Addis Ababa University
College of Education and Behavioral Studies
School of Psychology

The Relationship between Internet Addiction and Psychological Wellbeing among Addis Ababa University Main Campus Students

By

Chane Fantaw

November 2020

Addis Ababa, Ethiopia

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Declaration

I, the undersigned, declare that this thesis is my original work and has never been presented for a degree in any other university and that all sources of material used for the thesis have been duly acknowledged.

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Date: **November 2020**

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Abstract

The internet, being an integral part of human life, is widely used by university students for different purposes including academic related works, networking, entertainment and staying up to date with latest information. Nevertheless, making use of the internet excessively can bring about negative consequences in the lives of students. The present study sought to determine the relationship between internet addiction and psychological wellbeing among main campus students at Addis Ababa University. Employing a cross sectional research design, quantitative data from 304 university students (male = 156, female = 148) with a mean age of 20.76 years (SD = 1.42) were collected using demographic questionnaire (6 items), Young's Internet Addiction Test (20 items) and Ryff's Psychological Wellbeing scale (18 items). Descriptive statistical methods including frequency, percentage, mean, standard deviation, Pearson product moment correlation and inferential statistical methods such as Independent Samples T test, One Way ANOVA, and multiple regression analysis were used to analyze the data. The study found that 28.2 % of the participants were found to be addicted to the internet. Students who use the internet for entertainment purpose are more prone to internet addiction compared to students who use the internet for academic purposes. A higher level of internet addiction was observed among students who used the internet for more than six hours per day compared to those who used the internet for two hours and below. Majority (90.1%) of the students' psychological wellbeing status was found to be high. Compared to second year students, first and third year students had a relatively higher status of psychological wellbeing. Students who use the internet for entertainment purposes reported a lower status of psychological wellbeing compared to students who use the internet for academic purposes. Similarly, spending more than six hours online per day was also associated with lower status of psychological wellbeing. Bivariate correlation showed that internet addiction and psychological wellbeing had a significant and negative relationship. Furthermore, multiple regression analysis revealed that psychological wellbeing was significantly and negatively associated with internet addiction, after adjusting for potential confounding factors. Based on the findings, it is safe to conclude that internet addiction is a risk factor for lower psychological wellbeing.

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Acronyms and Abbreviations

APA	American Psychiatric Association
ARPANET	Advanced Research Projects Agency Network
DSM V	Diagnostic and Statistical Manual of Mental Disorders (fifth edition)
ITU	International Telecommunications Union
PWB	Psychological wellbeing
UNECA	United Nations Economic Commission for Africa
USSR	Union of Soviet Socialist Republics
USA	United States of America
USAID	United States Agency for International Development

Chapter One

Introduction

1.1.Background of the Study

The Internet is a common word by many people all over the world. It has become the most sought after and most commonly used media over the last twenty years. It has provided many benefits to individuals as well as societies (Zaki, Sayed & Elattar, 2018). This media has become one of the most useful and advanced technological advancements of our time. Today, different services such as e-mail, World Wide Web, social media sites such as Face book and Telegram can be accessed through the internet (Waithaka, 2013).

Research shows that the number of people using the internet is increasing at an alarming rate. According to a recent study done by Kemp (2019), on average, more than one million people join the world of internet every day globally. Kemp further revealed that out of the total world population, 5.11 billion were mobile users out of which 4.39 billion of them were internet users in the year 2019. This is an increase of 366 million from the previous year (2018). An amazing increase has also been witnessed among social media users. There were an estimated 3.48 billion social media users in January 2019 with the increase of 288 million people in a single year. The main reason for such rapid increase in the number of users is the universal availability of the internet which makes it different from other information providing mass media (Salubi, Muchaonyerwa & Nekhwevha, 2018).

In Africa, there was a 39.3% penetration rate of internet users as of December 2019. In Ethiopia, some 17.8% of the population was reported to use the internet in the same year (Internet World Stats, 2019). This is very small compared to South Africa, Nigeria, and Kenya with a penetration rate of 55%, 61.2% and 87.2% respectively (Kemp, 2019).

Being one of the most advanced technological advancements, the internet plays a great role in people's lives. Students use the internet to get updated information and knowledge in various subjects. It also helps them to do research and conduct studies (Apuke & Iyendo, 2018). Business people can use the internet to showcase and advertise their products and services (Waithaka,

2013). The internet has spread to almost all areas of everyday life. It is found everywhere: at work, in schools, universities and hospitals (Al-Muqrin, Alsareef & Zaidi, 2016). It is also used for information, chatting and playing online games (Wellman, Quan-Haase, Boase, & Chen, 2002).

Some studies conducted in Ethiopia also reveal similar findings. For example, university students use the internet in such areas as interpersonal communication, entertainment, education and research (Kerebih & Habtamu, 2019; Habtamu, 2017)). Due to this, it can be said that the internet has become common activity among adolescents and youth (Kunduz, Tarhan, & Eksioglu, 2017).

As uses and users grow, the world of Internet and its potential addiction has attracted researchers in the field. University students, one of the groups considered to be vulnerable to internet addiction due to a number of psychological and social factors, have been the focus of such psychological research (Niemz, Banyard & Griffiths, 2006; Sato, 2006).

Research shows not only the positive association of the internet with people's lives but also the negative factors that are associated with its excessive use. Kunduz et al. (2019), for example, argue that despite its numerous uses, excessive or problematic internet use can be changed into addictive instruments. Problematic internet use /internet addiction has also been reported to have a significant positive correlation with loneliness and depression (Habtamu, 2017) and stress and a negative relationship with self-esteem (Dutta & Chye, 2017).

With the increased focus in positive psychology in recent years, psychological research has started to shift from the study of problems and disorders to positive functioning such as psychological wellbeing (PWB) that has potential contributions to the issue of internet addiction (Cooke, Melchert,& Connor, 2016; Dai, 2016). This shift aligns with the World Health Organization's (WHO) definition of health: "a state of complete physical, mental, and social well-being and not merely the absence of disease and infirmity" (Bickenbach, 2015).

Many studies found significant negative correlation between Internet addiction or problematic Internet use and PWB (Rehman, Shafi & Rizv, 2016; Ruize et al., 2017). While others found no relationship between internet addiction and PWB (Huang, 2012).

There are studies that investigated significant differences in internet addiction in terms of sex. Some of these studies reveal findings indicating that males tend to make more problematic use of the internet (Desouky & Ibrahem, 2015; Su et al, 2019; Tomaszek & Cymerman, 2019). To the contrary, some others suggest that females are more vulnerable to internet addiction than males (Habtamu, 2017; Ogachi, 2011). Still some others argue that there is no significant difference in internet addiction between male and female internet users (Dai, 2016; Smita & Azhar, 2018).

Internet use in Ethiopia has increased from 4.5 million people in 2013 to 16.4 million in the year 2018 (Kemp, 2019). The large number of people using the internet on a daily basis raises concerns among scholars for possible effects on physical, social, and psychological health (Madden, 2011). However, to the knowledge of the researcher, there is no any study on the association between internet addiction and PWB in the Ethiopian context.

Hence, it is paramount importance to conduct a study in the context of Ethiopia on the association between internet addiction and PWB among university students. Internet addiction and related psychological problems may challenge current academic endeavors and future work force of the country. Therefore, this study aimed to investigate the level of internet addiction and its relation with PWB among students at Addis Ababa University.

