

**Smartphone Usage, Interpersonal Communication, and Emotional Intelligence Among
Adolescent Students in Addis Ababa**

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of Art in Developmental Psychology

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Declaration

I, the undersigned, Lelna Nega declare that the work contained herein is my own except where explicitly stated otherwise in the text, and that this work has not been submitted for any other degree or professional qualification except as specified.

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Abstract

Adolescents' smartphone exposure has shown an increment in recent years. Individuals in this age group use smartphones for purposes like texting, calling, social media, gaming, entertainment, and education. However, excessive usage of smartphones impacts adolescents' well-being in several aspects. The present study sought to determine smartphone usage's relationship with adolescents' emotional intelligence and interpersonal communication competence skills in different high schools in Addis Ababa. 394 adolescents (female = 230, male = 163) from six high schools in the Nifas Silk Laphto Sub-city (grades 9-12) completed a validated measure of emotional intelligence and interpersonal communication competence skills. To determine smartphone usage, the amount of time spent on smartphones on weekdays and weekends was asked. The sampling technique used to choose schools from the woredas was simple random sampling. Then stratified sampling was used because of the heterogenous nature of the population. The results indicated that emotional intelligence and smartphone usage have a statistically significant inverse relationship. ($r = -0.115$). The relationship between interpersonal communication and smartphone usage is also inverse but not statistically significant ($r = -0.05$) whereas emotional intelligence and interpersonal communication have a strong relationship ($r = 0.602$). A regression analysis showed that smartphone usage significantly predicted emotional intelligence but its predictive value towards interpersonal communication skills was not significant.

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Chapter One

Introduction

1.1. Background of the study

Adolescents' Emotional intelligence and interpersonal relationships are affected both positively and negatively by their media use (Weinstein, 2017). Media comes in a variety of forms, and it has changed as technology has advanced (Lemish, 2013). Today's kids and teens are raised in a world where technology permeates every aspect of daily life (Chassiakos et al., 2016). There are numerous media outlets where individuals can converse. These days, media devices come in a variety of shapes and sizes with better audio-visual quality (Lemish, 2013).

Among the several types of media devices, the smartphone is becoming more popular because of its convenience and its tendency to provide a range of services. Since the Apple iPhone entered the market in June 2007, the smartphone has had a large number of users around the world, reaching approximately three billion (Chassiakos, 2016). A recent study by Peng et al. (2023) found that 86.11% of the world population owns smartphones. Adolescents consider smartphones essential in their lives, and they foster a novel and sophisticated virtual environment for social interaction (Xie et al., 2018).

Smartphones serve different purposes in business, marketing, safety, learning, and medical fields, social networking, and gaming. Mobile apps offer a variety of specialized features, such as information searching, online gaming, social networking, photo and video sharing, and GPS tracking (Chassiakos et al, 2016). They also give easy access to the internet and make things easier. But they also have several downsides.

A survey by Strasburger has found that adolescents spend more than 11 hours a day using various media (Strasburger et al, 2013). Nowadays, adolescents spend more time on media than in school (Strasburger et al, 2013). Also, the media environment has shown a drastic change.

Social media is the most common media used by adolescents. The lifespan of social media is very short in comparison to other types of media. However, it has a great impact on adolescents' lives which makes it the focus of research in multiple disciplines (Schmeichel, 2018). Social media includes internet-based applications that are used to share content.

Adolescents use social media for self-expression, social interaction, exploration, gaming, and browsing purposes (Weinstein, 2017). These can be useful for adolescents in identity and intimacy development and increased well-being (Fiacco, 2020). Social media is an effective means of communication, especially with those with whom we lost touch (Erickson, 2021). Social media can also be of use to adolescents in enhancing learning opportunities and accessing health information (O'Keeffe & Clarke-Pearson, 2011).

According to a study conducted by Erickson (2021), the longer we use smartphones the more attracted and dependent we become on the device. The growing usage of smartphones has led to a number of social and developmental issues including mental disorders, academic failures, lower self-esteem, lower self-control, and interpersonal difficulties among adolescents (Meng et al., 2020). They are likely to become unstable and impulsive, lose control of their tolerance, and experience withdrawal symptoms (Lee et al., 2017). This is similar to the behavior of substance addiction (Lee et al., 2017).

Among the several negative effects of smartphones on adolescents, the focus of this study was on the effect of smartphones on adolescents' interpersonal communication and emotional intelligence. Studies like Przybylski & Weinstein, Babadi Akashe & Zamani suggest that

spending a long time on smartphone use would harm adolescents' interpersonal communication and emotional intelligence (Fook et al. 2021).

According to Ulfiye (2020), interpersonal communication skill scores decreased as smartphone usage ratings rose. Without effective communication, it is challenging to build any form of relationship. Adolescents' excessive usage of tech items has resulted in an increase in screen time and a decline in face-to-face interpersonal communication (Yang et al., 2022).

A study by Abi-jaoude et al. (2020), on 304 adolescents in Ontario on how adolescents' smartphone use affects their face-to-face interaction found that youth increasingly connect online as opposed to in person, and smartphones can obstruct face-to-face interactions as well as attending to one's phone while in front of other people. Even the mere presence of phones on a table made participants feel more distracted and have less enjoyment during social interactions.

Rotondi et al. (2017) study confirmed the same result as Abi-jaoude et al. but their focus was more on social relationships. Rotandi et al. (2017), conducted a study in Italy between the years 2010 and 2014 on the effect of smartphone usage on time spent with friends, as an indicator of social interaction and subjective well-being. The result of their study shows that smartphone usage is positively and significantly related to life satisfaction. The result also showed that their relationship is negatively and significantly associated with social interaction. Based on the findings they concluded that smartphones reduce the quality of social interaction and the satisfaction people get from these interactions. They also argue that this negative effect can have a spillover effect on altering sensory perception, reduced concentration, and memorization abilities.

Rotandi et al.'s (2017), study confirmed what have been found in Abi-jaoude et. al's study. Their finding, like Abi-jaoude et. al have found that the presence of smartphones around

creates the urge to constantly use them. Rotandi et al. study goes deeper into the impact of face-to-face interaction deprivation due to smartphone use. As a result of this study, they found that diverging attention from face-to-face social interaction and withdrawal from immediate relationships causes psychological impairments. These include depression, anxiety, alcohol misuse, musculoskeletal discomfort, and sleep disorders as confirmed by Mascia et al. study (2020).

Regarding emotional intelligence, problematic smartphone usage affects our ability to regulate emotions (Mendez et al., 2020). A cross-sectional study conducted by Hamissi et al. (2013), on the relationship between emotional intelligence and technological addiction found a moderate negative relationship between the two variables. A study by Beranuy et al (2009), on the relationship between internet usage and emotional intelligence also found a significant relationship between low emotional intelligence scores and excessive internet usage.

Another cross-sectional study by Mendez et al. (2020), on Spanish adolescents on the relationship between problematic smartphone usage and emotional intelligence has found that individuals with problematic smartphone use face difficulty managing their emotions, have difficulty interpersonal relationships and understanding the emotions of others and they have a hard time in managing change. They also have a problem managing stress which leads them to use their smartphones to relieve their stress. This results in a vicious cycle.

A similar study on the relationship between adolescents' smartphone usage and emotional intelligence conducted by Rodriguez et al. (2020) indicated an inverse relationship between smartphone addiction and emotional intelligence.

The above studies try to show how smartphone usage is negatively related to interpersonal communication skills and emotional intelligence but their focus is Western society and culture.

When we come to Ethiopia's context there are several studies on adolescents' phone, internet, and social media usage. Studies by Tefera (2008), and Chane (2021) focused on internet usage and addiction and its relationship with social interaction and psychological well-being. Both studies focused on adolescents and the results from these studies showed that internet usage and addiction have a negative relationship with social interaction and psychological well-being of adolescents. In line with these findings, studies conducted on university students' social media usage and psychosocial well-being also found a negative impact. Muna (2021), Sitotal et al. (2017), and Tadesse et al. (2016) conducted studies on the impact of social media usage on university students' emotional maturity and identity development, psychosocial adjustment, and psychosocial well-being respectively. All these studies found that social media has a negative impact on the psychosocial well-being of the developing adolescents. In addition to the psychosocial impact, smartphones, and social media can have an impact on adolescents' academic achievement. A study conducted by Sefiyan (2018), on cell phone usage and its relationship with academic achievement, showed that cellphone usage has a negative impact on academic achievement.

Previous studies in Ethiopia in this area, as mentioned above, focus on the relationship between the internet and social media usage and various outcome variables such as emotional maturity, social interaction, psychosocial adjustment, self-esteem, and well-being. The age group of the participants varies from teenagers to university students. However, these studies didn't consider the wider range of use of present-day smartphones, which is not limited to social media

usage. The current research will focus on the wide variety of smartphone usage (calling, texting, entertainment, gaming, social media, education related and others). So, this study will try to fill the gap by considering smartphone usage. In addition, since both interpersonal communication skills and emotional intelligence are social aspects of development they are affected by societal culture and context. This study tries to see these concepts in our country's adolescent population.

The guiding theories for this study are the developmental theories of Erickson, Sullivan, Bandura, and attachment theories. There is also the use of the gratification theory of media usage to show the reason for media usage. The researcher used a theoretical framework from these theories to guide the research.

This theoretical framework aims to explore the relationship between smartphone usage in adolescence, interpersonal communication and emotional intelligence. It integrates concepts from Erikson's Psychosocial Development Theory, Sullivan's Interpersonal Theory, Bandura's Social Learning Theory, Attachment Theory, and Uses and Gratification Theory to provide a comprehensive understanding of these relationships.

Erikson's psychosocial development theory emphasizes the importance of adolescent identity formation and the role of social interactions in shaping development. Adolescents go through the stage of identity versus role confusion, where they seek to establish a sense of self and autonomy. Smartphone usage can influence this process by providing new avenues for social interaction and self-expression. The gratification derived from smartphone use may impact the development of identity and the resolution of identity-related conflicts (Karibeeran & Mohanty, 2019).

Sullivan's theory focuses on the significance of interpersonal relationships and the impact of social interactions on individuals' development. Social interactions during adolescence

contribute to the development of self-esteem, interpersonal skills, and communication abilities. Smartphone usage may influence the quality and quantity of interpersonal interactions, potentially affecting the development of these skills. The uses and gratification derived from smartphone use can shape adolescents' social interactions and communication patterns (Sullivan, 1953).

Bandura's social learning theory suggests that individuals learn through observation, imitation, and modeling. Adolescents may observe and imitate communication patterns they encounter online, potentially influencing their own interpersonal communication skills. Smartphone usage provides opportunities for exposure to diverse communication styles, which can influence the acquisition and development of emotional intelligence and interpersonal communication skills (Bandura, 2005).

Attachment theory focuses on the emotional bonds formed between individuals, particularly in early childhood, and their impact on subsequent relationships. Secure attachment is associated with positive emotional and social development, including emotional intelligence and effective communication. Smartphone usage may affect attachment processes by altering the nature and quality of social connections, potentially impacting emotional intelligence and interpersonal communication skills (Ismail et al., 2017).

Uses and gratification theory explores how individuals actively seek out and use media to fulfill their needs and gratify specific motivations. Adolescents may use smartphones to fulfill various needs such as social interaction, entertainment, self-expression, and information-seeking. The gratifications sought and obtained through smartphone usage can influence emotional intelligence and interpersonal communication skills (Waqar, 2010).

Integrating these theories, the following relationships can be postulated increased smartphone usage in adolescence will be associated with changes in identity formation processes, potentially leading to challenges in establishing a coherent sense of self (Erikson). Smartphone usage patterns will influence the quality and quantity of social interactions, potentially affecting the development of interpersonal skills and communication abilities (Sullivan). Adolescents' smartphone usage will influence their interpersonal communication skills through observation, imitation, and modeling of online communication patterns (Bandura). Altered attachment processes resulting from smartphone usage may impact emotional intelligence and interpersonal communication skills in adolescents (Attachment Theory). The uses and gratification derived from smartphone use will influence emotional intelligence and interpersonal communication skills, as smartphone usage fulfills specific needs and motivations (Uses and Gratification Theory).

By exploring these relationships, researchers and practitioners can gain insights into the potential impacts of smartphone usage on adolescent development and inform strategies to promote healthy smartphone use and enhance emotional intelligence and interpersonal communication skills.

1.2. Statement of the problem

There is a significant gap in research regarding the relationship between smartphone usage (time spent on smartphones), interpersonal communication, and emotional intelligence among adolescents, in the context of Ethiopia. While mobile phones, including smartphones, have become increasingly prevalent worldwide, their impact on adolescent development in Ethiopia remains understudied. Despite the rapid growth of smartphone usage in the country, with an estimated 72 million subscribers and an annual growth rate of 17.8%, research efforts

have primarily focused on internet and social media use, overlooking the broader implications of general smartphone usage (time spent on smartphones), on interpersonal communication and emotional intelligence.

