a quantitative design with a survey method for data collection. The sample consists of 81 English teachers in rural areas, with a specific focus on the Passara Educational Zone in Sri Lanka. The data were analysed using descriptive statistics and the Partial Least Square Structural Equation Model (PLS-SEM) through SPSS and Smart PLS. The study tested seven hypotheses and four hypotheses were accepted. The results revealed that there is a positive relationship between socioeconomic status and English language proficiency, suggesting that teachers from higher socioeconomic backgrounds tend to have better English language proficiency. Socioeconomic status also influences self-efficacy, as teachers from higher socioeconomic backgrounds exhibit higher confidence and belief in their abilities. Meanwhile, self-efficacy positively affects English language proficiency, indicating that teachers with higher self-efficacy are more likely to demonstrate better English language proficiency. Thus, the study provides empirical evidence to the academic literature by studying the relationship between socioeconomic status, self-efficacy, and English language proficiency among English language teachers in rural areas in Sri Lanka.*

**Keywords:** English Language Proficiency, English Language Teachers, Self-efficacy, Socioeconomic Status.

## INTRODUCTION

Socioeconomic Status (SES) is a strong factor that should be taken into consideration for the language proficiency of teachers because the teacher's SES could directly affect their work morale (Sirin, 2005). Werang (2014) emphasized that the high cost of living, low pay, and fear of losing the job are key elements that determine the teacher's morale. He further stated that a teacher with good morale will be more committed to their job and motivated to be productive in his/her profession. Nichols (2006) stated that teachers suffer from low morale due in part to the low-pay-high-cost-of-living gap. Low pay increased cost of living, job insecurity, and access to workstations have been significant factors in decreasing teachers' morale (Werang, 2014). Thus, the SES of teachers is considered to be a strong factor that impacts teachers' performance. Hoy and Woolfolk (1993) stated that teachers with high economic status can allocate more time to prepare teaching materials and media needed for the

sustainable teaching process. Therefore, teachers can personally contribute to students' achievements. Thus, the most important factor that contributes to teacher efficiency is the SES of the teacher.

According to Burden and Byrd (1999), SES is a relative position of a teacher in a community determined by a combination of income, occupation, and level of education. SES is most commonly determined by combining an individual's educational level, occupational status, and income level (Andrabi & Jabeen, 2016). Kormos and Kiddle (2013) are of the view that socioeconomic factors can influence autonomous learning behaviour. The views of the family and the learner's self-efficacy beliefs and effort and persistence toward learning tasks are key socioeconomic factors. Considering the view of the aforesaid researchers, SES is a combination of individuals' income, cost of living, education level, social status, self-efficacy beliefs, and

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occupational status which influence the individual morale attitude, interest, and skills of a teacher's performance.

Benson (2007) explained that the marginalized geographical location of the schools impacts the access to English language learning resources and the English teacher becomes the link between the student and the English language and the teacher becomes the sole linguistic resource for the school. Hoy and Woolfolk (1993) explained that an English teacher who comes from a sound socioeconomic background could dedicate more time and be an efficient teacher who could bring in a wealth of knowledge to students. Seyedi-Andi et al. (2019) discovered that there is a significant statistical relationship between self-efficacy and socioeconomic status determiners. Seyedi-Andi et al. (2019) concluded that students' self-efficacy is dependent on various socioeconomic and educational factors such as family income, academic grade, academic year, and school; so recognizing these factors can play an important and effective role in improving students' academic achievement. Gresham (2001) stated that a teacher's self-efficacy is the teacher's belief that he or she has the skills to perform the task successfully. Gresham (2001) also states that according to Bandura's self-efficacy theory, if a teacher is lacking in self-efficacy, he or she will be unsuccessful even though they know what to do. Clark et al. (1995) concluded that there are direct and indirect associations between SES and self-efficacy. Gresham (2001) explained that there is a link between socioeconomic status and academic achievement which has been established in many research studies.

A study conducted by Tilfaliglu and Cinkara (2009) found that there was a significant positive correlation between high self-efficacy and high levels of English proficiency. Wang (2021) says self-efficacy does not only have a predictive effect but also plays a mediational role in the relationship between learning outcomes and other factors such as academic attitudes. Wang (2021) states that self-efficacy was not only positively correlated with language achievement but also positively correlated with other constructs such as academic self-concept, self-efficacy for self-regulation, achievement goals, value task goal orientation, and performance-approach goals. Wang (2021) also states that teachers with high levels of self-efficacy had more frequent use of learning strategies. Wang (2021) concludes that self-efficacy is found to be predictive of language proficiency and there is a strong relationship between self-efficacy and English language achievements. Chacon (2005) study found that self-efficacy in student engagement with English as Foreign Language (EFL) teachers was significantly correlated with all four skills of speaking, listening, reading, and writing. Thus, many researchers have established a positive correlation between self-efficacy and language proficiency.

Wang (2021) explained that self-efficacy and English proficiency are inter-connected and they are significant predictors of learning and achievement. Gutiérrez and Narváez (2017); Kasalak and Dağyarm (2020) have extendedly researched self-efficacy and teachers' English proficiency. Much research has been conducted in the past two decades in reconnoitering the connection between teachers' language proficiency and self-efficacy a concept denoting teachers' confidence in their teaching competence. Wang (2020) highlighted that teaching self-efficacy may affect teachers' teaching performance such as classroom behaviour teaching goals efforts in teaching and aspiration level.