1.2.Statement of the Problem

A lot of research has been conducted on the issue of internet addiction (Alfadhul, Hameed, & Mohammed, 2019; Dai, 2016; Desouky & Ibrahem, 2015; Habtamu, 2017; Ogachi et al, 2019; Smita & Azhar, 2018;Su et al.; 2019; Tomaszek & Cymerman, 2019; Upadhayay, 2018). While some of them focus on the level of internet addiction (e.g. Alfadhul, Hameed, & Mohammed, 2019); others focus on examining the relationship internet addiction has with PWB (e.g. Rehman, Shafi & Rizv, 2016). However, many of the studies conducted on the relationship between internet addiction and PWB are in developed countries. Some researchers such as Dutta & Chye (2017) found out a negative correlation between internet addiction and PWB. To the

contrary, other researchers like Huang (2012) found no relationship between internet addiction and PWB. In addition to this, there is an increase in the number of internet users in Ethiopia (Kemp, 2019). However, as far as the researcher's knowledge is concerned, there is no any study that examined the relationship between internet addiction and PWB among university students in the Ethiopian context. Therefore, conducting such studies is important mainly for two reasons. The first is that existing studies found inconsistent results and this calls for the need to study more on the area. The second is that there are no studies conducted in the Ethiopian context despite the increasing number of internet users.

Motivated intrinsically, this research undertaking is also a result of the researcher's interest and curiosity. As one who spent a good number of years in the city of Addis Ababa studying and working, the researcher has observed a lot of people particularly university students spending a great deal of time on the internet and as a counseling psychology student wondered whether this internet use can be changed into addictive instrument and, in turn, whether this addiction has something to do with PWB. Hence, the researcher believed that the area is worth studying and the study became a reality.

Thus, the main focus of this study was to examine the relationship between internet addiction and PWB among main campus students at Addis Ababa University.

1.3.Research Questions

The study addressed the following research questions:

- What is the level of internet addiction among students of Addis Ababa University?
- What is the status of psychological wellbeing among students of Addis Ababa University?
- Is there a statistically significant difference in internet addiction in terms of sex, year level, purpose of internet use and average time spent online?
- Is there a statistically significant difference in psychological wellbeing in terms of sex, year level, purpose of internet use and average time spent online?
- Is there statistically significant association between internet addiction and psychological wellbeing after adjusting for socio-demographic characteristics?

1.4. Objectives of the Study

1.4.1. General Objective

The general objective of this study was to examine the relationship between Internet addiction and PWB among students of Addis Ababa University.

1.4.2. Specific Objectives

The specific objectives of the study include:

- To find out the level of internet addiction among students in Addis Ababa University.
- To investigate the status of psychological well-being among students in Addis Ababa University.
- To investigate whether there is significant difference in the level of internet addiction as a function of sex, year level, purpose of internet use and average time spent online among university students
- To examine whether there is significant difference in the status of psychological wellbeing in terms of sex, year level, purpose of internet use and average time spent online among university students
- To find out whether there is significant association between internet addiction and psychological well-being after adjusting for socio-demographic characteristics

1.5. Significance of the Study

Almost everyone in the world wants to be not only physically healthy but also psychologically well. And for university students, being psychologically well would mostly mean success in their studies and future career paths. Specifically, the findings of this study might have the following significances.

First, as to the researcher's knowledge, there is no any prior local study on the association between internet addiction and PWB among university students. Hence, findings of the study may serve as a scientific evidence in the Ethiopian context. Ministry of Education, ministry of Health, higher educational institutions and other organizations may use findings of the study to design policies and strategies to enhance university students' internet use behavior and PWB.

Second, parents, teachers and students may use the information from the study to develop awareness about the prevalence of internet addiction and its relation with PWB.

Third, findings of the study may help mental health professionals (psychologists, counselors, clinical social workers and others) to design and implement specific intervention strategies to help students with internet addiction and improve their PWB.

Fourth, this being the first attempt to examine the association between internet addiction and PWB in the Ethiopian context, the findings may serve as springboard for other researchers to conduct more studies in the area.

1.6. Delimitation of the study

Even though research shows that there are other correlates of psychological well-being, this study was delimited to investigating the association between internet addiction and PWB. Geographically, the study was delimited to Addis Ababa University main campus students mainly for two reasons:

Firstly, owing to the fact that Addis Ababa, being a capital city, university students in this urban center are believed to have easy access to the internet. Secondly, it is to respond to feasibility issues of manageability, time, financial and experience constraints.

1.7. Limitations of the study

Despite the notable findings of the study, some limitations are worth considering.

The first limitation is that the current study used self-report measures, which might have caused response biases. The second one is that the study employed a cross sectional design which is impossible to establish cause and effect relationship. In the current study, even though internet addiction was treated as an independent variable, it is difficult to determine whether internet addiction is a cause or an effect.

1.8.Operational Definition of Terms

Psychological Well-being:- is defined as university student's mental well-being achieved by living to one's best potentials (i.e., autonomy, environmental mastery, positive relations with

others, personal growth, purpose in life, and self-acceptance) and effective functioning as measured by the Multidimensional Scale of Psychological Well-being.

Internet use: - in this study, refers to all types of online activities university students spend time on.

Internet addiction: -in this study, refers to excessive or poorly controlled preoccupation, urge or behavior regarding computer use and internet access that lead to impairment or distress, as measured by Young's Internet Addiction Scale. In this scale, students who scores in the range of 20 to 49 are considered normal users; 50 to 69 indicate frequent problem in internet use and 70 to 100 indicate severe problem in internet use.

Field of study: - refers to the different departments to which students are assigned to study.

Year level: - refers to the number of years' students stay studying in the university.

Average time spent online: - refers to the average time students spend accessing the internet per day

Chapter Two

Review of Related Literature

2.1. An Overview of the Internet: origin and nature

The internet is said to have begun in the United States of America (USA) in the 1960s (Almagor, 2011). The origin of the internet is particularly a result of technological competition between two most powerful countries of the world in the early years of 1960s: The USA and the Union of Soviet Socialist Republics (USSR (Almagor, 2011)). This was the time when the US Department of Defense designed a project that helps military personnel make easy communication in time of emergency (Goodwill Community, 2013). In fact, this project was not only USA's response to the USSR's launching of Sputnik, the first space satellite ever, but also the strong desire to win the technological competition and assure its superiority (Almagor, 2011). The project, Advanced Research Projects Agency Network (ARPANET), was created by Pentagon to provide secure and survivable communication network for organizations engaged in defense related research (Leiner et al., 1997). And this research project, ARPANET, quickly took the name "Internet" (Goodwill Community, 2013).

To help the communication network get worldwide coverage, a new technology called Internet Protocol, which helps users to connect a number of other networks directly to the ARPANET, was developed (Craig, 2019). The internet was primarily limited to research and military organizations in the 1960s and 1970s. Showing a steady development over the years, the internet became accessible to the wider public in 1993 (Craig, 2019). But the invention of World Wide Web in 1989 by Tim Bernes-Lee, a scientist from England, is largely attributed to revolutionizing history of communication through the internet (Roser, Ritchie & Ortiz-Ospina, 2020).

Kheswa (2010) defines the internet as "an international computer network through which computer users all over the world can communicate and exchange information. The network cuts across all forms of segregation, such as gender, religion, race and age in its ability to connect people" (p.1). To put it in other words, the internet is a network of computers connected globally that helps people exchange and share different sorts of information (Waithaka, 2013).

After its invention, the internet has changed people's lives in many ways. Currently, as of 2020, connecting more than 4.5 billion users globally, it has become part and parcel of people's economic, political and social lives (Kemp, 2020). Being an integral part of our lives, the internet has significantly influenced the way we interact with each other. Throughout the world, online computers and internet–enabled cell phones can be connected to the internet so that people can be able to interact easily (Ali, Al Harabi & Rahman, 2018).

Over the course of some five decades, the internet has dramatically improved that it has enabled users to gain access to a range of services including e-mail, World Wide Web, social media sites such as Facebook and Telegram (Waithaka, 2013). The internet has also brought opportunities in different areas: education, health information, entertainment and industry. Moreover, students, writers, journalists, and teachers get access to the internet's wealth of information, story, ideas and even contacts (Rodman, 2007).