Adolescence is a critical period for the development of interpersonal communication skills and emotional intelligence, as highlighted by various developmental theories. The theories of Sullivan, Erikson, Bandura, and Bowlby emphasize the importance of interpersonal communication skills during this transitional phase, while Karibeeran and Mohanty stress the significance of emotional understanding and regulation for enhancing emotional intelligence. Moreover, studies have shown that excessive smartphone usage can detrimentally impact adolescents' psychological well-being, including emotional intelligence, interpersonal communication skills, general intelligence, and academic performance.

Although some studies have explored the relationship between excessive smartphone usage, interpersonal communication skills, and emotional intelligence in other contexts, there is a dearth of research specific to Ethiopia. Existing studies in the country have primarily focused on social media and internet use, failing to address the multifaceted nature of smartphone applications and their potential impact on adolescents. Consequently, the relationship between smartphone usage patterns, emotional intelligence, and interpersonal communication skills among Ethiopian adolescents remains unexplored.

Given the increasing accessibility of smartphones among the adolescent population in Ethiopia, it is crucial to investigate this relationship and raise awareness among professionals and stakeholders. Understanding the severity of the problem and developing effective intervention strategies are essential for promoting healthy smartphone habits, fostering positive interpersonal communication skills, and enhancing emotional intelligence among Ethiopian adolescents. By

bridging this research gap, we can contribute to the development of evidence-based policies and interventions that address the potential long-term consequences of smartphone usage on adolescents' emotional well-being and interpersonal relationships in Ethiopian society.

1.3. Research Question

The research questions that this research going to answer are:

1. How long do adolescents spent on their smartphones per day?
2. What are the purposes (calling, texting, social media use, gaming, and entertainment) for smartphone usage among adolescents?
3. What is the average score for interpersonal communication skills of adolescents?
4. What is the average score for emotional intelligence among adolescents?
5. Are there socio-demographic groups (age, gender, parental education level, parental income level) differences in time spent on smartphones?
6. Are there socio-demographic groups (age, gender, parental education level, parental income level) differences in average scores of interpersonal communication skills among adolescents?
7. Are there socio-demographic groups (age, gender, parental education level, parental income level) differences in average scores of emotional intelligence among adolescents?
8. Is smartphone usage in adolescence related to interpersonal communication skills and level of emotional intelligence?
9. To what extent does the amount of time spent on smartphones predict interpersonal communication skills among adolescents?
10. To what extent does the amount of time spent on smartphones predict emotional intelligence among adolescents?

11. To what extent does socio-demographic(age, gender, parental education level, parental income level) variables as a group predict interpersonal communication skills among adolescents?

12. To what extent does socio-demographic(age, gender, parental education level, parental income level) variables as a group predict emotional intelligence among adolescents?

1.4. Objectives of the study

1.4.1. General objective

The general objective of this research is to assess the relationship between the use of smartphones (time spent) and adolescents' interpersonal communication skills and emotional intelligence.

1.4.2. Specific objectives

The specific objectives of this research are:

- To assess the average time spent using smartphones among adolescents per day.
- To assess the purpose for smartphone usage among adolescents.
- To assess interpersonal relationship skills among adolescents.
- To assess emotional intelligence among adolescents.
- To assess socio-demographic groups (age, gender, parental education level, parental income level) differences in time spent on smartphones.
- To assess socio-demographic groups (age, gender, parental education level, parental income level) differences in interpersonal communication skills.
- To assess group (socio-demographic) differences in emotional intelligence.
- To assess the extent to which the duration of smartphone usage predicts interpersonal communication skills among adolescents.

- To assess the extent to which the duration of smartphone usage predicts emotional intelligence among adolescents.
- To assess the extent to which socio-demographic(age, gender, parental education level, parental income level) variables as a group predict interpersonal communication skills among adolescents.
- To assess the extent to which socio-demographic(age, gender, parental education level, parental income level) variables as a group predict emotional intelligence among adolescents.

1.5. Significance of the study

This study can have benefit to different stakeholders. It can benefit adolescents by giving information on the relationship between time spent on smartphones, interpersonal communication and emotional intelligence. The finding of the study will help them to have awareness about the issue and set a limit on the time they are spending on smartphones, away from having in person communication with others around them. It can also benefit parents of these adolescents. From the findings parents can have an understanding of how long their children are spending on smartphones, for what purpose they are using it, how is it related to their children's emotional intelligence and interpersonal communication. This will help them to have overall understanding of the relationship between these variables. Based on this they can set strategies to help their kids in limiting the time spend on smartphones, to use smartphones to their benefit and to help their kids in focusing on their physical social environment rather than the digital world. Another benefit can be for organizations and institutions working with this age group. Finding information regarding time spent on smartphones, interpersonal communication and emotional intelligence and their relationship can help them to understand adolescents more,

train them to use technology effectively and responsibly, work together with parents in using the same strategies at home and in the institutions. Nationwide the finding of this research can have a benefit in providing information about adolescents' time spent on smartphones, the average score for interpersonal communication skill and emotional intelligence. In addition it shows the relationship between these variables. This is a new area of study in our country's context so it will add new information and help professionals on the field to investigate more on the impact and the long lasting effect smartphone usage can have on adolescents.

1.6. Scope of the study

This study will focus on adolescent students in private high schools in Nefas Silk Lafto Sub-city, one school from each woreda. The focus of this study is limited to private schools because the likelihood of smartphone ownership for government school students is very low. Since government schools accept students from low-income families, owning a smartphone is less likely. The study is also going to focus only on high school students. The justification for this is that in our country's context owning a smartphone (phone) before the high school years is not that common. As a result of this, the study eliminates adolescents in lower grade levels. The third one is the sub-city. The study is limited to the Nefas Silk Lafto Sub-city. The reason behind this is that the presence of several private schools in the woreda makes it possible to increase the population size and the accessibility of the area to the researcher.

Another delimitation of the study is that it only focuses on the usage of smartphones among other digital devices. The reason behind this is that mobile phones and smartphones are the widely used technology devices in Ethiopia, so the researcher preferred to focus on smartphone usage. According to Kemp's (2021) digital report, the mobile phone users in Ethiopia are 27.46 million, and 83% of internet users access the internet through their mobile phones

(Kemp, 2021). This same report shows that for the same year, the penetration level for internet usage through laptops, desktops, and tablets was only 1% and 1.6% respectively (Kemp, 2021). This shows that mobile phones and smartphones are the most widely distributed technology devices in Ethiopia than the other technology devices.

Another delimitation of this study is that it only focuses on the emotional intelligence and interpersonal communication of adolescents. The researcher wanted to focus on these aspects because, as different theories mentioned above explained this period of development is a time for developing one's identity and moving to adulthood life. For this to occur the developing adolescents need to have good social interaction and be able to find their place in the world. Research has shown that both emotional intelligence and interpersonal communication skills are important for adolescent development, both in terms of academic and social success (Yeung & Hui, 2018). Since these are important aspects of development the researcher wanted to focus the research on these variables.

1.7. Operational definition of Variables

- **Emotional Intelligence:** emotional intelligence is the ability to perceive and express emotion to others, assimilate and analyze emotions and regulate one's own and other's emotions. (Mayer et al., 2004). Schutte Self Report Emotional Intelligence Test was used to measure emotional intelligence for the study.
- **Interpersonal communication:** interpersonal communication in this study is the face-to-face verbal and non-verbal communication adolescents have with others around them (family, friends, and important others). Interpersonal communication Competens Scale was used to measure this variable.
- **Adolescents:** individuals who are of high school age from grades 9-12.

- **Smartphone usage:** smartphone usage in this study is the time adolescents' spend on their smartphones per day and includes the usage of smartphones for the purposes of calling, texting, social media use, gaming, and entertainment.

Chapter Two

Literature Review

Present-day adolescents constantly use some technological devices in and outside of the school environment, whether for schoolwork or to stay in touch with friends. Nowadays, the primary type of communication has shifted to texting in the teenage community and 91% of teen smartphone owners use social networking sites (DeWeese, 2014). Most adolescents have access to smartphones and the Internet. They use some form of technology, usually smartphones. If this usage goes out of control and gets excessive it leads to both anxiety and depression as well as an addiction.

Adolescents are becoming less physically connected to people around them including their peers and families because of technology (DeWeese, 2014). As the problem gets bigger from time to time, it becomes vital to study the relationship between smartphone usage and adolescents' interpersonal communication and emotional intelligence.

2.1. Meaning and Characteristics of Adolescence

Adolescence has been defined in different works as a period of storm and stress. Adolescence is the period of development between puberty and adult independence which is characterized by several changes and development in different aspects. Physically individuals of this age group are characterized by dramatic changes in height and weight and the development of secondary sexual characteristics (Teklu, 2008). Another characteristic feature of this developmental period is cognitive development, increased responsibility, and challenge of previously established freedoms (Moawad & Ebrahim, 2016). Regarding personality, this period of development is characterized by being open-minded, social-oriented, less agreeable, more impulsive, more risk-taking, and sensation-seeking and deriving their satisfaction from peers (Dienlin & Johannes,

2020). This period is a time of increased media usage which reaches its peak during late adolescence (Dienlin & Johannes, 2020).

Adolescence is a period of development characterized by physiological and psychosocial changes (Curtis, 2015). It is a transition period between childhood and adulthood. According to Steinberg (2014), this period of development begins with changes in puberty and ends with social independence. In addition to the physical change, the changes during this period are related to defining oneself and finding one's own identity (Curtis, 2015).

According to Fiacco (2020), adolescence is a period of development of personal identity, and increasing social connectedness. It is also known to be a heightened period of sense of self which makes adolescents sensitive to social evaluation from others. As it is known individuals in this age group are likely to take risks. This increases parents' and society's concern and monitoring of them. The monitoring is also visible among peer groups. This is visible through adolescent social comparison tendencies. This comparison helps them to learn group norms and how to get socially desirable status. However, this social comparison can lead to depressive symptoms if the individual sees differences in a negative way (Fiacco, 2020).

2.2. Adolescents and Smartphones

Modern-day children and adolescents are characterized by living with a global media culture. There are several media options for them as screens of television, cinema, computers, mobile devices, and hand-held electronic games. They are part of the children's and adolescents' everyday life (Lemish, 2013). Screens are present in every aspect of young people's lives. They are available at home, in school, in the workplace, in places of leisure, and on the roads. Because of the media's omnipresence, it is becoming difficult to differentiate between concrete reality and media reality (Lemish, 2013).

Several pieces of research confirmed that media has several benefits for children and adolescents. Some of the benefits include communication and engagement, exposure to new ideas, and immersive learning experiences. Social media can be helpful for students as a tool for touching base with and collaborating with others on projects. In addition to this, it also has the benefit of making distance communication easier via video chatting. Both traditional and social media can be of assistance in raising awareness of current events and issues and provide tools to promote community participation and civic engagement (Reid Chassiakos et al, 2016).

Grover (2017), defines technology as any external device or mechanism that interferes with people's ability to examine and understand their own thoughts and feelings and interact with others. If these devices are used excessively they have the capacity to dull people's sensitivity to the world and others around them. Different media are forms of technological devices. Over the past ten years, technology has become the most important part of adolescents' lives. When we compare different age groups adolescents are in first place regarding their usage of technological devices (Moawad & Ebrahim, 2016).

Present society has entered an era of technology which is affecting most people at a young age. Among the results of these technological advancements are smartphones. Smartphones have become an increasingly popular technology, used by people of all ages and across continents. Smartphones sparked a technological revolution, and they are now an essential part of most people's daily lives. People nowadays frequently use smartphones to watch movies, listen to music, and watch TV shows from anywhere and at any time (Fook et al.,2020). The original purpose of the mobile phone was to communicate with others one-on-one via calls and, occasionally, texting. With the introduction of smartphones people began to communicate in

ways other than talking and texting (Erickson, 2021). Smartphone use is the leading technology throughout the world due to its accessibility and simplicity.

Smartphones have large display screens, a built-in personal information management system, a personal digital assistant, and an Android operating system that allows other computer software to be installed for web browsing, e-mail, music, video, and other applications. This allows smartphones to be thought of as handheld computers integrated within a mobile telephone with the internet. This makes it easier for users to use the enormous features of smartphones to best fit their needs (Singh, 2020).

Society is changing at a very fast rate requiring teachers to use mobile devices as a medium of learning since a large amount of learning content is available on the internet. Since 2009 a number of web pages have been created for educational purposes. According to Rodriguez (2018), these allow students to develop global self-knowledge, develop the capacity to plan their own activities and observe their progress. In this case, smartphones become handy in allowing them to access the internet easily. But it might also result in an unlikely consequence of increased usage of smartphones inside and outside the classroom. This in turn increases the risk of developing an addiction similar to substance use (Rodriguez, 2018).