Self-efficacy and English proficiency are inter-connected and they are significant predictors of learning and achievement. SES plays a significant role in a person's self-efficacy and English proficiency. The impact of SES on self-efficacy and the English language proficiency of rural area English teachers in Sri Lanka has not been researched adequately. This research attempts to address this knowledge gap by studying how the SES of the teachers impacts the self-efficacy and English language proficiency of English language teachers who are working in rural area schools. Therefore, the study aims to investigate the impact of SES on self-efficacy and English language proficiency among English language teachers in rural areas.

The paper's subsequent structure is outlined as follows: Section 2 offers a review of the theoretical and empirical literature. Section 3 introduces the research model and hypotheses. Methodology specifics are discussed in Section 4. Section 5 details the results and their discussion. Finally, Section 6 concludes the paper, summarizing the findings and implications.

## LITERATURE REVIEW

**Socioeconomic Status:** Majumder (2021) define SES as the individual's or the social group's social and economic ability and it can be placed an individual or a social group belongs to the high, middle, or low socioeconomic status which represents the social and economic background of an individual's or group unit's characteristics of economic, social and physical environments in which individual's or group unit's life and work, as well as their demographic and genetic characteristics. Oakes and Rossie (2003) and Moya and Fiske (2017) state SES indicate the individual's or social group's ability to have differential access (realized and potential) to desired resources like social, economic, etc. An individual's or social group's ability to accomplish and being able to accomplish multiple social and economic resources designates the SES of the particular individual or social group.

Navarro-Carrillo et al. (2020) explain SES as a complex and multidimensional construct, encompassing the assessment of a combination of education, income, and occupation. Further, Darin-Mattsson et al. (2017) state that SES has been operationalized in a variety of ways, most commonly as education, social class, or income. Bateman (2014) is of the view that SES is mainly concerned with the relationship between social processes and economic activity within society. Lin, Zhong, and Chen (2020); Majumder (2021) explained that SES is a theoretical construct that plays an indispensable role and SES tries to explain the access to resources of an individual, household, and/or community. SES dimensions have different effects on the achievement of individuals thus SES plays a significant role in determining an individual's quality of life and social position. SES is a complex and multi-dimensional construct that is interlinked with the social process and economic activities. Lin, Zong, and Chen (2020); Majumder (2021) stated that marital status, quality of life, individual's or family's capacity to consume valued goods, gender, age, family size, sufficient food access, and family & social support are important dimensions. SES measures are a combination of economic, social, and work status, measured by most common SES indicators like income, education, occupation, marital status, health, social status, gender, age, family size, and geographical location (Premadasa, Priyanath, & Walpita, (2020).

**Self-efficacy:** Self-efficacy is a concept proposed by Albert Bandura (1997) as a key element of Social-Cognitive Theory through which researchers tried to predict and explain human actions. Artino (2012) is of the view doctrine of self-efficacy has expanded beyond psychology and reached fields like health, medicine, social and political change, psychopathology, athletics, business, and international affairs. Artino (2012) also believes that Albert Bandura's self-efficacy theory has made a significant contribution to the study of educational achievements, learning, and motivation. Further, Artino (2012) stated that self-efficacy is a personal belief in one's ability to organize and implement sequences of action needed to accomplish chosen types of performances. Often defined as "task-specific self-confidence", self-efficacy has been a key element in theories of motivation and learning in diverse contexts. According to Bandura (1997), self-efficacy beliefs are fundamental to human functioning. It is not adequate for individuals to have the vital knowledge and skills to perform a task; they also must have the belief that they can successfully perform the essential deeds under challenging situations. Effective functioning, then, necessitates skills and efficacy beliefs to perform them fittingly. Both components develop mutually as individuals grow and learn. Furthermore, the functioning of one component depends, in part, upon the functioning of the other. Bandura (1997) hypothesizes that learning occurs in a social context with a dynamic and reciprocal interaction of the person, environment, and behaviour which Bandura has called 'reciprocal causation'. Artino (2012); Bandura (1997) stated that self-efficacy is a key concept in social cognitive theory and a vital notion in positive psychology. Self-efficacy is a cognitive concept that compares behavioural needs with individual capacities. Self-efficacy relates to people's beliefs in their capabilities to control their behaviours and events that affect their lives. Self-efficacy refers to our overall belief in our ability to succeed and self-efficacy is related to our sense of self-worth or value as a human being. Self-efficacy is a personal belief in one's ability to organize and implement courses of action required to attain chosen types of acts.

Akthar (2008) explained self-efficacy is the belief we have in our own abilities, specifically our ability to meet the challenges ahead of us and complete a task successfully. Self-efficacy plays a major part in defining our probabilities for success. Some psychologists rate self-efficacy as the prime factor behind success above talent. Self-efficacy can be defined as a key cognitive concept and a self-sustaining attribute that refers to an individual's behaviours, thinking patterns, beliefs, capabilities, and competence which is a motivational construct based on self-perception or personal belief in one's ability to organize and implement courses of action required to attain chosen types of acts.