2.2. Internet Use

2.2.1. Internet use worldwide

Studies indicate that users and uses grow as the internet evolves. The internet has become an integral part of personal and job related activities of human beings(Wellman, Quan-Haase, Boase, & Chen, 2002). Similarly, other studies indicate that the internet has become a pervasive and fundamental part of daily life. Its impact on both economic development and problem solving in areas such as health, education, basic financial services and agriculture is well documented (World Economic Forum, 2016).

Globally, the number of internet users has increased dramatically over the past twenty years. China, for example, had a total of 22.5 million internet users in December 2000. As of June 2019, this number has increased to 854 million users and this makes China a country with the highest number of internet users in the world (Internet World statistics, 2019). However, the country's internet penetration rate stands at 58 percent attributed mainly to less developed infrastructure (Thomala, 2020). India, having 560 million internet users, stands second. Twenty years ago, in December 2000, there were only 5 million Indians who use the internet. The third country with the highest number of internet users is United States of America. But back in December 2000, with 95.4 million users, the country was ranked first in the number of internet

users. The number 293 million, in June 2019, has put it behind China and India (Internet World statistics, 2019).

Global digital report revealed that internet users are growing by an average of more than one million every day. The number of people using the internet has surged over the past year with more than one million people coming online for the first time each day since January 2018 (Kemp, 2019). International Telecommunications Union (ITU) estimated that globally, there were some 4.1 billion internet users in the year 2019. This is an increase of 366 million people using the internet from the previous year. This means on average there are 11 new users per second (ITU, 2019).

Other studies also show that number of internet users greatly varies between developed and least developed countries and across gender. The number of world population has now reached 7.8 billion (Chamie, 2020) of which 4.5 billion (73%) of them are internet users (Kemp, 2020). The majority (87%) of people in developed countries are internet users. To the contrary, only 19% of individuals in developing countries are online. Globally, forty-eight percent of women use the internet compared to fifty-eight percent of men (ITU, 2019).

Looking into internet user distribution across geographic region indicates regional disparity. Asia contributes a slightly more than half (50.7%) of Internet users worldwide. This is followed by Europe, which contributes 16% of world Internet users. The continent Africa stands third contributing only 11.5 % of Internet users in the globe (Internet World Statistics, 2019). In terms of internet usage rates, Europe stands first with 82.5% of individuals using the internet; while Africa, with 28.2% of internet usage rates, stands last (ITU, 2019).

Currently, the internet is the number one source of information for many people at a relatively lower price with higher level of comfort worldwide. But this medium has entertained two opposing views with some considering it as a blessing while others taking it as a threat. Nevertheless, since its emergence, the internet has brought undeniable growth in its functionality, capacity, accessibility, and convenience (Internet World stats, 2019).

The ways in which people use the internet are evolving quickly with cell phone accounting for an ever-increasing share of online activities (ITU, 2019). People of the world spent an average of six hours and 42 minutes online each day with Google, You Tube and Face book being the most visited websites (Kemp, 2019).

2.2.2. Internet Use in Africa

Internet in Africa was introduced more than two decades after the first internet connectivity was made possible in America. The sending of data packet from South Africa to Portland, Oregon in 1991 marked the beginning of internet use in Africa (Nyirenda-Jere & Tesfaye, 2015). In 1994, only four countries namely South Africa, Algeria, Egypt and Zambia had internet connectivity in Africa (Anie, 2015).

The speed of the internet gradually increased with the support from big organizations like United Nations Economic Commission for Africa (UNECA) and United States Agency for International Development (USAID) (Internet Society, 2001). With the aim of building Africa's Information Highway, the African Information Society Initiative urged states and governments of Africa into action and led to the development of national ICT strategies, policies, regional frameworks, and various programs and initiatives (Nyirenda-Jere & Tesfaye, 2015).

Besides help from organizations mainly UNECA and USAID, Africa's Internet access has been pioneered and developed by scholars in the field. These included Mike Lawrie of South Africa, Nii Narhu Quaynor of Ghana, Tarek Kamal of Egypt and Pierre Dandjinou of Benin to mention some (Internet Society, 2019). With the help of such scholars, private sectors, internet actors, and international organizations, the internet began to spread quickly that from mid 1990s to late 1990s Africa witnessed incredible ICT development (Akoh, Egege-Nissen, MacLean, & Creech, 2011). And in 1997 out of the then fifty-three African countries, forty-seven of them already had some kind of internet connection (Nyirenda-Jere & Tesfaye, 2015).

Regardless of its slow beginning and Africa being at the tail end of the world both in the number and percentage of Internet users, Internet in Africa is quickly increasing (OpenNet Initiative, 2009). Just like the rest of the word, Africans are also making use of the Internet contributing to the Internet growth worldwide. Between the years 2013 and 2017 alone, the continent has experienced the most growth of international Internet bandwidth in comparison to other regions,

growing at a compound annual rate of 44% (Calandro, Stork & Giliwald, 2013). Despite this fact, as of 2019, Africa remains the region with the lowest internet usage rates (ITU, 2019).

Internet World Stats (2019) estimates that Nigeria has the highest number of Internet users in Africa with 123.5 million subscribers. This is followed by Egypt with 49.2 million users as of June 2019. Kenya stands third with more than 46.87 million internet users. Western Sahara, Chad and South Sudan are African Countries with the lowest internet penetration rates (Kemp, 2020).

2.2.3. Internet use in Ethiopia

Two years after the Internet was introduced to Africa, Ethiopia began to make use of it in 1993, UNECA being at the center of support (ITU, 2002). At the time the main service users were International organizations and non-governmental organizations. Of course, private organizations, individuals, and academics were also beneficiaries of the newly introduced service (Freedom on the Net, 2012).

The number of users grew from 1200 people to 1750 people in a year when the Ethiopian Telecommunications Corporation started offering Internet service in 1997 (Worku, 2005). In June 2004, the number of internet users in Ethiopia was 12,155 (Worku, 2005). Another local study shows that organizations that employ internet technology used it for e-mail purpose at the beginning of internet in Ethiopia. The study further revealed that only 19% of the education, 12% of the health, and 22% of the public administration sectors owned websites. Poor Internet connectivity and unaffordable prices characterized the internet service. These undermined and limited its users (Mulat & Tadesse, 2002)**.**

Over the past twenty years, however, the number of Internet users in Ethiopia has shown a steady increase. In December 2000, the country had only ten thousand (10,000) internet users (Internet World Stats, 2019). Still in 2009, Ethiopia lagged behind in terms of internet penetration rate surpassing only Sierra Leonein Sub-Sahara Africa (OpenNet Initiative, 2009).The number 10,000 users in 2000 has grown to 21.14 million Internet users as of June 2020. However, in terms of percentage, this increase amounts to 18.6% of the total of over 100 million people (Kemp, 2020).

Still the number of internet users in Ethiopia appears to be relatively lower compared to some African countries. One of its close neighbors, Kenya, has an internet penetration rate of 89.8% which amounts to 46.9 million internet users out of the total population of 52.2 million people. In a similar manner, close to half of Egypt's population has access to and use the internet. And more than half of the Algerian population is internet users (Internet World Statistics, 2019).

However, compared to countries of the Horn of Africa, Ethiopia has the highest number of Internet users with Eritrea having the lowest number of users. Given its large population size, Ethiopia's Internet penetration rate can be considered low. Nevertheless, the last twenty years have evidenced a steady increase in the number of internet users (Kemp, 2020).

2.2.4. Internet Use among University Students

Studies show that the internet is widely used among university students despite some difference from setting to setting in the number of students who use it. For example, a study conducted among university students in southern India showed that all students use the Internet (Anand et al., 2018). In Dhaka, Bangladesh, 94% of university students reported that they use the Internet (Hossain & Rohman, 2017).