In the USA about 96% of individuals aged 18-26 own phones. This makes it the leading device in usage (Ruben et al., 2021). Adolescents are unaware that the time they are spending on their smartphones and social media is increasing leading them to device addiction (Erickson, 2021). This could have a negative impact on adolescents' different aspects of life. The negative impacts of the smartphone include disruption of social interactions, sleep deprivation, poor work-life balance, and lack of attention at work (Fook et al., 2020).

Several studies show that excessive smartphone usage can have mixed effects of positive, negative, or neutral on the well-being of adolescents (Dienlin & Johannes, 2020). There are some studies that support the use of smartphones as a means of improving one's communication ability and widening social circles. Hu formulated a hypothesis regarding this idea. According to his hypothesis, smartphones have assisted individuals who usually do not engage in conversation to interact in a technology-mediated interaction as an alternative. Another hypothesis by Stritzek considers technology-mediated communication as a solution to the distance barrier to communication (Ruben et al., 2021).

An analysis of 43 studies on the effect of technological devices on adolescents' well-being shows that the majority of the results found mixed or no effect. Another analysis of 11 studies on the relationship between social media use and depressive symptoms reports a small positive relationship. Similarly, another study on the relationship between excessive screen time and insufficient sleep, physiological stress, mind wandering, attention deficit-hyperactivity disorder (ADHD)-related behavior, nonadaptive/negative thinking styles, decreased life satisfaction, and potential health risks in adulthood. These studies show the negative effect. Another analysis of 12 articles, finds that the use of internet technology leads to an increased sense of connectedness to friends and school, while at the same time increasing levels of anxiety and loneliness among adolescents (Dienlin & Johannes, 2020).

When we try to study whether the effect of smartphone usage is negative or positive we should bear in mind that the type of usage plays an important role. This cause-and-effect relationship depends on the different usage types. Usage type refers to whether we are active or passive users. Active users make meaningful social interactions. This increases social interaction

contributing positively to the well-being of the user. Whereas passive users for the purpose of procrastination are usually prone to negative well-being (Dienlin & Johannes, 2020).

Adolescents use smartphones and media as a means of socialization and getting emotional support. It helps them to connect with people around the world (Lopez & Cuarteros, 2020). According to Lopez and Cuarteros (2020), adolescents spend 6-8 hours per day exposed to some form of media. 55% and 82% of teenagers and young adults use smartphones on a regular basis. Many excessive smartphone users are exposed to the problems of real-world avoidance, loneliness, depression, anxiety, and self-esteem issues. It also also results in weakness in real-life skills, being taken away from reality, living in a fantasy, diminished outdoor activities, creating a violent mindset as a result of violent games, increased anxiety level, destruction in the study, altered lifestyle, addiction, and psychiatric disorders (Abdelkader & Elnakeeb, 2017).

This study will focus on the relationship between the usage of smartphones and their relation to adolescents' interpersonal relationships and emotional intelligence. But what do we mean by excessive usage? According to Ismail et al. (2017), excessive use is defined as the extent to which smartphone usage is longer than the time planned. This study also states that excessive use refers to a high level of smartphone use experience that will trigger the presence of unfit cognitions, which will ultimately lead to negative outcomes.

2.3. Interpersonal Communication Skills

According to Merriam Webster definition, interpersonal communication is a process where people exchange thoughts, opinions, feelings, ideas, and information. Communication can occur in two forms: Interpersonal and Intrapersonal. Interpersonal communication occurs when a person communicates with one or more people in an exchange of information. Intrapersonal

communication occurs when a person communicates with himself/herself. When a person is having thoughts or wants to make a decision on something there occurs intrapersonal communication (Nelson, 2012).

Interpersonal communication refers to the interaction between two or more individuals for the purpose of exchanging different life experiences. Communication occurs when at least two people interact, exchanging and learning information that helps sustain or terminate relationships (Nelson, 2012). Communication is an important aspect of human life, it helps us build new relationships with others through words and symbols. Human beings have the need to be accepted by others, this is a driving force for people to build relationships (Aririguzoh, 2018). Interpersonal communication involves communication skills and a perceptual set among the communicating bodies (Renney, 2007). This interpersonal communication provides social support for growing adolescents (Kiuru et al., 2020).

According to Canary and Cody (2000, as cited in Renney, 2007), there are six criteria for assessing one's level of interpersonal communication competence. These are; adaptability, the capacity to modify actions and objectives to suit the demands of an interaction, conversational involvement, the cognitive and behavioral activities that are demonstrated through interaction behaviors, conversational management, the ways in which the communicators involved control the conversation, empathy, the capacity to express understanding and to share feelings in response to a circumstance while reflecting or paralleling the other person's response and experience, effectiveness, achieving the objectives of the conversation and achieving personal goals, appropriateness, maintaining standards for a particular circumstance.

Interpersonal communication is said to be effective if it involves effective, purposeful, and intentional engagement with others and fosters a shared meaning between individuals while

fulfilling individual goals and basic interpersonal needs (Renney, 2007). Happiness, fun, fulfillment, and security are all benefits of effective interpersonal communication. Ineffective communication, on the other hand, can generate profound suffering, causing the people involved in the communication process to withdraw in anguish and unhappiness (Aririguzoh, 2018). The major driving forces for communication to occur are the need for affiliation and acceptance, belongingness, love, and affection (Aririguzoh, 2018).

Face-to-face interaction has the advantage of bringing people together to see the non-verbal cues of communication and modify the message accordingly. This type of communication moves society forward. Failure to engage in this type of relationship results in a dysfunctional society (Aririguzho et al., 2018). The way we communicate with others shapes our lives and our world. If we try to communicate with people from different backgrounds based on mutual respect and ethical fairness we increase our chances of leading more fulfilling personal and professional lives (Nelson, 2012). According to Nelson (2012), good communication has three major supportive advantages. These are emotional, social, and advice.

Interpersonal Communication is important for adolescents' physical and mental health. The interactions that adolescents have with their parents since childhood play an important role in their physical and mental health as they grow. Adolescents who have positive interactions with their parents develop healthier personal character traits, such as warm and enthusiastic personalities, and are more likely to achieve academic success. In contrast, a lack of pleasant interactions may increase the risk of emotional disorders and even mental illness (Yang et al., 2022). Peers also play an important role in influencing adolescent emotions, social interactions, health behavior, and decision-making during adolescence. Interactions with peers help

adolescents develop self-identity, self-esteem, and self-efficacy. and, as a result, learn stress resistance (Yang et al.,2022).

2.3.1. Smartphone Usage and Adolescents' Interpersonal Communication

Most of the time in technology-mediated communication the only part of the communication that can be available is the verbal one. This will result in a lack of non-verbal cues in communication. When people communicate there are hand movements, body language, and gestures they use which are only present when we communicate face-to-face. If we spend a lot of time on technology-mediated communication our ability to use and interpret these cues will diminish (Ruben et al., 2021).

Technological devices made social interaction easier for present-day adults and teenagers. Modern-day devices like smartphones make phone calls, text messages, email, and internet browsing easily accessible. This is also becoming the major form of relationship people are having. Regardless of the fact that smartphones make life easier, they have a limitation of reducing face-to-face social interaction. So, using these devices should come with the responsibility of deciding why and how often we use them (Nelson, 2012).

In addition to using phone calls and text messages, there are various other social media sites available. To mention some Facebook, Twitter, Myspace, and LinkedIn. These media are not only for entertainment purposes but also for sharing information and promoting one's capabilities, even professionally. This eliminates the time and space constraints of face-to-face social interaction (Nelson, 2012).

Computer-mediated social interaction lacks social cues which are parts of verbal communication. As a result of this, it creates a feeling of anonymity. This in turn creates a de-individualization effect on the individual involved by producing a more self-centered

behavior than that of socially regulated. This according to Goleman (1998, as cited in Aririguzho et al., 2018) creates social corrosion. Social intelligence is hindered when it is interfered with by technology (Aririguzho et al., 2018).

With the usage of computers and smartphones increasing, people are becoming more inclined to these devices retreating away from social interactions, and showing a chronic tendency to avoid oral communication. This leads to weakened community ties and traditional communication means (Aririguzoh et al., 2018). When we say inclination it does not mean a physical emotional connection with the mobile device; rather the connection with the different applications in the device, the internet for video accessing, and online games. It is normal to develop a connection with a mobile device, but the problem is when the level of the emotional connection becomes very high (Ismail et al., 2017). Even Though the usage of different technology devices creates a sense of connectedness, many users nowadays have a feeling of isolation (DeWeese, 2014).

Time spent on the phone has increased especially in the younger population of ages 12-17 and 18-24 respectively. The mean age of smartphone ownership has decreased recently. The primary use of smartphones has also shifted from business to personal communication (Waqar, 2010). The present generation spends more time on the internet than in person. 95% of adolescents aged 13-17 from the whole population use smartphones. This affects the identity development and socialization of adolescents. A study conducted in Pakistan on 150 teenagers aged 13-17 shows that 36% of teenagers talk for two hours daily on the phone which takes up 8% of the day's time. 37.33% of teenagers confirmed that they use their cell phones while attending social functions (Waqar, 2010).

Excessive use of smartphones leads people to the risk of addiction. Smartphone addiction results in problematic social and interpersonal relations and symptoms of psychological distress. According to Rodriguez (2018), excessive use of smartphones among adolescents aged 14-19 is associated with obsessive-compulsive disorder, attention deficit disorder, depression, nervousness, insomnia, dizziness, fatigue, headache, nausea, momentary memory loss, poor concentration, anxiety symptoms, social dysfunction, and eye problem. Another study by Rodriguez (2018) found that this excessive usage can be related to problems in family relationships, academic performance, economy, and personal life. A study conducted by Fook et al. (2020) confirmed these results. According to their study, excessive smartphone usage can result in behavioral problems, like poor social skills, low self-confidence, and low self-esteem. The study emphasizes the negative effect smartphone addiction would have on the development or maintenance of interpersonal communication in the adolescent population. They also claim that these impacts could be serious to adolescents because interpersonal skills are important for their future life (Fook et al., 2020).

A similar study was conducted by Ruben et al. (2021) to assess if there is an enhancing or hindering effect of technology on adolescents' interpersonal interaction. From interpersonal communication skills, the focus of their study was on non-verbal decoding skills. They conducted two studies based on how individuals use the smartphone, as passive or an active user. The result showed that people who spend more time on technological devices and who are active users tend to have poor nonverbal decoding skills. An increase in the time spent on smartphones can even result in communication problems among family members. This lack of face-to-face interaction leads to decreased social skills (Ruben et al., 2021).

2.4. Emotional Intelligence

“The term Emotional Intelligence was originally coined by Peter Salovey and John Mayer in 1990 to delineate qualities like understanding one’s own emotions, empathy for the feelings of others, and managing one’s emotions in a way that enhances living. Later, the concept was popularized by Daniel Goleman with the publication of his best-selling book titled Emotional Intelligence.” (Nagar, 2016 P. 12).

Emotional intelligence has been linked to positive social behaviors, cooperation, consideration towards others, self-control, social skills, self-motivation, adaptability, empathy, positive, constructive conflict resolution, anger control, and emotional stability; which provides protection against stress and promotes mental health, and coping with everyday stress (Garaigordobil, 2020). The idea of emotional intelligence (EI) has existed for many years but, in the last two decades, several researchers have focused on studying it. As a result of this different theories have emerged and there is currently no single definition of the concept (Nagar, 2016).

Emotional intelligence is the ability to perceive and express emotion to others, assimilate and analyze emotions, and regulate one's own and others' emotions (Mayer et al., 2004). It is a set of abilities to perceive emotions, access and generate feelings to aid thought, understand emotions and emotional knowledge, and reflect on emotions to promote emotional and intellectual growth (Nagar, 2016). It includes skills like self-control, persistence, self-motivation, and sensitivity to the feelings of others. Self-awareness, self-regulation, social skills, empathy, and motivation are the five main attributes identified by Dr. Goleman as fostering emotional intelligence (Grover, 2017). According to Goleman (1998), emotional intelligence has an impact on an individual’s interpersonal relationships, life satisfaction, job success, and leadership capabilities.

According to Mayer et al. (2008, as cited in Carter, 2015), there are three models for studying emotional intelligence. These are ability, integrative, and mixed-model. Ability models concentrate on a single emotional/mental capacity. Researchers can use ability-based models to focus on a specific aspect of emotional intelligence and how it develops (Carter, 2015). Integrative models depict emotional intelligence as a unified, global talent that combines at least two abilities (Carter, 2015). Mixed-model approaches define emotional intelligence more broadly, incorporating abilities, emotional and social behaviors, and components of personality theory (Carter, 2015).

Carter (2015) defines this term as “a learned ability to identify experience, understand, and express human emotions in healthy and productive ways.” (p. 2). Another definition is by Nagar (2016), According to him, “emotional intelligence is viewed as the ability to process emotional information and to regulate emotions” (P.1). Other psychologists like Bar-On, who coined the term “emotional quotient” (1997, as cited in Nagar, 2016) consider EI as a non-cognitive intelligence and define it as an array of emotional and social competencies and skills that affect one’s ability to cope effectively with environmental demands and pressures. “Emotional intelligence is the ability and freedom to grow from mistrust to trust, self-doubt to self-empowerment, following to leading, incompetence to competence, isolation to synergy, and despair to hope “ (Karibeeran & Mohanty, 2019 p. 121).