**English Language Proficiency:** Krashen (1982) revealed that language fluency cannot be learned. Although mindful mastery of grammar and vocabulary skills plays an effective role in speaking and writing skills, grammar and vocabulary skills only are insufficient for effective communication. Further, Krashen (1982) highlighted that language proficiency must be acquired: we acquire language when we

understand it. Crawford (1987) is of the view that Krashen's theory plays a significant role in understanding second-language messages. Krashen (1982) explained to understand a second-language message we need comprehensible inputs, through which vocabulary and grammatical rules are picked up. Krashen (1982) also says the quality of second-language improves with exposure.

According to Cummins (1980), language acquisition can be divided into 2 main areas. Basic Interpersonal Skills (BICS) and Cognitive Academic Language Proficiency (CALP). BICS is not a specialized language and is usually context based, it is a language used for social contact. CALP involves language that is more cognitively demanding which is needed for children to master in education. The skills required at this level of language proficiency contains associating, categorizing, assessing, and deducing. Under ideal settings, to develop academic language at a level equivalent to peers in school takes 5 – 7 years. Further, Cummins (1980) is of the view that mastery of native language skills assists in the mastery of second-language skills therefore it is paramount to encourage a learner to master their native language skills. According to Cummins, language can be cognitively unchallenging or cognitively challenging. Cognitively unchallenging communication necessitates a minimal amount of abstract or critical thinking whereas, cognitively challenging communication needs a learner to analyse and synthesize information quickly and contains abstract or specific ideas.

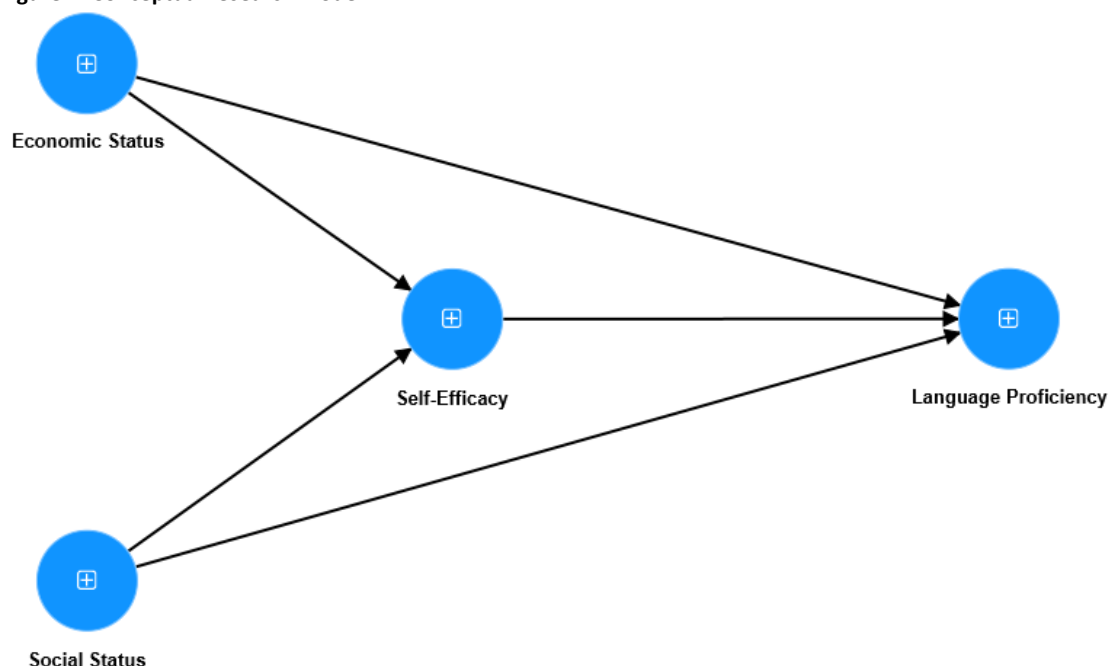
Allan and Mackenzie (2019) highlighted that language proficiency is a term that refers to someone's ability to speak a language. They further explained that English proficiency is one's ability to speak English to a required level. English proficiency relates to one's skill with the language in communication. English proficiency is the ability of an individual ability to use the English language to communicate meaningfully, accurately, and fluently in spoken and written ways. Allan and Mackenzie (2019); Ghasemolanda and Hashim (2013) explained that there are levels to proficiency, and depending on fluency, speaking a second or third language proficiently may increase your prospects. English proficiency is a minimum standard set for English language teachers and attainment of minimum language standards. Perceptions of their language proficiency, language standards, and fear of being judged determine the English proficiency of an English teacher.

### **Conceptual Framework and Hypotheses**

The study's primary emphasis was on three key theoretical dimensions: socioeconomic status, self-efficacy, and English language proficiency. The concept of socioeconomic status encompassed economic and social dimensions, serving as the independent variables in the model. Mediating the relationship was self-efficacy, while English language proficiency stood as the dependent variable. The study's conceptual framework introduced seven hypothetical relationships connecting these variables. Illustrated in Figure 01, this framework visually represents the intricate interplay among socioeconomic status, self-efficacy, and English language proficiency.