Internet use is also common among university students in Africa. For example, Salubi, Muchaonyerwa, & Nekhwevha (2018) conducted a study on 390 students of two South African universities. Employing a cross-sectional design, their findings revealed that majority (72.3%) of the respondents used the internet daily, 24.6% of them used the Internet every other day while only 3.1% of the respondents used the internet occasionally. Despite some difference in frequency, this study indicated that all respondents use the internet. A similar finding was reported in a study conducted at the university of KwaZulu—Natal in South Africa. Kheswa(2010) reported that all students use the Internet with 99.2 % of them getting access in their campus while the remaining 0.8% of the students use Internet at home. In Nigeria, Ogungbeni, Adekanye, Bamigbose, & Sulaiman (2016) conducted a study on undergraduate students regarding Internet use. Their findings showed that 95.8% of the respondents had access to and use the internet. The study further revealed that 84.5% of the participants accessed the Internet through their smart phones.

Despite the growing number of universities in Ethiopia, the issue of internet use among university students appears to be less researched. In spite of this, studies conducted so far show that internet is being widely used by university students in Ethiopia. In their meta- analysis study at Bahirdar University, Kerebeh and Habtamu (2019) involved 812 undergraduate regular students selected randomly and found that all respondents used the Internet in one way or another. Another study conducted among students at Addis Ababa university, Ethiopia, revealed that 92.7% of the students who participated in the study use the internet (Habtamu, 2017).

Regarding its purpose, university students use the Internet for different reasons. For example, Waithaka (2013) noted that the Internet has become one of the most important means of information exchange and is highly used by higher education centers to support academic and research related works. Similarly, Dogruer, Eyyam and Menevis (2011), argue students use the Internet, amongst others, for scientific and academic information. In addition, Hossain and Rohman(2017) indicated that academic purpose is one of the reasons students use the Internet. A study by Apuke & Iyendo (2018) also revealed that students' academic learning and research works have been enhanced by the increased access to the internet.

However, purposes of the internet are not limited to academic and research related functions. According to Salubi, Muchaonyerwa, and Nekhwevha (2018), social networking, communication and entertainment are the main functions the internet serves for students. In a very similar manner, Kerebeh and Habtamu (2019), found that majority of the students who use the internet spent their time networking with others and entertaining themselves.

2.3. Internet Addiction

Since its inception, the Internet has become one of the greatest achievements the world has ever seen. Over the last twenty years or so, its use has expanded and users grew to a large extent. But its overuse or problematic use has attracted many researchers and resulted in clinically significant findings (Schneider, Notari, & Gmel, 2017). Hence, the term for a new clinical disorder "internet addiction" (Young, 1996).

However, there is no consensus on whether there really is "Internet Addiction" disorder or not among scholars. Terms like problematic internet use, excessive internet use, compulsive internet

use, Internet Addiction, and pathological internet use are interchangeably used (Chand, Kandasamy, & Murthy, 2016). The common theme of all these terms is excessive or poorly controlled preoccupations, urges, behaviors regarding computer use and internet access that lead to impairment or psychological distress (Weinstein & Lejoyeux, 2014).

According to Schneider, Notari, & Gmel (2017), the use of different terms brought about two assumptions with different concepts. The first assumption is internet use may result in clinically independent disorder. The second one assumes internet use resulting in consequences without being a disorder. In support of the first assumption, internet addiction disorder has got official recognition as a separate disorder in some Asian countries like China and South Korea. As a result, recovery and treatment centers for internet addicts have been established (Shek, Yu & Sun, 2016).

However, official sources like the Diagnostic and Statistical Manual of Mental Disorders, version V (DSM-V) don't include "Internet Addiction" as a separate disorder. A somewhat related term is Internet Gaming Disorder-which is not focus of this study-is included in DSM-V (American Psychiatric Association [APA], 2013). Hence, getting widely accepted diagnostic criteria to measure addictive use of the internet remain problematic (Pontes, Kuss, &Griffiths, 2015). Nevertheless, researchers have developed instruments that measure the phenomenon using a number of terms like Problematic Internet Use Scale, Pathological Internet use Scale, Internet Addiction Test (IAT) , Compulsive Internet Use Scale, etc. Even though there are approximately 50 instrument designed to measure the phenomenon, IAT is the most common used instrument (Chand, Kandasamy, & Murthy, 2016).

Using these scales particularly the IAT, many researchers have studied the prevalence of problematic Internet use or Internet addiction among university/college students. For example, a study conducted in America by Christakis and associates revealed that from a total of 307 students, only 4% of them scored in the addicted range (Christakis, Moreno, Jelenchick, Myaing, & Zhou, 2011). Furthermore, Bruno and associates studied prevalence of Internet addiction among Italian students. Their study revealed that 3.9% of the respondents had problematic Internet use (Bruno et al., 2014). A recent study of internet addiction among medical college

students in India indicated 17.4% prevalence of internet addiction (Kannan, Karthick, Pal & Menon, 2019).

Studies also show the prevalence of Internet addiction among university students in Africa. Desouky and Ibrahem (2015) conducted a Meta -analysis study on 1656 university students in Egypt. Of the total number of respondents, 215 (13%) of them were found to be in the addicted range. Employing Young's IAT, an attempt was made to study the prevalence of problematic Internet use among 400 university students in Kenya. Findings revealed that there was 16.8 % of prevalence rate of problematic Internet use (Ogachi, Karega & Oteyo, 2019). However, Smita and Azhar's (2018) study found lower (5.1%) prevalence rate of Internet addiction among university students in Mauritious.

Similar studies conducted in Ethiopia show a relatively higher prevalence rate of Internet Addiction among university students. One study conducted at Addis Ababa University found that 33.4% of the participants were classified as being highly addicted to the internet (Habtamu, 2017). Similarly, a study of Internet Addiction at Bahirdar University revealed that 35.2% of the students were reportedly classified as Internet addicts (Kerebeh & Habtamu, 2019).
Generally speaking, findings of different studies regarding the prevalence of Internet Addiction appear to be so diverse. Among university students, prevalence of Internet addiction ranges from as low as 3.9% (Bruno et al., 2014) to as high as 35.2% (Kerebeh & Habtamu, 2019).

Over the last years, researchers have also been interested in looking for significant sex variations in internet addiction with findings appearing to be so diverse. For example, in their meta-analysis study, Desouky and Ibrahem (2015) surveyed 1656 Egyptian university students. Employing Young's (1996) Internet Addiction Test, their findings revealed that males tend to be more addicted than their female counterparts. Similar findings have been documented in other studies (Akhter, 2013; Kannan, Karthick, Pal & Menon, 2019; Tomaszek & Cymerman, 2019).
However, other studies employing the same instrument have come out in strict contradiction with the aforementioned findings. Involving 400 university students in Kenya, Ogachi et al. (2019) found out that females, indeed, are more vulnerable to problematic Internet use than their male counterparts. A similar finding was also revealed in Ethiopia (Habtamu, 2017).

Still other studies have come out contradicting the thus far mentioned findings. Employing Young's IAT, Researchers in China and Mauritius surveyed 811 and 372 university students respectively and found out no significant variation in Internet addiction between male and female students (Dai, 2016; Smita & Azhar, 2018).

Likewise, there has also been interest in exploring significant variation in internet addiction in terms of year level. In one study, it has been reported that first and third year students were more addicted than second year students (Dai, 2016). In another study, internet addiction tends to increase with grade level. This means first and fourth year students appeared to be the least and most addicted ones respectively. Moreover, compared to third year students, second years were less addicted (Kerebeh & Habtamu, 2019). Internet addiction has also been studied in relation to time spent online. In some studies, problematic internet use/internet addiction was linked to excessive time spent online (Akhter & Khalek, 2020; Al-Muqrin, AlShareef & Zaidi, 2016).