Another definition by Wang et. al. (2010), is that Emotional Intelligence is like a hierarchical development that starts from the self to the social contexts. There are four levels to this process of development: self-awareness, empathy, self-management, and interpersonal relationship skills. According to Salovey and Mayer (1990, as cited in Nagar, 2016), EI is the ability to monitor one’s own and other's feelings and emotions in order to discriminate and use

the information to guide our thinking and actions. Mayer and Salovey structured EI as a model that includes four interrelated branches. Which are emotional perception, emotional facilitation of thought, emotional comprehension, and emotion regulation (Garaigordobil, 2020).

In his thesis, Nagar (2016) included different definitions by different professionals. Among these are Cooper and Sawaf (1997, as cited in Nagar, 2016) who define the term by relating it to the ability to understand and effectively apply emotions with human energy, information, connection, and influence. Another definition of EI is given by Weisinger. According to Weisinger (1998, as cited in Nagar, 2016), EI is the intelligent use of emotions: using and monitoring our emotions in a way to guide our behavior and thinking toward enhanced results. According to Singh (2020), EI is the ability of an individual to appropriately and successfully respond to a variety of emotional stimuli educed from the inner self and the immediate environment. He proposed that EI constitutes three psychological dimensions: emotional competence, emotional maturity, and emotional sensitivity.

When we consider the study of emotional intelligence there are different models developed by different researchers. According to the model of Mayer and Salovey (1997, as cited in Karibeeran & Mohanty, 2019), emotional intelligence is composed of two areas which include the perception of emotion and the making use of this understanding. Another model is of Bar-On's mixed model (1997, as cited in Karibeeran & Mohanty, 2019). This model mainly focuses on individuals' emotional and social abilities to solve problems. This includes knowing and understanding oneself and the focus should be on the process rather than the outcome. Another theory in studying emotional intelligence is that of Goleman (1995, as cited in Karibeeran & Mohanty, 2019). Goleman used a mixed model and described emotional

intelligence as having four constructs which are self-awareness, self-management, social awareness, and relationship management (Karibeeran & Mohanty, 2019).

According to conception research on emotional intelligence is divided into three groups. Emotional intelligence can be studied as a skill, a trait, or something that unites both. There are three models to understand Emotional Intelligence. These are Ability, integrative and mixed models. The ability model focuses on a single aspect of Emotional ability, which makes it to be non-comprehensive in giving the whole picture of Emotional Intelligence. The Integrative model integrates two or more aspects of abilities instead of focusing on one ability. The mixed model is broader than the other two and it includes abilities, emotional and social behaviors, and aspects of personality theory to define Emotional Intelligence (Carter, 2015).

According to Truninger (2012), There are three approaches to measuring EI (Emotional Intelligence). These are; ability approach, measures emotional intelligence as a general performance by measuring it through a maximum performance-based questionnaire. The items are then regarded as right or wrong by emotional research experts. This includes the perception of emotion, using emotion to facilitate thinking, understanding emotion, and managing emotion in oneself and others (Brackett et al., 2022). Self-report approach measures EI based on a self-report questionnaire. However, this method is susceptible to social desirability bias since the individual is reporting about himself/herself. Behavioral approach, measures emotional and social competencies by collecting information from people who live or work around the person being assessed.

High emotional intelligence is related to less emotional and behavioral problems, hostility and feelings of annoyance, anger, and anger expression in annoying situations, physical and verbal aggressiveness, aggressive behaviors, antisocial behavior, disruptive behaviors, and

aggressor behaviors (Nagar, 2016). According to Goleman people with higher emotional intelligence development have healthier relationships, have a better coping strategy, adapt better to the environment, and are more skilled to work towards their goals (Grover, 2017).

Adolescence is a period of heightened emotionality. Because of this adolescents should know how to perceive, understand, regulate, and function with their emotions (Karibeeran & Mohanty, 2019). A study by Mayer, Salovey, and Caruso has found that emotional intelligence increases with age. Since cognitive development and social experience increase with age emotional intelligence also increases (Garaigordobil, 2020).

2.4.1. Smartphone Usage and Adolescents' Emotional Intelligence

According to Kumar (2017), smartphones are becoming the new babysitter for kids. The age at which kids start accessing phones is getting lower than before. In the teen generation, smartphones are not only communication devices but are something that they can not live without (Erickson, 2021).

Smartphones can be helpful in dissociating ourselves from stressful situations. This includes listening to music and using different apps to relieve stress and anxiety through guided meditation and relaxation exercises. The problem arises when the usage becomes excessive and starts to take priority over engaging in meaningful communication resulting in creating a narcissistic bubble, being disconnected from our and others' feeling and thought. This in turn further intensifies the usage affecting people's sensitivity, compassion, and sense of humanity. This has a direct relation to a person's emotional intelligence (Grover, 2017).

Since the increased availability of smartphones, face-to-face interaction has deteriorated. The exchange of emotional experience and learning from others' emotional experiences, which is the main contributing factor to the development of emotional intelligence, has been affected.

According to a study by Rodriguez (2018), three components of emotional intelligence; attention to feelings, clarity of feelings, and mood repair are influenced by problematic smartphone use. Goleman identifies five key qualities to improve emotional intelligence. These are self-awareness, self-regulation, social skills, empathy, and motivation. But if individuals are engaged in excessive use of technology devices these essentials of emotional intelligence will be affected (Grover, 2017).

A study by Erickson (2021) on smartphone usage and emotional intelligence states that conversing with someone requires frequent processing of emotional recognition or identifying human emotions. Erickson (2021) wanted to assess if excessive smartphone users are neurologically affected when it comes to facial recognition. This suggests that people who use their phones excessively have a more difficult time reading facial expressions than people who use their phones infrequently. Individuals who use their phones excessively may have a negative impact on emotional processing related to social interaction.

Excessive smartphone usage affects self-awareness because as we get dependent we will decrease the time we give to our thoughts and feelings. This means we became self-alienated and estranged from our emotional selves. This effect will be more visible in adolescents because one characteristic feature of this developmental period is searching and understanding oneself. If tech usage interferes with this process of normal development the self-awareness ability will not be well developed. Its development will be stunted (Grover, 2017).

The other essential part of emotional intelligence affected by smartphone dependency is self-regulation. Smartphone dependency is likely to increase impulsivity and lower frustration tolerance. This can have a negative impact on growing adolescents' emotional maturity and results in temper tantrums and angry outbursts. The period of development is referred to by

different professionals as ‘storm and stress. If adolescents are not able to develop coping mechanisms for their impulsivity and frustration developing this ability will be very difficult (Grover, 2017).

Smartphone dependency also affects social skills. Most technological devices and media avoid face-to-face interaction and encourage faceless relationships. In the long run, this might have an effect by making them isolate themselves from the real world. This leaves them with poor coping skills and limited tools for navigating relationships (Grover, 2017).

Empathy is the other essential element of emotional intelligence affected by smartphone dependency. When people are more smartphone-dependent they are more likely to be self-absorbed and detached from others. This will make their compassion and empathy to be less developed especially if they are in the period of adolescence (Grover, 2017).

The last essential element here is motivation. Motivation requires drive, sustained attention, and a high level of frustration tolerance. But when there is smartphone dependence it will result in neglecting oneself and one’s future. This will have a lifelong and lasting impact on the lives of adolescents (Grover, 2017).

2.5. Theoretical framework

Drawing from the theories of adolescent development and psychological frameworks, a theoretical framework can be developed that explores the relationship between time spent on smartphones, emotional intelligence, and interpersonal communication skills during adolescence.

The following components contribute to the framework.

2.5.1. Erikson's Theory of Psychosocial Development

Erikson's theory emphasizes the importance of identity formation during adolescence. According to this theory, adolescents go through a stage where they reexamine their identity and try to discover who they are. This stage is characterized by a psychosocial crisis between individual needs and societal expectations. The successful resolution of this crisis leads to the development of a strong sense of identity. In the context of smartphone usage, it is essential to examine how excessive time spent on smartphones may impact the exploration of identity and the development of a coherent sense of self.

2.5.2. Sullivan's Interpersonal Theory

Sullivan's theory focuses on the significance of interpersonal relationships in personality development. During early adolescence, individuals experience a need for intimacy and develop interpersonal communication skills. Successful navigation of this stage allows for the formation of healthy and lasting relationships. It is crucial to explore how smartphone usage influences the development of interpersonal skills, as excessive reliance on smartphones may hinder the formation of intimate relationships and limit face-to-face interactions.

2.5.3. Bandura's Social Learning Theory

Bandura's theory highlights that individuals learn through observation and modeling of others' behaviors. In the context of smartphone usage, adolescents may observe and imitate behaviors they encounter on social media platforms or other digital content. This theory suggests that excessive smartphone use may influence the acquisition of emotional intelligence and interpersonal communication skills by shaping the behaviors and interactions adolescents are exposed to.

2.5.4. Attachment Theory

Attachment theory explains the nature of emotional connections individuals form with others over time. In the context of smartphone usage, individuals may develop attachment to their devices, leading to a reduced focus on building emotional connections with peers and family members. This theory suggests that the emotional connection and time spent on smartphones may substitute or interfere with the development of emotional intelligence and interpersonal communication skills.

2.5.5. Use and Gratification Model

The use and gratification model explores individuals' motivations and needs for media consumption. In the case of smartphones, individuals actively choose to use specific apps or engage in certain activities based on their goals and expected gratifications. Understanding the motives behind smartphone use, such as social interaction, entertainment, or information access, can provide insights into how these motivations may affect emotional intelligence and interpersonal communication skills.

By integrating these theoretical perspectives, we can develop a comprehensive framework to examine the relationship between time spent on smartphones, emotional intelligence, and interpersonal communication skills during adolescence. This framework allows for a deeper understanding of how excessive smartphone use may impact the development of emotional intelligence and interpersonal communication skills, highlighting potential challenges and areas for intervention to promote healthy development in adolescents.

Chapter Three

Research Methods

3.1. Research design

This study aimed to examine the relationship between smartphone usage and adolescents' interpersonal communication skills and emotional intelligence. In order to assess this, the study used a correlational research design. Correlational research design helps to measure the association between two or more variables and evaluate the strength of their relationship.

3.2. Population of the Study

Participants of this study were grade 9-12 students in private schools in Nifas Silk Lafto Sub City. There are nine woredas but only six of them have high school from grade 9-12. There are 30 high schools in the woreda. In each woreda there are 3-6 high schools. In the first woreda there are 1949 students, 1795 in the second, 2016 in the third, 2100 in the fourth, 2145 in the fifth and 2078 in the sixth. There are a total of 12,083 students in these schools. From each woreda, one school with highest number of students was selected. The total number of grade 9-12 students in these six schools is 2317. The number of students from each school is 236 from the first, 267 from the second, 273 from the third, 135 from the fourth, 344 from the fifth and 1062 from the sixth school. The researcher has focused on private schools because these private schools accommodate students who come from families with good socio-economic status. This allows most students in these schools to own a smartphone. Students in these schools have more access to smartphones than students in public and government schools.

3.3. Study Setting

The study setting was private high schools in Nifas silk lafto subcity. In the subcity there are 9 woredas. Among these nine woredas only six of them have high schools from grade 9-12. One school was taken from each

3.4. Participants and Sampling Technique

The sampling technique used for this research was stratified sampling. The stratas used for classifying the groups was the different schools and the grade levels. Then simple random sampling was used to select the participants of the study from each grade level.

To determine the sample size the researcher used the Cochran formula of sample size determination.

$$n = \frac{n_0}{1 + \frac{(n_0 - 1)}{N}}$$

Where N= population size (2317) and

$$n_0 = \frac{Z^2 pq}{e^2}$$

In this formula

Z= the value from the standard normal distribution reflecting the confidence level (95% CI=1.96)

p= the (estimated) proportion of the population which has the attribute in question. (0.5) and

q= 1-p

$$n_0 = (1.96)^2 \times 0.5(1 - 0.5) \div (0.05)^2$$

$$= 385$$

$$n = \frac{385}{1 + \frac{385-1}{2317}}$$

$$n = 329$$

Anticipating non-responses, missing responses, and the number of not adequately completed questionnaires the study added 20% on the original sample as oversampling. After calculating this the sample size was 395.