Figure 1. Conceptual research model



**SES and English proficiency:** Ariani and Ghafournia (2016) indicated there is a positive relationship between economic status and general language learning outcome and their beliefs about language learning. Portiño (2018) explained that it is fundamental to stress the idea that the learning of English is valued as linguistic capital that can benefit learners' socioeconomic development. Kieffer (2010) says that English language learning students from low socioeconomic backgrounds are at significantly elevated risk for late-emerging difficulties. Moreno and Callejas (2017) revealed that SES has a significant impact on language and content attainment. Muttaqin et al. (2022) stated that SES significantly predicted academic achievements and English proficiency. Nyamubi (2019) in research conducted among secondary schools in Tanzania concluded that the regularity of English language usage at home and school enhanced performance in the English language together with encouragement as well as material and moral support. Nyamubi (2019) is also of the view that socioeconomic characteristics and their background in English language learning make an important factor in their learning outcomes. Okunnuga and Christiana (2017) examined SES as a determinant of achievement in the English language in Nigeria and concluded that the SES of the parents had a positive influence on student's English language achievement. Based on the aforesaid findings of the scholars this study assumes that;

**H1: There is a positive relationship between the economic status and the English proficiency of rural area English language teachers.**

**H2: There is a positive relationship between social status and the English proficiency of rural area English language teachers.**

**SES and self-efficacy:** Ariani and Ghafournia (2016) revealed that there is a positive relationship between economic status and general language learning outcome. Werang (2014) indicated that there is a significant relationship between teachers' SES and teachers' work morale and also there is a significant relationship between teachers' SES and teachers' job performance. Kormos and Kiddle (2013) revealed that self-efficacy beliefs are strongly related to SES. Gutiérrez and Narváez (2017) found socio-economic

indicators like the supportive role of parents and relatives, encouraged learners to adopt a resilient attitude to the learning difficulties of the language. There was a significant statistical relationship between self-efficacy and SES. Sayed-Andi et al. (2019) revealed that there was a significant statistical relationship between self-efficacy and SES variables. Sayed-Andi et al. (2019) also state that self-efficacy is dependent on socioeconomic factors, and the use of effective educational interventions can promote self-efficacy and improve self-esteem and self-confidence. Meilstrup et al. (2020) states high self-efficacy and high social competence have a strong relationship with SES. Meilstrup et al. (2016) concluded that socioeconomic inequality and self-efficacy are closely interconnected and reducing socioeconomic inequality can lead to improvement in self-efficacy. Clark (1996) is also of the view that socioeconomic factors may have a direct influence on the person's self-efficacy and lower-status occupations reduce the sense of control. McLeod and Kessler (1990) concluded that low-income persons have been shown to feel less in control as a result of a greater frequency of undesirable life events associated with an inability to purchase essential goods and services. Therefore, the study hypothesized that;

**H3: There is a positive relationship between the economic status and self-efficacy of rural area English language teachers.**

**H4: There is a positive relationship between the socio-status and self-efficacy of rural area English language teachers.**

**Self-efficacy and English proficiency:** Kaygisiz, Anagun, and Karahan (2018) revealed in their research that there was a statistically significant correlation between the self-efficacy of English teachers and the language teaching methods they employed. The findings also revealed that the self-efficacy of English teachers was a significant predictor of the language teaching methods they employed. Ghasemolanda and Hashim (2013) concluded in their research concluded that the teachers' perceived efficacy was positively correlated with self-reported English proficiency. Takahashi (2014) revealed that there is a close relationship between the teacher's perceived language proficiency levels and their anxiety about teaching English.



Eslami and Fatahi (2008) showed that the teachers' perceived efficacy was positively correlated with self-reported English proficiency. Gutiérrez and Narváez (2017) revealed that the inadequate teachers' discourse, classroom environment, rapport and feedback strategies influenced students' perceived capability to perform in the English class. Wang (2021) indicated that there was a strong positive relationship between the EMI teachers' classroom English proficiency and their teaching self-efficacy. Zhu, Mustapha, and Gong (2020) English self-efficacy were significantly correlated with their English language performances. Therefore, the study predicts that;

**H5: There is a positive relationship between self-efficacy and the English proficiency of rural area English language teachers.**

**Mediating Role of Self-Efficacy:** Sayed-Andi, et al., (2019) says self-efficacy is dependent on various socioeconomic and educational factors, and recognizing these factors can play an important and effective role in improving students' academic achievement. Sayed-Andi et al. (2019). Further states that effective educational intervention can positively impact self-efficacy and improve self-esteem and self-confidence. Rostami et al. (2007) the view that self-efficacy has a direct and meaningful relationship with family support and stressed the role of the academic environment in promoting self-efficacy. Sayed-Andi et al. (2019) say researchers have found a relationship between higher self-efficacy level and more academic achievements. Torres, et al., (2006) found a strong relationship between self-efficacy and family support among the students with English native language. Bai et al. (2019) their research conducted in Hong Kong on "The relationship between social support, self-efficacy, and English language learning achievement in Hong Kong" states there is a positive relationship between SES, self-efficacy, and English proficiency. Karaz and Faez (2021) diagnosed in their research conducted in Canada that Multiple regression analysis indicated proficiency, linguistic identity, and teaching experience all have an impact on teachers' self-efficacy. Therefore, the study assumes that;

**H6: Self-efficacy has a mediate impact on the relationship between economic status and English proficiency.**

**H7: Self-efficacy has a mediate impact on the relationship between socio-status and English proficiency.**

## METHODOLOGY

The deductive approach in positivism philosophy is employed to test the relationship among variables and inferential design is used for the statistical testing of hypotheses. The unit of analysis is school teachers selected in rural areas in Sri Lanka. Teachers in Passara Education Zone (PEZ) in the Badulla district which belongs to Uva province in Sri Lanka were selected for the survey. There are 102 English language teachers who are teaching primary and secondary classes in this Education Zone. 81 out of the total population were selected as the sample based on Krejcie and Morgen (1970). Data were collected for the structural questionnaire employing a simple random sampling technique. The respondents answered the questionnaire by completing the Google form.