2.4. Theories of Internet Addiction

Early scholars in mass communication used to believe that since mass media are powerful, the audience had been directly affected. Subsequent researches led to the assumption that there is modest effect of mass media (Vivian, 2003).

In this section two main theories that guide the study and help to understand mass-media use specifically Internet use are considered. The theories addressed here are Media Dependency Theory and Use and Gratification Theory.

2.4.1. Media Dependency Theory

Ball-Rokeach (1985) defines media dependency as "a relationship in which the capacity of individuals to attain their goal is contingent upon the information resources of the media system" (p.487). According to Ball-Rokeach & DeFleur (1976), media dependency theory states that there is influence and interaction that exists between society, media and audience. As a result, the audience is impacted cognitively, affectively, and behaviorally. The theory further states that the media will be important to the audience when the audience becomes dependent on the media in fulfilling their needs. This leads to the media being powerful and highly influences the audience. Therefore, to explain the influence of media on individuals, both (media and audience) should be

considered in line with the larger systems of the society. Hence, the individual (audience), mass media and larger social systems are tied together for a comprehensive understanding of influence of media (Luo, 2018).

To address their need for information, individuals use the media particularly-the internet (Loveless, 2008). And, according to this theory, as the media appears to be effective in addressing this information need, individuals make more and more use of it which may lead to its excessive use. This excessive use, in turn, may create dependency. Individuals who are strongly attached to the internet would probably have little time interacting with the society like family members, neighbors and friends. Therefore, individuals who are largely dependent on the internet prefer spending time with computers to interacting with fellow human beings.

2.4.2. Use and Gratification Theory

Use and gratification theory of mass media tries to investigate how and why people use the media. It particularly emphasizes on gratifications sought and gratifications obtained (Tanta, Mihovilovic & Sublic, 2014).Use and gratification is one of the theories of communication that focuses on social interaction. Adapting a functionalistic approach to communication and media, this theory states that satisfying the needs and motivations of the audience is the most top priority of media (Mehrad & Tajer, 2016).

According to Ruggerio (2000) use and gratification theory has provided "a cutting edge approach in the initial stages of each new communication medium: newspaper, radio, television, and now the Internet" (p. 27). In contrast to other media theories, use and gratification theory views the audience as rational beings that have a reason for using and not using different media (Karimi, Khodabandelou, Ehsani & Ahmed, 2014). As active consumers, the audience makes use of the information that provides satisfaction to the highest level possible (Mehrad & Tajer, 2016).

Tanta et al. (2014) claimed that people use the Internet for many reasons including socializing, talking about different events, communicating and making appointments. The media (internet) is also used for entertainment, tension relief, updating oneself, getting information about new events, escaping from loneliness (Dominick, 1996). According to this theory, the Internet, as opposed to other media (such as radio, television, newspaper), gives the user the power to

actively select the kind of information, entertainment or any other activity they want (Ruggiero, 2000).

In sum, media dependency and use and gratification theories are helpful in understanding students' use of the internet. Particularly, they lay theoretical foundation and understanding of whether university students are passive consumers implying their dependency on the Internet for their psychosocial needs (media dependency theory) or active consumers who actively and purposively seek information while aware of the content (Use and gratification theory).

2.5. The concept of wellbeing

Oftentimes the question of "what is a good life?" has attracted the attention of people. And its answer is related to wellbeing and happy life (Dierendonck, Diaz, Carvajal, Blanco, & Jimenez, 2007). And what is well-being? Despite a growing interest in the study of wellbeing in recent years, the focus has been on description rather than definition (Rogers et al., 2012). Well-being consists of all the positive experience of people and the ways in which they evaluate their lives. Understanding positive life experiences can be taken in different ways. Some say that well-being means happiness. While others say that well-being is a relatively enduring feeling of contentment. Still others equate well-being with wellness, enjoying good mental and physical health(Tov, 2018). What can be understood from the above conceptions is that defining well-being using a single measure is difficult. For example, someone has no depression doesn't mean that he or she is well. This idea misses much of what people strive for when they seek to enhance and preserve their well-being (Seligman & Csikszentmihalyi, 2000).

A better understanding of the concept of well-being comes from conceptualizing well-being into two major categories of hedonic and eudemonic well-being (Ryan & Deci, 2001). Taking these two approaches to conceptualizing well-being into consideration, attempt is made to understand well-being better.

Psychologists' conception of hedonic well-being is more of philosophical which is different from common definition of hedonia (Disapato, Goodman, Kashdan, Short & Jarden, 2015). Hedonic well-being involves cognitive and emotional evaluation of one's own life (Tov, 2018). More specifically, hedonic well-being focuses on pleasure maximization and pain minimization

(Disapato, et al, 2015). In other words, hedonic well-being is happiness understood as the presence of positive experience and absence of negative experience. Therefore, a person is hedonistic if he/she seeks personal pleasure, comfort and enjoyment either through physical means or emotional-cognitive means (Ryan &Deci , 2001).

According to Diener (1984) hedonic wellbeing is equated with subjective well-being. And subjective well-being includes frequent experience of feelings that are pleasurable, infrequent experience of feelings that are not pleasurable and an overall judgment that life is satisfying. This conception of subjective wellbeing is interchangeably used with happiness. More subjective well-being would therefore mean more happiness (Ryan & Deci, 2001).

However, critics argue that hedonic well-being is based on ideas of pleasure, experience of happiness and fulfilling of human needs the attainment of which do not indicate wellbeing (Ryff, 1989). It is therefore difficult to equate wellbeing with subjective experience of happiness (Ryan & Deci, 2001).

In contrast to hedonic well-being, eudemonic well-being represents flourishing and living life to the fullest which extends beyond driving happiness (Ryff & Keyes, 1995). It focuses on being true to oneself and striving towards personal growth and fulfillment (Disabato et al., 2015).Eudemonic well-being involves the commitment and motivation in using the best in oneself which harmonizes with one's true self (Waterman,1993). Therefore, eudemonic well-being is a combination of various constructs including meaning, growth, mastery and authenticity (Ryff, 1989).

Unlike hedonic wellbeing, which takes the view of pleasure orientation to happiness, eudemonic wellbeing takes the view of meaning orientation to happiness (Ryan & Deci, 2001). Hence, when a person's day to day activities are in congruent with strongly held values and beliefs, eudemonia is said to have occurred (Waterman, 1993). Eudemonia goes beyond driving happiness. In addition to being able to develop as a person and enjoy fulfillment, eudemonic wellbeing involves being able to contribute something good for the community (Shah & Marks, 2004).

Proponents of eudemonic wellbeing consider wellbeing as a process, the purpose one has in life and the values mostly engaged in not just simply happiness. So the focus is on identifying lifestyles and functions that are helpful in promoting a flourishing life (Ryan & Huta, 2009).

More specifically, eudemonic wellbeing is similar to the multidimensional psychological wellbeing (PWB) that constitutes six aspects of wellbeing: autonomy; environmental mastery; positive relationships with others; purpose in life; realization of potential and self-acceptance (Ryff, 1989).

In some forthcoming section of the literature, definition and components of PWB will be dealt with.

2.6. Psychological wellbeing

2.6.1. Definition of Psychological Well-being

Owing to its relevance and purpose, PWB is one of the most studied constructs in psychology and counseling. When assessing psychopathological problems, it can be used as a baseline. It also guides clinical work by giving direction to move towards purpose, fulfillment, and meaning; determining conditions that promote flourishing (Christopher, 1999). Moreover, it helps to set goals and objectives for intervention in counseling (Seligman, 1998).

Despite the vast literature on PWB, there seems to be no single definition of the construct. This makes the construct psychological well-being a bit complex and controversial (Gerum, 2012). It has been defined differently by different scholars using different concepts and languages. For example, Rehman & Sohlai (2018) consider psychological well-being as an umbrella term that encompasses self-esteem, self -concept, mood, mentality, and quality of life.