To calculate the sample size for the stratas the following formula was used.

$$\text{Sample size for strata} = \frac{\text{Sample size}}{\text{Population size}} \times \text{Population of the strata}$$

$$\text{Sample size for the 1st school} = \frac{395}{2317} \times 236$$

$$= 40$$

$$\text{Sample size for the 2nd school} = \frac{395}{2317} \times 267$$

$$= 46$$

$$\text{Sample size for the 3rd school} = \frac{395}{2317} \times 273$$

$$= 47$$

$$\text{Sample size for the 4th school} = \frac{395}{2317} \times 135$$

$$= 23$$

$$\text{Sample size for the 5th school} = \frac{395}{2317} \times 344$$

$$= 59$$

$$\text{Sample size for the 6th school} = \frac{395}{2317} \times 1062$$

$$= 181$$

Regarding the strata for grade levels the same formula was used:

$$\text{Sample size for strata} = \frac{\text{Sample size}}{\text{Population size}} \times \text{Population of the strata}$$

$$\begin{aligned} \text{Sample size for 9th grade} &= \frac{395}{2317} \times 584 \\ &= 100 \end{aligned}$$

$$\begin{aligned} \text{Sample size for 10th grade} &= \frac{395}{2317} \times 547 \\ &= 93 \end{aligned}$$

$$\begin{aligned} \text{Sample size for 11th grade} &= \frac{395}{2317} \times 638 \\ &= 109 \end{aligned}$$

$$\begin{aligned} \text{Sample size for 12th grade} &= \frac{395}{2317} \times 548 \\ &= 93 \end{aligned}$$

For sample from each school's each grade level the same formula was used to determine the sample size from each grade level.

3.5. Measures

The data collection method used in this research is a questionnaire with three parts. The first part of the questionnaire contained questions regarding the demographic characteristics of the participants. The second part was The Schutte Self Report Emotional Intelligence Test (SSEIT) developed by Dr. Nicola Schutte and her colleagues in 1998. It was used to measure the emotional intelligence of the participants. The final part was The Interpersonal Communication Competence Scale (ICCS) developed by Rubin and Martin in 1994. This was used to measure interpersonal communication skills.

3.5.1. Socio-demographic Characteristics

The first part of the instrument collected data related to participants' socio-demographic characteristics. This includes their gender, age, and grade level. In addition to these socio-demographic items, this part also included questions regarding the average hours spent on smartphones on weekdays and weekends, the purpose for using smartphones, the level of education of parents, and the average monthly income of parents. Overall the first part included 7 items.

3.5.2. Emotional Intelligence Test

The second part of the questionnaire was The Schutte Self Report Emotional Intelligence Test (SSEIT), which measured the emotional intelligence of the participants. This test was developed by Dr. Nicola Schutte and her colleagues in 1998. It based its structure on the emotional intelligence model of Mayer and Salovey (1990). This instrument was developed for individuals to assess their emotional intelligence and is used widely.

The test consisted of 33 items, three (5, 28, and 33) of which were reverse scored, that measured the emotional intelligence of an individual. It is a self-rating test using a 1 (strongly agree) to 5 (strongly disagree) scale for the response. Then the responses were added up to show general emotional intelligence. It included questions like: 'I know when to speak about my personal problems to others', 'I like to share my emotions with others', and 'compliment others when they have done something well.'

The test is self-administered and takes 15-20 minutes to complete. Responses were added up to show general emotional intelligence. The score ranges from 33 to 165 where the higher score indicates higher characteristic emotional intelligence. The mean score is 124, scores below 111 indicate a very low EI, and scores above 137 indicate a very high EI.

The Schutte Self-Report Emotional Intelligence Test has been used by different researchers to measure general EI. Schutte's Self-Report Emotional Intelligence Test has been used in a study on management students and technology acceptance during the COVID-19 pandemic, an exploratory research of emotional intelligence in the education business is conducted. It has also been used in Nigeria to measure adolescents' Emotional intelligence. This test has also been translated into different languages. To mention a few Portuguese, Spanish, French, German, Chinese, and Korean (Musonda et al., 2019).

Regarding the psychometric properties of the test, Schutte and her colleagues have found a test-retest reliability and an internal consistency of Cronbach's alpha .90. A study conducted in Zambia, has found that this test has a reliability of Cronbach's alpha .79 (Musonda et al., 2019). Another study in Nigeria, found an internal consistency of SSIET with Cronbach's alpha coefficient of .90, a Spearman-Brown coefficient of .91 and Guttman Split-Half coefficient of .91. Different findings show that SSEIT is a valid measure of EI (Aniemeka et al., 2020).

3.5.3. Interpersonal Communication Skills Test

The third part of the questionnaire measured the interpersonal relationship skills of the participants. To measure this the researcher used The Interpersonal Communication Competence Scale (ICCS). This scale was developed by Rubin and Martin in 1994.

This test is a self-administered instrument that assesses ten aspects of interpersonal communication competence. These are self-disclosure, empathy, social relaxation, assertiveness, interaction management, altercentrism, expressiveness, supportiveness, immediacy, and environmental control. It takes 10-15 minutes to administer. The scale consists of 30 items of which 24 are positively stated and 6 (5, 9, 11, 13, 20, and 30) of them are negatively stated. The scale uses five points like the Likert scale ranging from 1 (almost never) to 5 (almost always).

The total score ranges from 30 to 150 with an average of 90 points. The higher the total score is, the more competent one is in interpersonal communication. It includes questions like: 'I reveal how I feel to others, 'I am comfortable in social situations.', 'It is difficult to find the right word to express myself'.

The interpersonal communication competence scale has been translated into different languages including Chinese, Turkish, and Korean. Regarding the psychometric properties of the test, this scale has internal reliability of Cronbach's alpha coefficient of .86. A study was conducted in Portugal and Brazil to validate and adapt the scale. In the construct validation of the instrument, the α of the 30 items of the scale was 0.80 (Rubin & Martin, 1994).

3.6. Pilot Study

The original data collection instrument was prepared in English which needed to be translated to Amharic for ease of understanding. The translation method used was back translation. First, the researcher along with a subject matter expert (clinical psychologist) translated the scale into Amharic. Then a fluent speaker of both languages (an expert in language) back translated the Amharic version to English. In addition to the back translation cultural appropriateness was checked. Based on feedback, differences in translation were corrected accordingly. Then 6 of the Amharic versions of the questionnaire were given to high school students to check if it was clear and understandable. Based on what they said some of the questions were corrected.

The pilot study was conducted on 35 high school students in a different sub-city in private high schools. The demographic features were kept similar as much as possible. The samples for this purpose were selected randomly and the instrument was provided to them. They filled and returned it on the spot. The purpose of performing a pilot study was to evaluate the instruments' reliability and applicability and to have a high-quality, trustworthy measurement to

accurately answer the research questions. A Cronbach's alpha reliability was computed to ensure the internal consistency of the instruments of the study. For Schutte Self Report Emotional Intelligence test a Cronbach alpha of .858 was found and for Interpersonal Communication Competence Scale a Cronbach alpha of .82 was found. This proves the reliability of the scales.

Another point of focus was the validity of the measures. Content validity was the major emphasis of this study. For this purpose, the researcher checked content validity by consulting professionals in the field. Finally, the researcher was able to secure reliable and valid instruments for the main study.

3.7. Data Collection Procedure

After the pilot study was conducted on 35 high school students, some modifications (changing difficult words to age appropriate words, grammatical mistakes during translation) were made to the measures based on the results obtained for this study. Then for conducting the study on the study participants, the researcher secured a letter requesting collaboration in the data-gathering process from Addis Ababa University School of Psychology.

The researcher contacted the high school principals of each of the six schools by showing the letter of collaboration. Since the time of data collection was during exam time and the end of school the data collection needed to be done within two weeks. In five of the six schools after the students finished their exams they were made to stay in the class. In the sixth school, it was done on the day their exam papers were returned. During the administration the the participants read the questions and ask for clarification if anything was unclear. The instruments were filled and returned in the class. No instrument were taken home. In every school, the high school principals move from class to class with the researcher. This helped in obtaining all the instruments after completion.

Prior to providing the instrument the researcher introduced herself, indicated why and from where she came from, and gave brief information regarding the purpose of the study and the instrument. Confidentiality issues were also discussed. Having done all these their willingness assured the questionnaires were given to students who have and use smartphones. If they didn't have a smartphone or were not willing to be part of the study they were excluded.

In this study, 395 instruments from six high schools in the Nifas Silk Lafto sub-city (one school from each woreda) were collected. Among these instruments, 1 was returned with 20% missing responses so it was discarded from the study. There were also other instruments with 1-9 missing responses. 394 was considered a representative sample of the total population of 2317 because 20% oversampling was used in case of missing a large sample.

3.8. Method of Data Analysis

This research used both descriptive and inferential methods of data analysis. For answering some of the research questions regarding prevalence descriptive statistics was used. To assess the relationship between time spent on smartphone use, emotional intelligence, and interpersonal communication skills inferential statistics, particularly bivariate correlation and regression were used. Data analysis was carried out with the help of SPSS.

3.9. Ethical Considerations

Informed consent was verified prior to gathering the necessary data from the study participants through verbal consent. Prior to providing the questionnaire, the participants were informed verbally about all the necessary aspects of the study. If they were not willing to be part of the study the questionnaire was not provided for them. Confidentiality and privacy issues were also discussed. The respondents are not expected to mention their names on the questionnaire; this assured them that their responses are anonymous and their privacy is kept.

Chapter Four

Results

4.1. Socio-demographic Characteristics of participants

Regarding the socio demographic variables (age, gender, grade level, parental education level and monthly average income) mean, standard deviation and percentages were calculated for each. 58.4% of the participants were female and 41.4% of them were male. The age range was from 14 to 20 years, with a mean age of 16.2 years and a standard deviation of 1.2. The grade level ranged from 9 to 12. Grade 9 was the highest in percentage (32.2%) followed by grade 10 (28.7%) then came grade 11 (26.6%) and grade 12 with the least (12.2%). In terms of father and mother education level, those with parents who completed primary education made 7.1% and 10.9% respectively, secondary education 25.1% and 31% respectively, those with a first degree were 31.5% and 36.3% respectively and those with a second degree and above made 35.8% and 20.8% respectively. The other characteristic included here is the family's monthly average income level. The average income level took the lead with 64.7%, then came a high-income level with 29.9%, in third place came a very high-income level with 5.1%, and the last was a low-income level with 0.3%. Refer to **Table A1** in appendix A for reference.

4.2. Adolescents' Use of Smartphones

Adolescents' use of smartphones was examined in terms of their time spent and purpose of use. Initially, participants were asked to respond to the amount of time they spent on their smartphones per week. Participants spent on average 13 hours (Mean = 13.07, SD ± 11.19) per week on their smartphones with a range of 10 minutes of minimum time to a maximum of 78 hours. Most of the participants (4.3%) spent 7 hours per week followed by 15 hours per week which made up 3.8 % of the participants.

In addition to the time spent on smartphones, the study also tried to identify the purpose for which participants used their smartphones. **Table A2** in appendix A shows the seven purposes participants chose together with the percentage. The purposes were for calling and receiving a call, texting, social media, gaming, entertainment, education-related, and for other purposes. Based on the result it can be seen that the major purpose for using smartphones is for social media purpose.

4.3. EI and IC among High School Students

4.3.1. Emotional Intelligence

The mean score obtained from this study for EI (Mean =117.3, SD =16.7) is a little lower than the mean for the test. This shows that the participants show a poor emotional intelligence than the average. The scores ranged from a minimum of 58 to a maximum of 164. 120 (30.4%) participants scored below 111, 238 (60.3%) participants scored within the range of 111-136, and the remaining 36 (9.3%) participants scored above 137. Overall, nearly two-thirds, 253(64%) of the participants scored below the mean and the remaining 141(36%) scored above the mean.

4.3.2. Interpersonal Communication

In this study, the mean was a little above the average from the test (Mean =96, SD =14.6). This shows that the participants show more interpersonal communication competence skill than the average. The scores ranged from a minimum of 50 to a maximum of 143. Only 5 (1.3%) participants scored at the low level, 371 (93.8%) participants scored at the moderate level, and the remaining 18 (4.9%) participants scored at the high level. Unlike the emotional intelligence test, the participants who scored above the average only made 135 (34.6%), and the large remaining 259 (65.4%) participants scored above the mean score.

Table A3 (appendix A) shows the detailed data for these variables.

4.4. Group Differences in Time Spent on Smartphone Use

Analysis of the mean difference in time spent on smartphone use per week regarding demographic and socioeconomic characteristics was conducted in order to examine group differences. The factors included gender, age, grade level, father's education level, mother's education level, and monthly average family income. For this inferential statistical procedure, the Independent Samples T Test was used to show mean difference between gender groups and One Way Analysis of Variance was used for the other socio demographic variables.

From **Table A4** in appendix A one can understand that even though there were mean differences between male and female participants the difference was not statistically significant. It shows the mean, standard deviation, t-value, and significance level for gender group difference. here was a slight difference in the mean for time spent on smartphone use, male (mean=13.25, SD=10.53) and female (mean=12.94, SD=11.69). An Independent Samples T-Test was used to check the significance of this difference. However, the difference was not statistically significant ($t(381)=0.266$, $p > 0.05$). Male and female gender groups did not differ in their time spent on smartphones per week.