SES was measured using two dimensions. Economic status was measured using income and assets, while social status was assessed by employing occupation, education, housing condition, health, and Insurance adopted by Premadasa, Priyanath, & Walpita, (2020), Singh et al. (2017), and Wealth (2021). The teacher's self-efficacy was assessed using three dimensions engagement, strategies, and management adopted by Seneviratne, et al., (2019). English language proficiency level was measured using reading, writing, listening, and speaking adopted by Chacon (2005) and Coursera (2013). These items were assigned scores ranging from 1 to 7. The participants had to rate the questions on a 7- point Likert scale, ranging from 1= "strongly disagree" to 7= "strongly agree".

Data analysis was done using SPSS and Partial Least Square-Structural Equation Model (PLS-SEM) using SmartPLS version 4. The calculated reflective constructs to determine the model's reliability and validity. The indicator reliability value was determined by each of the outer loadings and outer loading should be 0.7 or above. The t-statistic should be greater than 1.96 for each indicator, the path coefficient was significant in a two-tail t-test with a 95% significance threshold. Cronbach's alpha and composite reliability should be 0.7 or above for a construct's internal consistency reliability. The average variance extracted (AVE) was used to test the convergent validity and an AVE value should be larger than 0.5 for each latent variable. Finally, the study tested the efficiency of the model by multicollinearity issues, R<sup>2</sup>, effect size (f<sup>2</sup>), and predictive relevance (Q<sup>2</sup>). (Hair et al., 2014).

## RESULTS AND DISCUSSION

The study is based on a sample size of 81 teachers, categorized into four age groups. The largest age group consists of teachers aged 31-40 years, comprising 61.7% of the sample. The second-largest group is 41-50, accounting for 22.2% of the sample. The remaining two groups, less than 30 years and 51-60 years, are smaller, comprising 9.9% and 6.2% of the sample, respectively. The data reveals that 81.5% of English teachers in PEZ are females, while males only make up 18.5% of the population. The ethnic diversity of the English teacher population in PEZ is heavily tilted towards Sinhala ethnicity, next to the Tamil-speaking community followed by the Muslim community. 67.9% of the English teachers in PEZ are Sinhalese by ethnicity. 24.7% of the English teachers are from the Tamil language-speaking community and 7.4% of the English teachers are from the Muslim community. Out of the 81 respondents 66 of them are married which is 81.5%. 14 English teachers are unmarried and 01 English teacher is a widow. Unmarried and windowed English teachers are 17.3% and 1.2% respectively in percentage size.

The study measures seven reflective constructs. The indicator reliability of all indicators was determined by using their outer loadings and t-statistic. The indicators in Table 1 show that the indicator reliability was established. All Cronbach's alpha and composite reliability are above 0.7 which confirmed the construct's internal consistency reliability. The average variance extracted (AVE) was used to test the convergent validity and an AVE value of the constructs larger than 0.5 confirmed the convergent validity.

**Table 1: Reliability and Validity of First order Constructs**

Construct and items		Factor loading	t-stat	CR	$\alpha$	AVE
<b>1. Engagement</b>				<b>0.833</b>	<b>0.830</b>	<b>0.763</b>
a	Control the disruptive behaviour of students in the classroom.	0.842	25.363			
b	Get the students to follow classroom rules	0.815	19.455			
c	Make expectation clear to students	0.833	26.473			
d	Use a classroom management system	0.763	17.761			
<b>2. Strategies</b>				<b>0.855</b>	<b>0.850</b>	<b>0.790</b>
a	Help students to value learning	0.844	26.881			
b	Motivate students to learn	0.877	36.597			
c	Help students to think critically	0.792	15.845			
d	Assist families in helping their children	0.808	17.695			
<b>3. Management</b>				<b>0.849</b>	<b>0.846</b>	<b>0.685</b>
a	Use a variety of assessment strategies	0.809	21.676			
b	Craft good questions	0.879	35.037			
c	Provide an alternative explanation or examples	0.784	19.655			
d	Implement alternative strategies	0.835	29.439			
<b>4. Reading</b>				<b>0.900</b>	<b>0.898</b>	<b>0.765</b>
a	Get read and understand what I read in English	0.877	33.377			
b	Infer what I read in English	0.898	57.466			
c	Figure out the contextual meaning of unfamiliar words in English	0.876	40.903			
d	Recognize the phonemic differences in a text	0.847	27.198			
<b>5. Writing</b>				<b>0.888</b>	<b>0.888</b>	<b>0.748</b>
a	Aware of the technical elements required in an academic writing	0.880	32.976			
b	Accurately reflect my thoughts in my writing texts in English	0.864	32.289			
c	Respond accurately and appropriately in writing to various personal and professional texts	0.863	28.773			
d	Use English vocabulary effectively in writing various literary texts	0.852	30.131			
<b>6. Listening</b>				<b>0.863</b>	<b>0.857</b>	<b>0.702</b>
a	Understand when two English speakers talk	0.909	53.633			
b	Understand English films without subtitles	0.839	29.278			
c	Understand verbal messages in English without explanation	0.759	15.231			
d	Identify the body language of the English speaker and understand the conveyed meaning	0.837	24.742			
<b>7. Speaking</b>				<b>0.883</b>	<b>0.882</b>	<b>0.739</b>
a	Express and support my opinion in an English conversation	0.856	29.333			
b	Understand the meaning of common idiomatic expressions used in English conversation	0.881	38.869			
c	Talk in English about cultural themes	0.853	26.875			
d	Maintain a conversation in English fluently and use appropriate lexical terms	0.849	24.921			

Source: Survey, 2023.