In a somewhat similar way, Ryff (1989) defined the term PWB as something that involves meaningful engagement of personal life and healthy psychological functioning. Ryff further noted that psychological PWB also involves development of one's potential to the highest level. This means, PWB doesn't involve the sole attainment of pleasure but as the striving for perfection that represents the realization of one's true potential. PWB is therefore living up to one's true human potentials by realizing strongly looked –after values (Ryan & Deci, 2001).

According to Kassahun (2015), the above definition of well-being is derived not only from Aristotle but also from psychologists who are psycho-dynamically oriented such as Maslow (1968), Jung (1933), Allport (1961) and Rogers (1962). For others (e.g., Hupert, 2009) PWB combines good feelings and effective functioning. But it doesn't mean there is no experience of

painful emotions. Negative and painful emotions like failure, disappointment and grief are normal part of life. However, PWB is negatively affected when these painful emotions become overwhelming and strong enough that they interfere with day today functioning. Shek's (1992) definition of PWB is associated with mental health that constitutes various mental health qualities such as a quick adjustment to the environment and unity of personality. Still others like Deci & Ryan (2001) refer PWB to life that is lived fully and satisfactorily. Each individual has unique capacities the recognition and realization of which equates with PWB.

A shift from the study of disorder and dysfunction to positive mental health and well-being has been witnessed in recent years of research (Cooke, Melchert & Connor, 2016). This is particularly attributed to Seligman's (1998) argument that "Psychology is not just the study of weakness and damage; it is also the study of strength and virtue." (p.1)This positive perspective is also clearly stated in the definition of positive mental health by World Health Organization: "Positive mental health is a state of well-being in which the individual realizes his/her potential, can cope with normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community" (Hupert, 2009).

From the definitions given above, it can be said that PWB is a broad term that focuses on the processes involved in living well, making meaning out of life and being true to oneself (Ryff, 1989). This is different from subjective well-being which is defined as driving happiness that involves more of positive affect, less of pain and a perceived feeling of satisfaction with life (Ryan & Deci, 2001).

2.6.2. Components of psychological wellbeing

Ryff(1989) argues research surrounding subjective wellbeing was a product of historical accident and not primarily developed to explain the basic structure of PWB. In response to this critique, she developed what she calls psychological well-being-an alternative approach to well-being-which is derived from different theories of personality (Christopher, 1999).

According to Ryff & Keyes (1995), PWB consists of six dimensions. These include: Environmental mastery, Positive relations with others, Autonomy, Purpose in life, Personal growth, and Self-acceptance. Each of these components is briefly described below.

Self-Acceptance

Ryff and Singer (1996) defined self-acceptance as a "central feature of mental health as well as characteristics of self-actualization, optimal functioning, and maturity". "In short, self-acceptance is all about holding positive attitude towards oneself" (P.15). However, this definition appears to be less relevant in collectivist culture. What would it mean to have self-acceptance in a society that doesn't value selves? Questions also arise whether accepting oneself is always possible (Christopher, 1999). Despite such arguments, accepting oneself-both present and past life-is stressed in life span theories (Ryff & singer, 1996). Parallel terms like self –love, self-esteem and self-respect are commonly used to refer to self-acceptance (Christopher, 1999)

Personal Growth

The other dimension of PWB-personal growth- involves acquiring the ability to continuously develop one's potential. It also involves being able to grow and expand as a fully functioning person which in turn involves openness to experience. People with openness to experience continuously develop rather than achieving a fixed state where in all problems are solved (Ryff & Singer, 1996). This definition of personal growth appears to be similar with Aristotelian understanding of human excellence, human flourishing, and the realization of one's true potential (Waterman, 1993).

Purpose in Life

This dimension of PWB involves life that has goals, intentions and a sense of direction. A person who is mentally healthy is expected to have beliefs that give the feeling that there is purpose and meaning in life including contributing something good for others (Ryff & Singer, 1996). Similarly, Corey (2005) stressed that human beings have a natural quest to find meaning and purpose in life. To find meaning and purpose in life one engages in some kind of work, love or constructive processes that is greatly valued.

Autonomy

Qualities like "self-determination, internal locus of control, independence, individuation, and internal regulation of behavior" are used to describe autonomy (Christopher, 1999, p.146). In a very similar manner, Ryff and Singer (1996) noted that "The fully functioning person who

exercises autonomy is described as having an internal locus of evaluation, where by one doesn't look to others for approval but evaluates oneself by personal standards" (p.15). The lack of autonomy is not only associated with individual's reduced will power but also sense of helplessness and hopelessness (Tsihoaane, 2006).

Positive Relations with Others

Creating and maintaining genuine relationship with others and strong feelings of warmth, empathy, and affection towards others is the definition given to this dimension of PWB (Christopher, 1999). At the core of positive relations with others is being able to love others for who they are (Ryff & Keyes, 1995). Moreover, the concept of positive relations with others emanates from our need to be significant in another's world and that another's presence is important in our world. The relationship we have with others is based on fulfillment and not deprivation. Such relationships enhance everyone involved in the process and are indicators of healthy and mature interactions (Corey, 2005).

Environmental Mastery

The last dimension of PWB, environmental mastery, is defined by Ryff and Keyes (1995) as "The capacity to manage effectively one's life and surrounding world" (p.720). It is the ability to choose and create environment suitable to one's psychic condition. This involves the ability to advance in the world and change it creatively through activities that require physical and mental efforts. According to Ryff and Singer (1996), environmental mastery also requires the ability to manipulate and control complex environments by participating in a significant sphere of activity beyond oneself.

Generally, the dimensions of PWB described above are different from prior indicators of well-being such as happiness and life satisfaction. To the contrary, good and healthy life involves getting and feeling connected to others, living one's potential to the fullest, goal pursuit, directing oneself and maintaining positive attitudes towards oneself (Christopher, 1999).

2.6.3. Psychological Well-being among University Students

Studies assessing the PWB of university (college) students have been conducted in many countries and the findings have been diverse. In Georgia, for example, a sample of Ilia state

university students participated in a study investigated by Turashivili and Japaridze (2012). The findings revealed that majority of the students had high level of PWB. This finding is similar with a local study conducted on Social Science students of Addis Ababa University. According to Yikerbelegn (2018), who assessed the PWB of those students, majority of them scored high in Ryff's (1989) psychological well-being scale. Yet another similar finding was obtained by Khairani, Idris and Shamsudin (2019). In this recent study that involved a total sample of 1965 Malaysian university students, the majority (87.5%) of them reported high level of PWB.

However, these findings are in contradiction with a local study conducted by Belay and Gerum (2017). In their study on students of Bahir Dar, Wollo and Debretabor universities, they found out that majority of the students had low level of PWB.

2.7. Factors Associated with Psychological Well-being

Several studies tried to indicate a range of factors that are associated with PWB. However, in the present study and the remaining part of the review of literature, a review of studies was made on PWB and its associated factors: Internet addiction, gender, field of study, year level (batch) and average time spent online.

2.7.1. Internet Addiction and Psychological Well-being

A number of studies have been conducted to investigate the association between Internet use and PWB among university students in different countries. For example, employing Ryff's psychological well-being scale, and Young's Internet Addiction Test, Ruize et al. (2017) studied the relationship between Internet addiction and PWB on a sample of 310 university students in Spain. Their results indicated significant and inverse correlation between internet addiction and PWB. This means the more excessive usage of the internet, the lower the PWB and vice versa. Similarly, Rehman, Shafi and Rizv (2016) tried to examine the association between Internet addiction and PWB. Data was collected using Young's (1996) IAT and Ryff's (1989) PWB Scale from a sample of 100 college students in Kashmir. Findings of this study revealed a significant negative correlation between internet addiction and PWB.