Another group difference analysis was also done to see if there is any significance difference in any of the socio-demographic characteristics of the study, The result showed that there is no statistically significant difference among these groups.

The data regarding this finding is shown in **Table A5** of appendix A. Even though there were mean differences between the socio-demographic groups the difference was not statistically significant.

For the other factors One Way ANOVA was used to analyze statistically significant differences. Regarding age group there was a slight mean difference in each age group, 14 years

old (mean= 10.08, SD=8.72), 15 years old (mean=14.57, SD=13.68), 16 years old (mean=11.88, SD=9.45), 17 years old (mean=14.08, SD=11.63), 18 years old (mean=13.19, SD=10.58), 19 years old (mean=11.98, SD=3.69) and 20 years old (mean=4.77, SD=1.57). One Way ANOVA shows this difference was not statistically significant $F(6,375)=1.18, p > 0.05$.

There was also a slight mean difference regarding grade level groups. Grade 9 (mean=13.50, SD=12.17), grade 10 (mean=12.24, SD=10.83), grade 11 (mean=13.57, SD=11.02), grade 12 (mean=12.87, SD=10). But this difference showed no statistical significance when a One Way ANOVA was run $F(3,379)=0.33, p > 0.05$.

Table A5 also shows the difference in mean based on the father's and mother's education levels. In both cases, the means for the time spent on smartphones per week showed a slight difference if the parents had completed a primary, secondary, first-degree, or second-degree and above level of education. One Way ANOVA analysis showed that these differences were not statistically significant $F(3, 379)=0.65$ and $F(3, 379)=1.39$ respectively and $p > 0.05$ in both cases.

The last factor for analyzing group differences was the monthly family average income. Like the other factors, the different groups had a slight mean difference. Average (mean=12.71, SD=10.89), high (mean=13.46, SD=10.65) and very high (mean=15.15, SD=17.08). The SPSS did not include low income in this analysis because it was an outlier. One Way ANOVA analysis showed that these differences were not statistically significant $F(2, 381)=0.54, p > 0.05$.

4.5. Group Differences in EI

Another variable where group difference analysis was conducted was EI. Like the previous variable, Independent Samples T-Test was used to assess mean difference in gender group and One Way ANOVA was used for the other socio-demographic characteristics.

Table A6 (appendix A) shows that there was a statistically significant difference in gender group regarding the level of EI.

From the table, we can see that using the Independent samples T-Test a statistically significant mean difference in the scores for EI was found between male and female participants. Male (mean=115.32, SD=16.83) and female (mean=118.79, SD=16.42), $t(391)=-2.04$, $p < 0.05$. Females show a higher mean in their emotional intelligence than their male counterparts.

One-way ANOVA was used to analyze any mean difference in the socio demographic groups. Regarding age group a slight mean difference was observed in each age group, 14 years old (mean= 116.26, SD=16.78), 15 years old (mean=118.85, SD=15.55), 16 years old (mean=115.43, SD=15.30), 17 years old (mean=119.39, SD=16.46), 18 years old (mean=116.77, SD=19.53), 19 years old (mean=125.33, SD=10.11), and 20 years old (mean=101, SD=37.99). But computing One Way ANOVA it was found that these differences were not statistically significant $F(6,384)=1.40$, $p > 0.05$.

The grade level groups also showed a slight mean difference. Grade 9 (mean=117.62, SD=15.59), grade 10 (mean=115.29, SD=17.09), grade 11 (mean=119.34, SD=15.82), and grade 12 (mean=117.10, SD=19.87). Using the One-way ANOVA to compute the mean difference, the study found no statistically significant mean difference $F(3,389)=1.09$, $p > 0.05$. Participants in different grade levels do not differ in their emotional intelligence.

Table A7 in appendix A shows a difference in mean based on the father and mother's education level. In both cases, the means for EI showed a slight difference if the parents had completed primary, secondary, first-degree, or second-degree and above level of education. One Way ANOVA analysis showed that these differences were not statistically significant $F(3,388)=2.39$ and $F(3, 386)=0.26$ respectively and $p > 0.05$ in both cases.

Monthly average family income was the other factor for computing group differences. One Way ANOVA computed for this group showed that there is a statistically significant mean difference between Average (mean=117.38, SD=15.95), high (mean=119.73, SD=15.43), and very high (mean=104.45, SD=22.94), $F(2, 390)=8.55$, $p < 0.05$. The SPSS did not include low income in this analysis because it was an outlier.

Tukey's pairwise post hoc analysis was conducted to identify in which groups the statistically significant mean difference occurred. This analysis is used because it compares pairs on their mean differences. The result in Table 8 below shows that the difference occurred in all three groups. Participants with a high monthly average family income level showed the highest mean in their emotional intelligence followed by the average income group and then the very high income group. **Table A8** shows the post hoc results for these group differences. This table shows where the difference in average monthly income occurs in relation to EI of the participating adolescents.

4.6. Group Differences in IC Competence

A group mean difference was also conducted on the scores obtained from the interpersonal communication competence scale. Like the previous two variables Independent Samples T-Test was used to calculate gender group difference and One Way ANOVA was used for calculating differences in the other socio-demographic variables.

In the table **Table A9** the study showed that there was a statistically significant difference in the gender group. Using the Independent samples T-Test a statistically significant difference was obtained. Male (mean=94.44, SD=14.70) and female (mean=97.84, SD=14.40), $t(391)=-2.29$, $p < 0.05$. Females showed a higher mean in their IC competence than their male counterparts.

When it comes to the other socio-demographic group there was no significant difference in age group, grade level and father education level. But there was a statistically significant difference in mother education level and parents monthly average income level. **Table A10** (appendix A) shows these group mean differences.

In analyzing mean differences in IC competence in age groups One-way ANOVA was used. The result showed a slight mean difference in each age group 14 years old (mean= 95.74, SD=14.93), 15 years old (mean=96.12, SD=15.17), 16 years old (mean=94.58, SD=13.95), 17 years old (mean=99.23, SD=13.77), 18 years old (mean=96.17, SD=14.22), 19 years old (mean=106.33, SD=13.82), and 20 years old (mean=90.33, SD=39.53). But computing One Way ANOVA it was found that these differences were not statistically significant $F(6,384)=1.47$, $p > 0.05$.

Regarding grade level groups slight mean difference in IC competence was obtained. Grade 9 (mean=95.24, SD=15.30), grade 10 (mean=95.13, SD=13.61), grade 11(mean=99.08, SD=13.29), and grade 12 (mean=96.83, SD=17.19). The significance level obtained from the One Way ANOVA computation was above 0.05 which made the mean difference to be not statistically significant. $F(3,389)=1.747$, $p > 0.05$.

Another factor for group difference analysis was the father's education level. There was a slight mean difference in each education level group primary (mean=97.18, SD=14.62),

secondary (mean=94.45, SD=13.88), first-degree (mean=95.26, SD=15.16), and second-degree and above (mean=98.57, SD=14.42). These differences were not statistically significant since the result obtained from One Way ANOVA was $F(3,388) = 1.94, p > 0.05$.

Mother's education level was also used to analyze a group difference. The means for different levels of education showed slight differences, primary (mean=100.90, SD=15.55), secondary (mean=94.21, SD=13.73), first-degree (mean=97.64, SD=14.50), and second-degree and above (mean=95.01, SD=15.11). The analysis from One Way ANOVA showed that there is a statistically significant mean difference among these four groups. $F(3, 386) = 2.90, p < 0.05$.

The last factor for group mean difference analysis was the monthly average family income. One Way ANOVA computed for this group showed that there is a statistically significant mean difference between Average (mean=96.19, SD=14.26), high (mean=98.25, SD=14.45), and very high (mean=88.85, SD=17.63), $F(2, 390) = 3.00, p < 0.05$. The SPSS did not include low income in this analysis because it was an outlier.

For these two factors Tukey's pairwise post hoc analysis was conducted to identify in which groups the statistically significant mean difference occurs. The result for mothers education level showed that a statistically significant mean difference occurred between primary and secondary education levels. For the parental average monthly income level the result showed that the difference occurs in the high and very high-income level groups. **Table A11** (appendix A) shows the post hoc result for both factors.

4.7. The Relationship Among Time Spent on Smartphones, EI, and IC

To analyze the relationship among the three variables a bivariate correlation was conducted, and a Pearson product-moment correlation showed that time spent on smartphone use per week and EI had a statistically significant negative relationship, $r = -0.115, p = 0.03$. This means as time

spent on smartphone use per week increases EI decreases and vice versa. EI and IC had a statistically significant positive relationship, $r = 0.602$, $p = 0.00$. This means as EI increases or decreases IC also increases or decreases and vice versa. **Table A12** depicts this relationship.

From the above table it can be seen that the increase or decrease in emotional intelligence is due to the change in time spent on smartphones unlike interpersonal communication competence where the change can occur due to other factors.

To identify factors that affected EI and ICCS two regression models were computed. In the first block, socio-demographic variables were entered as a control variable. **Table A13** shows that these variables together accounted for a 19.1 % variation in ICCS and a 17.6% variation in EI. The other variable used to check prediction value is time spent on smartphone usage. The predictive power of this variable towards EI and ICCS was calculated. Smartphone usage accounted for a 1.3% variation in EI and 0.3 % in ICCS.

To test the statistical significance of the predictor variable (smartphone usage) to predict the outcome variables (EI and ICCS), ANOVA was conducted. For the first variable, the outcome was significantly predicted by the regression model, $F(1, 382) = 5.086$, $p = 0.025$. However, the significance value for ICCS was less than the alpha value of 0.05, which means that the outcome variable was not significantly predicted by the regression model, $F(1, 382) = 1.173$, $p = .279$.

Chapter Five

Discussion

The aim of this research was to investigate the possible relationship between smartphone usage (the time spent on smartphones) and the level of emotional intelligence (EI) and interpersonal communication (IC) among adolescents in Addis Ababa. Smartphone usage was measured by examining the amount of time adolescents spent on their smartphones on weekdays and weekends separately and adding them together after the data collection. Then its relationship with EI and IC was investigated. The findings from this research showed that the average time spent on smartphone usage among the participating adolescents was approximately 13 hours per week (1.9 hours per day). This duration is low compared to the findings reported by Rideout et al. (2010) and Strasburger (2013), whose studies indicated smartphone usage of 16 hours and more than 11 hours, respectively.

These differences in findings could result from different factors like variations in sample characteristics, cultural factors, or methodological approaches. The exposure age to these devices can also be one factor for these differences. In the Western culture smartphone ownership age goes as low as age 11 and 12. This will allow the growing children to create an early attachment with the device (Rideout & Robb, 2020). In our country's context ownership of smartphones is not done at this early age. This to some extent will limit the attachment they create with the device and make them to be more inclined to attachment with others around them.

In terms of the purpose of using smartphones, social media was the prominent trend among the participating adolescents for all the other purposes (calling, texting, entertainment, education, gaming). Social media platforms allow individuals to connect with others digitally, and smartphones facilitate access to these platforms. As a result of this, social media usage

accounted for the highest percentage share of smartphone usage purpose among the participants. The dominance of social media usage among adolescents needs to get attention as it shows the increasing influence of online social connections in their lives. If this social media use is not balanced it could cause mental health concerns, cyberbullying, body image dissatisfaction, sleep disturbance, impact social skills and relationships, and academic performance in the growing adolescents (Abi-jaoude et al., 2020).

Regarding EI, the findings of this research revealed, that the average EI score obtained from the study was lower than the test average, indicating a substantial gap that needs to be addressed. Specifically, an alarming 30.49% of the 394 participants scored below the lower range of the test, highlighting the need for interventions aimed at strengthening EI in adolescents. The importance of enhancing EI in this population cannot be overstated, as it is one important aspect of identity development. According to Erickson's theory of development, adolescence is a crucial period for identity formation, making it even more critical to focus on strengthening EI during this developmental stage. By addressing and improving EI skills in adolescents, we can promote their overall well-being, social competence, and emotional resilience, which are integral components of their identity development.

In contrast to the findings related to EI, the average score obtained for interpersonal competence (ICC) was 96, which is 6 points higher than the test average. This suggests that while adolescents may excel in their interpersonal skills, there is a clear need to enhance their emotional intelligence. By recognizing and addressing this disparity, interventions can be tailored to target specific areas of EI that require attention, such as emotional awareness, regulation, empathy, and relationship management.

Another important finding from this study was that it shed light on the group differences observed between male and female participants in both interpersonal communication competence (ICC) and emotional intelligence (EI), with females consistently scoring higher. This aligns with previous research that has consistently reported gender-based differences in these domains. For example, a study conducted by Smith et al. (2018) examined gender differences in interpersonal competence and emotional intelligence among a sample of college students. The revealed that females scored significantly higher than males in both IC and EI. Specifically, female participants exhibited greater proficiency in areas such as active listening, empathy, conflict resolution, and the ability to establish and maintain positive relationships.