Fornell and Larcker (1981) proposed a criterion where discriminant validity can be demonstrated if the square root of the AVE for each latent variable surpasses the correlation values between the latent variables. The provided

correlation table, Table 2, presents the interrelationships between the latent variables, along with the diagonal entries representing the square root of AVE.

**Table 2: Discriminate Validity**

	AVE	1	2	3	4	5	6	7
1. Engagement	<b>0.763</b>	<b>.873</b>						
2. Strategies	<b>0.790</b>	.842**	<b>0.888</b>					
3. Management	<b>0.685</b>	.808**	.813**	<b>0.925</b>				
4. Reading	<b>0.765</b>	.778**	.759**	.699**	<b>0.939</b>			
5. Writing	<b>0.748</b>	.628**	.682**	.626**	.874**	<b>0.924</b>		
6. Listening	<b>0.702</b>	.645**	.664**	.611**	.827**	.788**	<b>0.924</b>	
7. Speaking	<b>0.739</b>	.719**	.671**	.631**	.857**	.795**	.854**	<b>0.921</b>

Source: Survey, 2023.

Based on the latent variable scores of the first-order constructs, the formation of second-order level constructs was demonstrated in Table 3. The same reliability and validity tests performed at the first-order level were also conducted at the second-order level. Consequently, the indicator reliability of the six latent variables was evaluated,

comprising three constructs under the dependent variable of English language proficiency, three constructs under the mediating variable of Self-efficacy, and five variables under two constructs as independent variables at the second-order level.

**Table 3: Analysis of the Second-order Constructs**

Construct and items		Factor loading	t-stat	CR	$\alpha$	AVE
<b>1. Self-Efficacy</b>				<b>0.934</b>	<b>0.932</b>	<b>0.881</b>
a	Engagement	0.944	84.160			
b	Strategies	0.944	80.487			
c	Management	0.928	56.538			
<b>2. English Language Proficiency</b>				<b>0.940</b>	<b>0.936</b>	<b>0.886</b>
a	Reading	0.959	122.970			
b	Writing	0.940	71.534			
c	Listening	0.925	48.999			
<b>3. Economic condition</b>				<b>0.846</b>	<b>0.813</b>	<b>0.651</b>
a	Per capita Assets	0.592	5.098			
b	Per capita expenditure	0.865	19.256			
c	Per capita income	0.898	41.804			
d	Per capita savings	0.837	17.578			
<b>4. Social condition</b>				<b>1</b>	<b>1</b>	<b>1</b>
a	Social conditions of the English teachers	1.000	0.000			

Source: Survey, 2023.

#### Discriminate Validity of Second-order Constructs

In accordance with Fornell and Larcker's (1981) concept of discriminant validity in measurement analysis, it is expected that the square root of the Average Variance Extracted (AVE) was exceed the correlation values observed between latent

variables. The present study's Table 4 presents the results regarding the discriminant validity of the second-order constructs. Notably, all of the inter-construct correlation values were found to be higher than the square root of the AVE, indicating that the criterion for the discriminant validity of the second-order constructs was met and satisfied.

**Table 4: Discriminate Validity of Second-order Constructs**

	Economic Condition	English language proficiency	Social condition	Self-Efficacy
Economic Condition	<b>0.807</b>			
English language proficiency	0.780	<b>0.941</b>		
Social condition	0.215	0.482	<b>1.000</b>	
Self-Efficacy	0.784	0.769	0.557	<b>0.938</b>

Source: Survey, 2023.

The analysis revealed that the structural model's dependent variables' collinearity was below this threshold, as indicated in Table 5. Consequently, it can be inferred that there were

no multicollinearity issues among the study variables, as the VIF values were below the recommended threshold of 5.

Table 5: Multicollinearity of the structural model

	English Competency	Self-Efficacy
ECO Condition	3.189	1.048
SOCI Condition	1.780	1.048
Self-Efficacy	4.410	

Source: Survey, 2023.

#### Path Coefficients and Hypotheses

In the evaluation of the structural model, the second step involved assessing the significance of the hypothesized relationships. To evaluate path coefficients, as the first step, the PLS algorithm was conducted, and thereafter it was vital to identify the significance, magnitude, and path

coefficients' signs. The t-values were used to estimate the statistical significance of each path coefficient. The critical t-value for a two-tailed test was identified as 1.96 at a significance level of 0.05 (Hair et al., 2012). Thus, table 6 exemplified hypotheses that were supported and not supported based on t-value.