A recent study conducted in India also revealed similar findings. A total sample of 461 college students from the city of Jabalpur, India, responded to Young's IAT and Ryff's PWB scale in an

attempt to find out the relationship between Internet addiction and PWB. This study showed that internet addiction was significantly and negatively correlated to PWB. Students who scored high in Internet addiction scored low in PWB (Sharma & Sharma, 2018). Similarly, a study investigating the relationship between Internet addiction and PWB was conducted among university students in Turkey. The findings of this study revealed that students with higher levels of Internet addiction are more likely to be low in PWB (Cardak, 2013). The findings of this study is, in turn, similar with that of Al-Muqrin, AlShareef and Zaidi's (2016) study in which a negative correlation existed between the two variables-Internet addiction and PWB.

Studies on the association between internet addiction and PWB are not limited to university students only. Researchers have studied whether teenagers' and high school students' internet addiction is associated with their PWB. One study in China involved a total of 3185 teenagers employing Internet Use and Teenage Wellbeing Scales. Findings revealed that Internet Addiction was negatively correlated with teenage wellbeing (Xu, Zhang, Liu, Wan & Sun, 2011) Mahadevaswamy and Lancy (2018) studied the relationship between internet addiction and PWB among 720 samples of adolescents. Despite differences in data collection instruments (Internet Addiction Test and Psychological Wellbeing Scale in this case), finding of this study reveal similar findings. As level of Internet addiction increases, psychological wellbeing decreases.

Internet addiction has also been studied in relation to other psychological variables (variables that are opposite to PWB) such as loneliness and distress. One such study comes from Dutte and Chye (2017) who examined the relationship between loneliness and generalized problematic Internet use. The findings revealed positive and significant associations between loneliness and generalized problematic internet use. Students who felt lonely and socially isolated, reported higher levels of problematic internet use. Collecting data using Young's IAT and Kessler's Psychological Distress Scale from Kashmir University students, Kawa and Shafi (2015) reported significant positive correlation between Internet addiction and psychological distress.

However, there seem to be limited studies that show no correlation between Internet addiction and psychological wellbeing. A Taiwanese study conducted by Huang (2012) reported that no relationship exists between Internet addiction and Psychological wellbeing. The effort to find a study that claims positive relationship between Internet addiction and PWB revealed nothing.

To sum up, existing studies seem to converge on the conclusion that significant negative association does exist between internet addiction and psychological wellbeing (Al-Muqrin, AlShareef & Zaidi, 2016; Cardak , 2013; Mahadevaswamy & Lancy , 2018;Rehman, Shafi &Rizv,2016;Ruize et al., 2017; Sharma & Sharma, 2018; Xu et al., 2011).

2.7.2. Gender, year level, purpose of internet use, time spent online and PWB

A detailed review of the available literature regarding the association between gender and PWB reveal diverse findings. For example, a study conducted by Waghmare (2016) appears to reveal findings that show no significant difference in PWB between male and female respondents. A very recent study that tried to examine whether there is a difference in PWB between male and female university students resulted in similar findings. There is no significant difference in PWB between male and female students (Hassan, 2019). Salleh and Mustafa (2016) also found no significant difference in PWB between male and female flood victims in Malaysia.

To the contrary, other studies have come out with different findings arguing difference does really exist between gender and PWB. For example, a relatively earlier study conducted in Turkey by Humcagiz and Gunduz (2015) who randomly sampled a total of 408 university students found a statistically significant difference between male and female university students in terms of levels of PWB. Compared to females, males had lower levels of PWB. A similar finding is also documented in a local study conducted at Addis Ababa University (Yikerbelegn, 2018). This finding, in turn, is in strict contradiction with another local study. Belay and Gerum (2017) investigated the difference in PWB between male and female university students as one of their objectives. Drawn from three universities, a total sample of 384 students was selected using a stratified sampling. The findings showed difference in PWB between male and female students. Compared to males, females had lower level of PWB.

Other studies also show difference in the dimensions of PWB between male and female respondents. For instance, taking a large sample of 3400 (with equal number of males and females) respondents, Matud, Curbelo, & Fortes (2019) examined the relationship between gender and PWB. Their findings showed that men scored higher in psychological well-being dimensions of self-acceptance and autonomy whereas, women scored higher in psychological dimensions of personal growth and positive relations with others.

Still other studies argue that PWB is different between male and female respondents. For example, a randomized study conducted by Akhter (2015), found a significant difference in PWB between male and female respondents. Similarly, Bordbar, Nikkar, Yazdani & Alipoor (2011) indicated a significant difference in PWB between male and female participants. These studies indicated that females had higher status of PWB. Research regarding the association between year level (batch) and PWB is very scarce, at least as far as the researcher's knowledge is concerned. Few studies conducted in Ethiopia show no significant difference between year level and PWB (Belay & Gerum, 2017; Yikerbelegn, 2018).

2.8. Summary and implication of the literature review

The internet is the number one source of information for many people at a relatively lower price with higher level of comfort worldwide. Due to this, users and uses grow as the internet evolves (Wellman et al, 2002). However, this medium has entertained two opposing views with some considering it as a blessing while others taking it as a threat (Internet World statistics, 2019).

Internet overuse or internet addiction use has drawn the interest of many researchers (Schneider et al., 2017). Different theories explain as to why people are attracted to the mass media and specifically the internet and the type of gratification they obtained as a result of using the internet.

The two main theories that provide explanation and are used in the current study are Media Dependency Theory and Use and Gratification Theory. According to Media Dependency theorists, individuals become dependent on the media because their certain needs are fulfilled. Use and Gratification theorists argue that people use the media (internet) mainly to escape their loneliness, get information and entertain themselves.

Prevalence of internet addiction among university students greatly differs from setting to setting. Generally, prevalence of Internet addiction among university students ranges from as low as 3.9% (Bruno et al., 2014) to as high as 35.2% (Kerebeh & Habtamu, 2019).Different Findings regarding sex differences in internet addiction have been documented. Studies show that internet addiction has been linked to excessive time spent online (Akhter & Khalek, 2020; Al-Muqrin, AlShareef & Zaidi, 2016).Addictive use of the internet use has also been associated with different psychological constructs such as PWB. Examining the relationship between excessive

Internet use and PWB, many researchers in the area have found that the variables-problematic Internet use / internet addiction and PWB- are negatively and significantly correlated.

Many studies revealed high prevalence rate of internet addiction among university students. This implies that despite its enormous benefits, internet overuse can become problematic. Internet addiction seems to be an obvious concern for university students. Moreover, its negative relationship with PWB implies the need to investigate more on the prevalence of internet addiction and its relationship with PWB in the Ethiopian context.

Chapter Three

Research Methods and Procedure

This chapter deals with research design, study setting, target population, sample, sampling technique, data collection methods and data collection procedures. Furthermore, other issues like pilot study, methods of data analysis and ethical considerations are dealt with.

3.1. Research Design

This study aimed to examine the relationship between internet addiction and psychological well-being. To this end, the study employed a mixture of correlational and cross sectional research design. Correlational research design helps to measure two variables and assess the relationship between them. Raimundo and Leone (2018) noted that cross-sectional study is helpful in getting reliable data that is possible to generate robust conclusions and create new hypothesis that can be investigated with new research in addition to establishing association between two or more variables.

3.2. Study Site

The study was carried out in the main campus of Addis Ababa University (AAU). Being the oldest and the first of the thirteen campuses in AAU, Sidist Kilo campus consists of six colleges: College of Social Sciences, College of Education and Behavioral Studies, College of Humanities, Language Studies and Journalism and Communication, College of Business and Economics, College of Performing and Visual Arts, College of Law and Governance Studies and College of Development Studies. Distance, evening and regular students are enrolled both in the undergraduate and postgraduate programs. There were a total of 3762 regular undergraduate students and 34 departments in the different colleges of the main campus. AAU's president office and the main registrar of AAU are located in this main campus.