The reason for female scoring higher in these areas can be related to the notion that females tend to be better in interpersonal skills and emotional intelligence compared to their male counterparts. This study's findings are consistent with previous research that has consistently documented gender-based differences in ICC and EI across different age groups and populations. For instance, a meta-analysis conducted by Johnson et al. (2016) organized data from multiple studies and confirmed that females consistently outperform males in various aspects of interpersonal competence and emotional intelligence. These consistent findings across different age group and populations provides a strong evidence for the existence of gender differences in ICC and EI. The results suggest that there may be inherent cognitive, social, and cultural factors that contribute to females' higher scores in these domains.

Several factors may contribute to this difference. Cognitive and cultural factors play a significant role in the early maturity of women. Research has shown that females tend to mature earlier than males in various cognitive and socio-emotional aspects. For example, a study by Blakemore and Choudhury (2006) found that the brains of adolescent female undergo structural

changes associated with increased social cognition and emotional processing earlier than males. This early maturation in females may contribute to their higher scores in IC and EI, as these skills are closely linked to social awareness, empathy, and understanding.

Moreover, female's generally greater interest in people and social interactions may account for their higher scores in IC and EI. Studies have showed gender differences in interests and career preferences, with females showing a greater inclination toward careers that involve working with people and nurturing relationships. For example, a study conducted by Su and Rounds (2015) examined gender differences in career interests among a large sample of college students. The results of the study revealed that females demonstrated a significantly higher preference for careers that involve working with people and nurturing relationships, such as healthcare, education, counseling, and social services. On the other hand, males showed a greater preference for careers in fields like engineering, technology, and finance, which are typically perceived as more analytical and task-oriented. This study's findings are consistent with a meta-analysis conducted by Diekmann et al. (2011) synthesized data from over 500,000 participants across 53 countries and found that females consistently displayed stronger interests in social and artistic domains, while males showed stronger interests in scientific and technical domains. This natural inclination may provide women with more opportunities for social engagement, allowing them to develop and refine their interpersonal and emotional skills over time.

To understand this in Ethiopia's context, cultural and societal factors can have an impact on the development and expression of these skills in the female population. There are traditional gender roles and expectations from each group. This shapes the socialization process and development of interpersonal communication skills and emotional intelligence. The gender roles

assigned for female are usually caretaking, nurturing, and maintaining relationships within the family and community. These roles may provide opportunities for them to develop and improve their emotional intelligence and interpersonal skills. In addition to this, Ethiopia has a collectivist culture that places a strong emphasis on community and social relationships. This cultural context may contribute to the development of interpersonal communication skills among Ethiopian females, as they are likely to engage in frequent social interactions and collaborations within their communities. Understanding these gender differences can inform the development of targeted interventions and educational programs to enhance IC and EI skills in both males and females, ultimately promoting healthier social relationships and emotional well-being.

Another difference obtained from the findings of this study was difference in ICC and EI based on parental income and difference in IC regarding maternal education level. These findings align with existing research on the influence of socioeconomic factors on child development. Studies have consistently shown that children from higher-income families and those with more educated mothers tend to exhibit better social and emotional competencies.

A longitudinal study conducted by Langton et al. (2011) examined the relationship between socioeconomic factors and social-emotional development in a diverse sample of children from different income backgrounds. The findings revealed that children from higher-income families tended to exhibit higher levels of ICC and EI compared to children from lower-income families. Specifically, these children demonstrated better skills in areas such as perspective-taking, emotional regulation, and social problem-solving. The study also found a similar pattern regarding maternal education level, children of more educated mothers displayed higher IC and EI scores. Numerous studies have shown that higher family income and maternal education are positively associated with children's social and emotional development. For

instance, a meta-analysis conducted by Bradley and Corwyn (2002) found that higher family income was associated with better social-emotional development in children. Similarly, a study by Hoff et al. (2019) demonstrated that maternal education level was a significant predictor of children's social skills and emotional understanding.

These findings indicated the role of socioeconomic factors in shaping children's ICC and EI. The reason behind this can be that higher parental income levels can provide children with access to resources, opportunities, and environments that foster the development of ICC and EI. For instance, families with higher incomes may afford enriching experiences, such as cultural activities, extracurricular programs, and quality education, which can contribute to the acquisition of social and emotional skills.

Similarly, as mothers' education level increases, adolescents' ICC and EI scores tend to differ. Educated mothers are more likely to be aware of the importance of these variables and actively strive to support their children in their development. They may engage in parenting practices that promote social and emotional growth, provide a supportive and stimulating home environment, and actively model and teach these skills to their children.

When it comes to our country's context it is important to note that socioeconomic factors, including income level, can have an impact on various aspects of child and adolescent development, including ICC and EI. In many societies, including Ethiopia, higher income levels can provide families with increased access to resources, such as quality education, healthcare, and a supportive home environment. These resources can potentially contribute to the development of adolescents' IC and EI skills. For instance, higher income levels may enable families to afford educational opportunities that emphasize social-emotional learning and provide access to extracurricular activities that foster interpersonal communication and emotional

intelligence. Additionally, a more financially stable household may create a supportive and nurturing environment that encourages the development of these skills.

Research conducted in various countries has consistently shown that maternal education plays a significant role in shaping children's social and communication skills, including interpersonal communication competence. This is because educated mothers often provide a more enriching home environment, engage in effective communication practices, and support their children's social-emotional development. In the Ethiopian context, maternal education can have similar implications for adolescents' interpersonal communication competence. When mothers have higher levels of education, they may possess enhanced communication skills, critical thinking abilities, and knowledge that can positively influence their interactions with their adolescent children. Educated mothers may engage in more effective communication strategies, such as active listening, empathy, and providing constructive feedback, which can contribute to the development of their adolescents' interpersonal communication skills. Additionally, educated mothers are more likely to value education and be aware of the importance of communication skills in personal and professional contexts. They may actively encourage and support their adolescent children's communication development, provide opportunities for practice and growth, and serve as positive role models for effective interpersonal communication.

By considering these, interventions and educational programs can be designed to promote ICC and EI in all adolescents, regardless of their socioeconomic background.

Regarding the general objective of the study, a correlational analysis was done between time spent on smartphones, interpersonal communication competence, and emotional intelligence. The finding of this analysis showed an interesting interesting association between

smartphone usage and emotional intelligence (EI) among adolescents. Specifically, an increase in time spent on smartphones was found to be related to a decrease in the level of emotional intelligence. These finding is consistent with previous research conducted by Mendez (2020) and Rodriguez et al. (2020), which also demonstrated that the more time spent on smartphone usage and smartphone addiction have a detrimental effect on adolescents' emotional intelligence. Mendez (2020) conducted a comprehensive study examining the relationship between smartphone usage and emotional intelligence among a sample of adolescents. The results indicated that the increased time spent on smartphone usage was associated with lower scores on measures of emotional intelligence.

Similarly, Rodriguez et al. (2020) conducted a longitudinal study that examined the impact of smartphone addiction on emotional intelligence development in adolescents. The findings revealed that the longer the time spent on smartphone usage and addiction were negatively correlated with emotional intelligence, suggesting that prolonged engagement with smartphones can hinder the development of emotional intelligence skills.

Additionally, the study conducted by Erickson (2021), Fook et al. (2021), and Grover (2017) further supports these findings. Erickson (2021) investigated the relationship between smartphone usage patterns and emotional intelligence among college students. The results indicated that excessive smartphone usage was associated with lower levels of emotional intelligence. Fook et al. (2021) explored the impact of smartphone addiction on emotional intelligence in a sample of young adults, and their findings revealed a negative relationship between the two variables. Similarly, Grover (2017) conducted a study among adolescents and found that the longer the time on usage of smartphones had a detrimental impact on emotional intelligence development.

The findings from all these studies provide evidence that the longer time spent on smartphone usage is associated with a decline in emotional intelligence among adolescents. These studies provide evidence for the need for individuals, parents, and educators to be aware of the potential negative consequences of excessive smartphone usage on emotional intelligence. Strategies and interventions aimed at promoting healthy smartphone usage habits and enhancing emotional intelligence skills among adolescents are needed to mitigate these negative effects.

Regarding interpersonal communication skills, even though the finding shows an inverse relationship between IC and smartphone usage the relationship is not statistically significant. This finding differs from previous studies conducted in this area. Fook et al. (2021) finding show that smartphone addiction has a negative effect on maintaining interpersonal communication in the adolescent population. Ulifeeye (2020), Yang et al. (2022), and Abi - jaoude et al. (2020) findings also show that interpersonal communication decreases with an increase in smartphone usage.

The findings of the present study provide valuable insights into the predictive power of both socio-demographic variables and smartphone usage in relation to adolescents' interpersonal communication competence (ICC) and emotional intelligence (EI). The results indicate that, when considering all social-demographic variables collectively, they account for a significant portion of the variation in ICC (17.6%) and EI (19.1%). The social-demographic variables included in this study encompassed a range of factors such as age, gender, socioeconomic status, and educational background of parents. These variables capture important dimensions of the participants' social context and individual characteristics, which can influence the development of ICC and EI.

The predictive power of smartphone usage was found to be that smartphone usage explains a small portion of the variation in EI (1.3%) and ICC (0.3%). This suggests that its influence is relatively minor compared to the combined effects of social-demographic variables. It is important to interpret these results with caution. The relatively low predictive power of smartphone usage should not diminish the complex interplay between smartphone usage and social-demographic variables on ICC and EI. Future research could explore the mechanisms through which smartphone usage interacts with social-demographic factors to gain a more comprehensive understanding of their combined influence on these competencies.

Chapter Six

Conclusion and Implications

This study was conducted to investigate if there exists a relationship between time spent on smartphones, interpersonal communication and emotional intelligence of adolescent population in Addis Ababa. Based on the findings of this study adolescents spend an average of 13 hours per week on their smartphones. As the time they spent on their smartphones increase their EI tends to show a decline. This shows that the time adolescents spend on their smartphones should have a limit. Otherwise it could impact their emotional development. This is an important part of adolescents' identity development.

In addition we can understand from this study that parental income difference can play an important role in the developing adolescents EI and ICC development. As income increase exposure to different environment increases which inturn their social circle. This causes the difference. The other thing common for both constructs was gender. Female show higher ability in both areas. The other factor was mothers' education level. If mothers get educated they tend to understand the importance of these constructs for the development of the adolescents and the will help their children to develop them.

This study can help as a starting point to further investigate the impact of smartphone usage on adolescent EI and IC. A social media takes the leading role in purpose of use it's positive and negative impact needs further investigation. This way a strategic way to use it for the benefit of the growing adolescent can be organized. Social media and smartphone has become the new companion of adolescents and children. It was also found in this study that EI is low in the age group and it decreases with an increase on time spent on smartphones. The researcher suggests that organizations and institutions working with this age group should help

them and their parents in finding ways to limit their time on smartphones and use it to their benefit. Strategies to help parents in controlling their children's usage should be placed to help parents too.

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Appendices
Appendix A: Tables

Table A1
Socio-demographic Characteristics of Participants

Characteristics	n	%	M	SD
Gender				
Female	230	58.4		
Male	163	41.4		
Age				
			16.2	1.2
Grade level				
Grade 9	127	32.2		
Grade 10	113	28.7		
Grade 11	105	26.6		
Grade 12	48	12.2		
Father education level				
Primary	28	7.1		
Secondary	99	25.1		
First degree	124	31.5		
Second degree and above	141	35.8		
Mother education level				
Primary	43	10.9		
Secondary	122	31		
First degree	143	36.3		
Second degree and above	82	20.8		
Average Family monthly income				
Average	255	64.7		
High	118	29.9		
Very high	20	5.1		

Table A2*Purpose for using Smartphone*

Variable	Category	Frequency (%)
Purposes for using smartphones	Calling and receiving a call	214 (54.3)
	Texting	226 (57.4)
	Social media	333 (84.5)
	Gaming	156 (39.6)
	Entertainment	295 (74.9)
	Education related	257 (65.2)
	Others	23 (5.8)

Note. The total number of responses for this variable is more than the sample size because an individual could choose more than one option and the percentage is calculated by making each response a dichotomous variable (yes or no).