Table 6: Path Coefficients and Hypotheses

Hypotheses & Relationships	Path	T statistics	P values	Decision
H1: ECO Condition -> English Proficiency	0.619	5.668	0.000	Accepted
H2: SOCI Condition -> English Proficiency	0.277	2.725	0.007	Accepted
H3: ECO Condition -> Self Efficacy	0.697	13.508	0.000	Accepted
H4: SOCI Condition -> Self Efficacy	0.407	6.094	0.000	Accepted
H5: Self-Efficacy -> English Proficiency	0.130	0.915	0.361	Not Accepted

Source: Survey, 2023.

Considering  $R^2$ , the relationship between SEC and English Language proficiency includes 0.716, and the relationship between SEC and self-efficacy contains 0.773 correlations.

Table 7 presents the results regarding the mediating role of self-efficacy in the relationship between economic and social conditions and English proficiency. H6 suggests that the economic condition influences English proficiency through the mediating role of self-efficacy. The path coefficient between the economic condition and self-efficacy is 0.090. However, the t-statistic of 0.898 is not statistically significant ( $p = 0.370$ ), indicating that the relationship between the economic condition and self-

efficacy is not significant. Therefore, there is no evidence to support the presence of a mediating role for self-efficacy in the relationship between economic conditions and English proficiency. H7 examines the influence of the social condition on English proficiency through the mediating role of self-efficacy. The path coefficient between the social condition and self-efficacy is 0.053. Similarly, the t-statistic of 0.926 is not statistically significant ( $p = 0.356$ ), suggesting that the relationship between the social condition and self-efficacy is not significant. Consequently, there is no support for the presence of a mediating role for self-efficacy in the relationship between social condition and English proficiency.

Table 7: The mediating role of Self-efficacy

Hypotheses & Relationships	Path	T statistics	P values	Decision
H6: ECO Condition -> Self Efficacy -> English Proficiency	0.090	0.898	0.370	No mediate role
H7: SOCI Condition -> Self Efficacy -> English Proficiency	0.053	0.926	0.356	No mediate role

Source: Survey, 2023.

#### DISCUSSION

Hypothesis 1 (H1) suggests that economic status has a significant influence on the English proficiency of English teachers in rural areas. The path coefficient of 0.619 indicates that economic status has a positive impact on the English proficiency of rural area English language teachers. The t-statistic of 5.668 is highly significant ( $p < 0.001$ ), providing strong evidence to accept H1. Hypothesis 2 (H2) examines the socio status has an effect on the English proficiency of rural area English language teachers. The path coefficient is 0.277, indicating a positive relationship between social status and English proficiency of rural area English language teachers. The t-statistic of 2.725 is significant at  $p = 0.007$ , which suggests that social status has a modest but still meaningful positive influence on the English proficiency of rural area English language teachers. Consequently, H2 is accepted, indicating that individuals in the social condition generally have higher English

proficiency. Research conducted by Smith (2018) focused on rural area English language teachers in various countries and revealed a positive correlation between SES status and English proficiency. The study found that teachers with higher socioeconomic backgrounds had greater access to educational resources, such as better schools, quality teaching materials, and extracurricular activities, which fostered an environment conducive to English language acquisition and proficiency. In a similar, Johnson et al. (2019) conducted a study exploring the relationship between SES and English proficiency among rural area English language teachers in developing countries. Their findings supported the notion that teachers from higher socioeconomic backgrounds had more exposure to English through access to private language institutes, study abroad opportunities, and technology. This exposure positively impacted their language skills and resulted in higher English proficiency levels. Further supporting these findings, a study by Lee and Park (2020) investigated the correlation between SES and

English proficiency among rural area English language teachers in South Korea. The research demonstrated a positive association, emphasizing the influence of socioeconomic advantages on language learning opportunities. Teachers from higher socioeconomic backgrounds had access to better schools, qualified instructors, and ample learning resources, all of which contributed to the development of superior English language skills. In summary, the research conducted by Johnson et al. (2019), and Lee and Park (2020) consistently support a positive relationship between socioeconomic status and English proficiency among rural area English language teachers. These studies highlight that teachers from higher socioeconomic backgrounds tend to have greater access to educational resources and opportunities, leading to enhanced English language skills. Thus, many scholars provided similar findings. Teachers in rural areas facing economic constraints often encounter barriers in accessing professional courses, essential information, and adequate infrastructure. These limitations hinder their ability to enhance their proficiency levels. A teacher's income and resources significantly influence their potential for growth. Those with higher income, better facilities, elevated social status, and robust social connections have the means to engage in advanced professional courses, thus bolstering their English language proficiency. Conversely, educators grappling with economic difficulties find their prospects for improvement curtailed. The disparity in resources translates into unequal opportunities for professional development, reflecting the critical role socioeconomic factors play in educators' ability to enhance their English proficiency. Bridging these gaps by providing equitable access to courses and resources can empower teachers, fostering a more balanced and proficient teaching workforce in rural areas.

H3 explores the connection between the economic status and self-efficacy of rural area English language teachers. The study reveals a strong positive relationship, with a path coefficient of 0.697. The high t-statistic of 13.508 indicates a high level of significance ( $p < 0.001$ ), supporting the acceptance of H3. H4 investigates how the social condition influences the self-efficacy of rural area English language teachers. A path coefficient of 0.407 indicates a positive relationship between the two variables. The t-statistic of 6.094 is highly significant ( $p < 0.001$ ), providing strong statistical evidence to support H4. Thus, individuals in the social condition generally exhibit higher levels of self-efficacy compared to those in other conditions. The results revealed that individuals in better SES display higher levels of self-efficacy compared to those in other conditions. According to a study conducted by Johnson and Smith (2018) on rural English language teachers, a positive relationship was found between SES and self-efficacy. The research demonstrated that teachers with higher economic status, measured by income level and resource access, reported increased confidence and belief in their ability to teach English effectively. These teachers were more likely to engage in professional development activities and utilize innovative teaching strategies, ultimately leading to improved student outcomes. Similarly, Chen et al. (2020) highlighted that teacher with better financial resources, such as higher salaries and professional development funding, exhibited higher levels of self-efficacy. These teachers reported feeling more empowered to implement effective instructional practices, leading to enhanced student motivation and language proficiency. In another

study by Zhang and Liu (2019) focusing on rural English language teachers, SES was found to impact self-efficacy regarding technology integration. Teachers with higher economic status had greater access to technological resources and training opportunities, positively influencing their self-efficacy in using technology for English language instruction. These teachers demonstrated increased confidence in their ability to leverage technology for improved student engagement and language learning outcomes. Nguyen (2019) investigated the self-efficacy levels of English language teachers in both rural and urban areas, considering their socioeconomic backgrounds. The findings revealed that rural teachers with higher socioeconomic status exhibited significantly higher self-efficacy compared to their urban counterparts. The researchers attributed this difference to potential disparities in resources, infrastructure, and community support available to teachers in rural areas with higher socioeconomic status. Teachers from higher socioeconomic backgrounds generally demonstrate higher levels of self-efficacy, likely due to increased access to resources, support systems, and professional development opportunities.

H5, which focuses on the relationship between self-efficacy and English proficiency, has yielded a path coefficient of 0.130, indicating a positive association. However, the t-statistic of 0.915 is not statistically significant ( $p = 0.361$ ), suggesting that the observed relationship between self-efficacy and English competency is not considered significant in this particular study. A study conducted by Bahrani and Balaman (2019) revealed a strong positive correlation between self-efficacy and English proficiency scores, indicating that teachers with higher self-efficacy tend to exhibit higher levels of English proficiency. Sari and Tanrıöğen (2020) indicated a significant positive association between self-efficacy and English proficiency, suggesting that teachers with higher self-efficacy tend to demonstrate better English language skills. Another study conducted by Cao and Liu (2021) confirmed a positive correlation between self-efficacy and English proficiency, suggesting that higher levels of self-efficacy among teachers were associated with improved English language proficiency. While some studies have found a positive relationship between self-efficacy and English proficiency among teachers in rural areas, indicating that higher self-efficacy tends to be associated with better language skills, other research has highlighted the importance of additional factors beyond self-efficacy in determining English proficiency.

## CONCLUSION

This study aimed to examine the relationship between SES, self-efficacy, and English proficiency among English language teachers. The research findings indicated that there was a significant positive relationship between SES and English proficiency, suggesting that teachers from higher socioeconomic backgrounds tended to exhibit better English proficiency. Secondly, the study found a positive relationship between SES and self-efficacy, indicating that SES influenced teachers' confidence and belief in their abilities. Moreover, the results indicated a positive relationship between self-efficacy and English proficiency. Thus, the study contributes to our understanding of the complex dynamics between SES, self-efficacy, and English proficiency among English language teachers.

The study has generated new knowledge in the areas of SES, self-efficacy, and language proficiency in English language

teachers in rural areas. By synthesizing theoretical perspectives such as social cognitive theory, and the dimensions of socioeconomic factors, the study contributes to providing a robust theoretical foundation to understand the effect of SES on self-efficacy and English language proficiency of English language teachers. The study contributes further providing sufficient empirical evidence to the literature in the context of Sri Lanka studying particularly English language teachers in rural areas. This study implements a different approach to address the research problem. First, the conceptual model was created by applying reflective variables which require factor analysis. Hence, the study can reveal the critical facts which represent the research problem. Therefore, this methodological approach to the research problem is unique to implement such a structure for analysing the impact of SES on self-efficacy and language proficiency in English language teachers in rural areas. Therefore, it is a valuable methodological contribution.

Policy interventions should focus on improving teachers' SES to alleviate the financial burdens they experience. This can help attract and retain qualified teachers in these areas and improve their work morale. Recognizing the impact of SES on teachers' self-efficacy and English proficiency, policy initiatives should be designed to support English language teachers working in low-SES communities. This can include initiatives such as scholarships, grants, and subsidies for professional development, conferences, and workshops. Special attention should be given to addressing the specific challenges faced by teachers in these communities and providing tailored support. Establishing networks and platforms for English language teachers in rural areas to share experiences, resources, and best practices can contribute to their professional growth. Policy recommendations should encourage the creation of teacher associations, online forums, and professional learning communities where teachers can collaborate, exchange ideas, and access peer support which affects the improvement of English language competency. This can foster a sense of community and professional identity among teachers, ultimately enhancing their self-efficacy and English proficiency. Thus, policymakers can create an enabling environment that supports English language teachers in rural areas, enhances their self-efficacy, and improves their English proficiency. Ultimately, these efforts can contribute to the provision of quality English language education and promote equitable educational opportunities for students in rural areas.

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