Table A3*Descriptive Statistics and level of EI and IC Competence (DV)*

Variable	Mean	SD	Minimum	Maximum
Emotional intelligence	117.3	16.7	58	164
Interpersonal communication competence	96	14.6	50	143

	Category	Frequency (%)
Emotional intelligence	Low	120 (30.4)
	Moderate	238 (60.3)
	High	36 (9.3)
Total		394 (100)
Interpersonal communication competence	Low	5 (1.3)
	Moderate	371 (94)
	High	18 (4.9)
Total		394 (100)

Table A4*Independent samples t- Test for Gender Difference in Time Spent on Smartphone Use*

	Mean	SD	t-value	df	p-value
Male	13.25	10.53	0.266	381	0.36
Female	12.94	11.69			

Table A5*One-way ANOVA for Group Difference in Time Spent on Smartphone Use*

Variable		Mean	SD	F-values	p - value
Age	14	10.08	8.72	1.18	0.32
	15	14.57	13.68		
	16	11.88	9.45		
	17	14.08	11.63		
	18	13.19	10.58		
	19	11.98	3.69		
	20	4.77	1.57		
Grade level	9	13.50	12.17	0.33	0.80
	10	12.24	10.83		
	11	13.57	11.02		
	12	12.87	10		
Father Education level	Primary	15.36	13.80	0.65	0.58
	Secondary	12.57	9.27		
	First degree	13.63	12.11		
	Second degree and above	12.52	11.16		
Moher Education level	Primary	16.34	13.43	1.39	0.25
	Secondary	12.60	10.08		

	First degree	12.80	12.42		
	Second degree and above	12.54	9.10		
Monthly Average Income Level	Average	12.71	10.89	0.54	0.58
	High	13.46	10.65		
	Very high	15.15	17.08		

Table A6*Independent samples t- Test for Gender Difference in Emotional Intelligence*

	Mean	SD	t-value	df	p-value
Male	115.32	16.83	-2.04	391	0.042
Female	118.79	16.42			

Table A7*One-way ANOVA for Group Difference in Time Spent on Smartphone Use*

Variable		Mean	SD	F-values	p - value
Age	14	116.26	16.78	1.40	0.213
	15	118.85	15.55		
	16	115.43	15.30		
	17	119.39	16.46		
	18	116.77	19.53		
	19	125.33	10.11		
	20	101	37.99		
Grade level	9	117.62	15.59	1.09	0.353
	10	115.29	17.09		
	11	119.34	15.82		
	12	117.10	19.87		
Father Education level	Primary	112.61	21.85	2.39	0.068

	Secondary	116.27	14.20		
	First degree	116.09	17.60		
	Second degree and above	120.07	16.10		
Moher Education level	Primary	118.44	15.52	0.26	0.86
	Secondary	116.56	16.30		
	First degree	117.21	16.93		
	Second degree and above	118.37	17.53		
Monthly Average Income Level	Average	117.38	15.95	8.55	0.00
	High	119.73	15.43		
	Very high	104.45	22.94		

Table A8

Post Hoc Analysis of Difference in EI Based on Average Monthly Income Level

Parents average income level	Parrents average income level	Mean difference	Sig
Average income	High income	-2.35	0.39
	Very high income	12.93	0.002
High income	Average income	2.35	0.39
	Very high income	15.29	0.00
Very high income	Average income	-12.93	0.002
	High income	-15.29	0.00

Table A9

Independent samples t- Test for Gender Difference in Interpersonal Communication Competence

	Mean	SD	t-value	df	p-value
Male	94.44	14.70	-2.29	391	0.022
Female	97.84	14.40			

Table A10*One-way ANOVA for Group Difference in Time Spent on Smartphone Use*

Variable		Mean	SD	F-values	p - value
Age	14	95.74	14.93	1.47	0.19
	15	96.12	15.17		
	16	94.58	13.95		
	17	99.23	13.77		
	18	96.17	14.22		
	19	106.33	13.82		
	20	95.74	14.93		
Grade level	9	95.24	15.30	1.75	0.16
	10	95.13	13.61		
	11	99.08	13.29		
	12	96.83	17.19		
Father Education level	Primary	97.18	14.62	1.94	0.12
	Secondary	94.45	13.88		
	First degree	95.23	15.16		
	Second degree and above	98.57	14.42		
Moher Education level	Primary	100.90	15.55	2.90	0.04
	Secondary	94.21	13.73		
	First degree	97.64	14.50		
	Second degree and above	95.01	15.11		
Monthly Average Income Level	Average	96.19	14.26	3.00	0.03
	High	98.25	14.45		
	Very high	88.85	17.63		

Table A11

Post Hoc Analysis of Difference in ICC Based on Mother Education Level and Parents Income Level

Mother education level	Mother education level	Mean difference	Sig
Elementary	Secondary	6.69	0.047
	First degree	3.27	0.56
	Second degree and above	5.89	0.14
Secondary	Elementary	6.69	0.047
	First degree	-3.42	0.22
	Second degree and above	-0.79	0.98
First degree	Elementary	3.27	0.56
	Secondary	3.42	0.22
	Second degree and above	2.62	0.56
Second degree and above	Elementary	-5.89	0.14
	Secondary	0.79	0.98
	First degree	2.62	0.56
Parents average income level	Parrents average income level		
Average income	High income	-2.35	0.39
	Very high income	12.93	0.002
High income	Average income	2.35	0.39
	Very high income	15.29	0.00
Very high income	Average income	-12.93	0.002
	High income	-15.29	0.00

Table A12*Relationship Among Time Spent on Smartphones, EI and IC*

Variables	Time spent (1)	EI (2)	ICCS (3)
1	-	-0.115*	-0.05
2		-	0.602**
3			-

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

Table A13*Summary of regression analysis for predicting EI*

Variable and entry	EI	ICCS
	B	B
Model 1		
Age	-.489	.034
Gender	3.158	3.297
Grade level	1.085	1.172
Father education level	2.533	2.386
Mother education level	-.895	-1.811
Parental average income level	-2.145	-.669
Model 2		
Smartphone usage	-.169	-.072
R ²	.013	.003
R ² Change	.013	.003
F for change in R ²	5.086	1.173

Appendix B: Instrument of Data Collection

Addis Ababa University College of Education and Behavioural Studies School of Psychology, Developmental Psychology Post Graduate Program Partial Fulfillment Study Questionnaire

This questionnaire aims to gather data about the relationship between high school students' emotional intelligence and interpersonal communication skills with smartphone usage. This study is conducted to partially fulfill a Masters Degree in Developmental Psychology. Participation in this study is based on the interest of the participants. If you are not interested you can withdraw from the study.

The questionnaire has three parts. The first part includes questions about your demographic information, the second one includes 33 questions about your emotional development, and the last has 30 questions to gather data about your interpersonal communication skills.

The information you provide in this questionnaire is confidential and will only be used for studying the relationship between the variables. Your cooperation and participation until the completion of the questionnaire are vital for the successful completion of the assessment. I ask for your genuine willingness.

Thank you for your participation.

Part I: Demographic information

1. Age: _____
2. Gender (choose one)
 1. Male
 2. Female
3. Grade Level (choose one)
 1. 9th
 2. 10th
 3. 11th
 4. 12th
4. How many hours per day do you spend on smartphones on average?
 - 4.1. Weekdays _____ hours and _____ minutes
 - 4.2. Weekends _____ hours and _____ minutes
5. For what purpose do you mainly use smartphones? (You can choose more than one answer.)
 - 5.1. Calling and receiving a call
 - 5.2. Texting
 - 5.3. Social media (eg. Facebook, Telegram, Instagram, Snapchat ...)
 - 5.4. Gaming
 - 5.5. Entertainment (eg. Youtube, Spotify, Shazam ...)
 - 5.6. Education-related
 - 5.7. Others: _____.

6. Parental Education Level

6.1. Father's Education level

Elementary level (up to grade 8)

Secondary Level (grade 9-12)

6.2. Mother's Education level

Elementary Level (up to grade 8)

Secondary Level (grade 9-12)

First Degree	<input type="checkbox"/>	First Degree	<input type="checkbox"/>
Second Degree and above	<input type="checkbox"/>	Second Degree and above	<input type="checkbox"/>

7. In your opinion, in relation to others around you, how do you express your parents' income level? (Choose one)

- | | |
|-------------------|---------------------|
| 1. Low-income | 3. High income |
| 2. Average income | 4. Very high-income |

Part II: Schutte Self-Report Emotional Intelligence

Instructions: Indicate the extent to which each item applies to you. Circle the option on the scale that best describes you. Use the following scale:

- 1 = strongly disagree
 2 = disagree
 3 = neither disagree nor agree
 4 = agree
 5 = strongly agree

No	Questions	Options in order				
		1	2	3	4	5
1	I know when to speak about my personal problems to others.	1	2	3	4	5
2	When I am faced with obstacles, I remember times I faced similar obstacles and overcame them.	1	2	3	4	5
3	I expect that I will do well in most things I try.	1	2	3	4	5
4	Other people find it easy to confide in (reveal themselves to) me.	1	2	3	4	5
5	I find it hard to understand the non-verbal messages of other people.	1	2	3	4	5
6	Some of the major events of my life have led me to re-evaluate what is important and not important.	1	2	3	4	5
7	When my mood changes, I see new possibilities.	1	2	3	4	5
8	Emotions are one of the things that make my life worth living.	1	2	3	4	5
9	I am aware of my emotions as I experience them.	1	2	3	4	5

10	I expect good things to happen.	1	2	3	4	5
11	I like to share my emotions with others.	1	2	3	4	5
12	When I experience a positive emotion, I know how to make it last.	1	2	3	4	5
13	I arrange events others enjoy.	1	2	3	4	5
14	I seek out activities that make me happy.	1	2	3	4	5
15	I am aware of the non-verbal messages I send to others.	1	2	3	4	5
16	I present myself in a way that makes a good impression on others.	1	2	3	4	5
17	When I am in a positive mood, solving problems is easy for me.	1	2	3	4	5
18	By looking at their facial expressions, I recognize the emotions people are experiencing.	1	2	3	4	5
19	I know why my emotions change.	1	2	3	4	5
20	When I am in a positive mood, I am able to come up with new ideas.	1	2	3	4	5
21	I have control over my emotions.	1	2	3	4	5
22	I easily recognize my emotions as I experience them.	1	2	3	4	5
23	I motivate myself by imagining a good outcome for the tasks I take on.	1	2	3	4	5
24	I compliment others when they have done something well.	1	2	3	4	5
25	I am aware of the non-verbal messages other people send.	1	2	3	4	5
26	When another person tells me about an important event in his or her life, I almost feel as though I have experienced this event myself.	1	2	3	4	5
27	When I feel a change in emotions, I tend to come up with new ideas.	1	2	3	4	5
28	When I am faced with a challenge, I give up because I believe I will fail.	1	2	3	4	5
29	I know what other people are feeling just by looking at them.	1	2	3	4	5
30	I help other people feel better when they are down.	1	2	3	4	5
31	I use good moods to help myself keep trying in the face of obstacles.	1	2	3	4	5
32	I can tell how people are feeling by listening to the tone of their voice.	1	2	3	4	5
33	It is difficult for me to understand why people feel the way they do.	1	2	3	4	5

Part III. Interpersonal Communication Competence Scale

Instructions: Here are some statements about how people interact with other people. For each statement circle the option that best reflects your communication with others, be honest in your responses and reflect on your communication behavior very carefully. Use the following scale:

1 = almost never behave in this way

2 = seldom behave in this way

3 = sometimes behave in this way

4 = often behave in this way

5 = almost always behave in this way

No	Questions	Options in Order				
		1	2	3	4	5
1	I allow friends to see who I really am.	1	2	3	4	5
2	Other people know what I am thinking.	1	2	3	4	5
3	I reveal how I feel to others.	1	2	3	4	5
4	I can put myself in others' shoes.	1	2	3	4	5
5	I don't know exactly how others are feeling.	1	2	3	4	5
6	Other people think that I understand them.	1	2	3	4	5
7	I am comfortable in social situations.	1	2	3	4	5
8	I feel relaxed in small group gatherings.	1	2	3	4	5
9	I feel insecure in groups of strangers.	1	2	3	4	5
10	When I have been wronged, I confront the person who wronged me.	1	2	3	4	5
11	I have trouble standing up for myself.	1	2	3	4	5
12	I stand up for my rights.	1	2	3	4	5
13	My conversations are pretty one-sided.	1	2	3	4	5
14	I let others know that I understand what they say.	1	2	3	4	5
15	My mind wanders during conversations.	1	2	3	4	5
16	My conversations are characterized by smooth shifts from one topic to the next.	1	2	3	4	5

17	I take charge of the conversation I am in by negotiating what topics we talk about.	1	2	3	4	5
18	In conversations with friends, I perceive not only what they say but what they don't say.	1	2	3	4	5
19	My friends can tell when I am happy or sad.	1	2	3	4	5
20	It is difficult to find the right word to express myself.	1	2	3	4	5
21	I express myself well verbally.	1	2	3	4	5
22	My communication is usually descriptive, not evaluative.	1	2	3	4	5
23	I communicate with others as though they are equals.	1	2	3	4	5
24	Others would describe me as warm.	1	2	3	4	5
25	My friends truly believe that I care about them.	1	2	3	4	5
26	I try to look others in the eye when I speak with them.	1	2	3	4	5
27	I tell people when I feel close to them.	1	2	3	4	5
28	I accomplish my communication goals.	1	2	3	4	5
29	I can persuade others to my position.	1	2	3	4	5
30	I have trouble convincing others to do what I want them to do.	1	2	3	4	5