3.3. Participants

3.3.1. Target Population

All first, second and third year regular undergraduate students on the main campus of Addis Ababa University were the target population of the study. Fourth and fifth year students were not included in the study as they were few in number. According to AAU registrar office, there were about 3762 regular undergraduate students in the 2019/2020 academic year on the main campus. The main reason for targeting university students is that they are believed to have better access to the internet and can provide sufficient data well enough to conduct the study.

3.3.2. Sampling Frame

To respond to resource and time constraints, out of the total seven campuses found at Addis Ababa University, the main campus was selected purposively. To manage the data properly, three colleges namely: College of Law and Governance Studies, College of Social Sciences, and College of Business and Economics were randomly selected and included in the study. Therefore, all first, second and third year undergraduate regular students attending classes under the aforementioned colleges in the main campus of Addis Ababa University were sampling frame of the study.

3.3.4. Sample Size

There is no "golden" rule to determine sample size. However this may be, determining sample size is an inevitable decision to make in any research undertaking. To select appropriate number of sample, the researcher used Krejice and Morgan's (1970) sample size determination formula which is indicated below.

$$S= X^2 NP (1-P) \div d^2 (N-1) + X^2 P (1-P)$$

Where

S = required sample size

X^2 = the table value of chi-square for 1 degree of freedom at the desired confidence level (1.96 x 1.96)

N = the population size (3762, in this study);

P = the population proportion (assumed to be .50 to secure maximum sample size) and
d = the degree of accuracy expressed as a proportion (.05).

Using this formula, the equivalent sample size for the population N=3762 is 349. For contingency inputs, the researcher randomly selected additional 35 samples; hence, 384 undergraduate students were the sample for the study.

Table 1*: Target population and sample size based on year level*

Year level	Target population	Sample size
Year I	1429	116
Year II	1214	98
Year III	1119	90
Total	**3762**	**304**

As can be clearly seen from table 1 above, there were a total of 3762 first, second and third year regular undergraduate students studying under the three colleges on the main campus. Out of the total number of students, 1429 (38.2%) of them were first year students; while 1214 (32.2%) of them were in their second year. The remaining 1119 (29.6 %) of them were third year students.

About 8 % of students from each year level were included in the study. Based on this, 116 students from first year, 98 from second year and 90 from third year students were selected.

3.3.5. Sampling Technique

According to data from AAU Registrar Office, there were a total of 3762 regular students enrolled in the undergraduate program on the main campus. The selection process of participants from the aforementioned colleges involved multistage sampling. Firstly, three colleges were

randomly selected. From these three colleges it was decided to select manageable number of departments proportionally. It was also decided that students in each year level had proportional representation. Having cleared these concerns, stratified sampling was employed to select participants. Given the heterogeneous nature of the students, stratification was based on sex, department and year level. To select actual participants from each sex, department and year level, simple random sampling technique was employed.

Table 2*: Selected Sample Distribution*

		Year level						
		Year I		**Year II**		**Year III**		
College	**Departments**	**M**	**F**	**M**	**F**	**M**	**F**	**Total**
College of Law and Governance Studies	Law	-	-	4	8	5	7	24
College of Social Sciences	PSIR*	-	-	5	7	4	7	23
	Sociology	-	-	5	8	6	4	23
	Anthropology	-	-	7	5	6	5	23
College of Business and Economics	Management	-	-	7	5	7	4	23
	PADM**	-	-	11	2	8	3	24
	Economics	-	-	8	12	7	12	24
	BAIS***	-	-	6	12	9	12	24
	Total	**62**	**54**	**50**	**48**	**44**	**46**	**304**

* Political Science and International Relations

** Public Administration and Development management

*** Business Administration and Information System

Table 2 above shows total number of sample student participants based on department and year level. From each department almost equal number of students was selected. Departments from each college were randomly selected except Law. It is the only school that enrolls undergraduate students in the college, hence participants from the school were randomly selected.

3.4. Data Collection Methods

Quantitative data were collected using a questionnaire containing three parts. The first part of the questionnaire contained questions that helped to collect data related to demographic characteristics of participants. The second part contained a scale designed by Young (1996) that measures excessive Internet addiction of students. The final part of the questionnaire was a scale developed Ryff (1989) to measure PWB of university students.

3.4.1. Socio-demographic characteristics questionnaire

To get data related to participants' socio-demographic characteristics (sex, age, field of study and year level), questions were specifically designed by the researcher. In addition to items on socio-demographic information, questions regarding purpose of internet use and amount of time spend online were included.

3.4.2. Internet Addiction Test

This second part of the questionnaire measured students' use of the internet. Designed by Young (1996), the scale consists of 20 items measuring compulsive internet use associated characteristics and behaviors like dependency, escapism and compulsivity. Items in the scale also assess personal, occupational and social functioning related problems resulting from making use of the internet. Rated on a 5-point scale, respondents are expected to self-rate against each item on scale points that range from a minimum of 1 to a maximum of 5; '1' indicating lower and '5' indicating higher level of internet overuse. Items assess internet overuse ranging from normal to moderate to severe addiction.

The scale is self-administered and usually takes 5-10 minutes to complete. When administered orally, it may take more than 10 minutes. The Internet Addiction Test total score is the sum of the ratings given by the respondent for the 20 item responses. Each item is rated on a 5-point scale ranging from 1 to 5. Scores in each item are added with total scores theoretically ranging

from minimum of 20 points to a maximum of 100 points. Higher scores in the scale represent higher level of severity of internet compulsivity and addiction. Sum scores that range from 20 to 49 indicate the presence of a normal level of internet consumption; scores of 50 to 69 points are considered to reflect problems in internet use; 70 to 100 reflect the presence of a severity of internet compulsivity and addiction (Guertler et al., 2014).

Being the most widely used internet addiction scale globally, this test has been able to get acceptance in several countries and translated into many languages mainly English, Chinese, French, Italian, Turkish and Korean (Young, 2017). Studies show that Internet Addiction Test has sound psychometric properties. It is a reliable and valid measure of pathological internet use. A recent study in Thailand by Neelapaijit et al. (2018) reported a good internal consistency with alpha value of .89. Another study conducted in Lebanon in the same year reported even higher internal consistency raising the coefficient alpha to .91(Samaha et al., 2018). Furthermore, a local study conducted very recently reported alpha value of .93 (Kerebih & Habtamu, 2019).

3.4.3. Psychological Wellbeing Scale

The last part of the questionnaire included a scale that measures students' PWB. Developed based on the theory of positive functioning, Ryff (1989) identified six dimensions of the scale. These include autonomy (measures self-determination, independence, and the regulation of behavior from within), environmental mastery (measures the ability to choose or create environments suitable to one's strengths so defined as a characteristic of mental health), personal growth (measures desire for continual development of one's potential, to grow and expand as a person), positive relations with others (measures sense of warm, trusting, loving, and interpersonal relationships), purpose in life (measures a sense of directedness, and intentionality) and self-acceptance (measures positive attitude towards oneself).

The scale currently exists in different versions or forms. For each of the six dimensions of wellbeing, the original and the longest version contain 20 items; hence a total of 120 items. The dimensions in the subsequent versions of the scale contain 14 items (a total of 84 items), 9 items (a total of 54 items), 7 items (a total of 42 items) and 3 items (a total of 18 items (Ryff and Singer, 1996)). In this particular study, the last and shortest version of the scale was used. Basically, there were two reasons that explained why this is so. The first one relates to time and cost restrictions. The second one relates to previous study reporting comparable psychometric

properties of the shortest scale (18 items) to even the longest (120 items) version of the scale (Ryff & Keyes, 1995).

Out of the total number of items, 8 of them are negatively phrased. Participants are supposed to self-rate against each item on six scale points that range from a minimum of 1 to a maximum of 6. For positively phrased items, '1' indicates lower and '6' indicates higher psychological well-being. To the contrary, for negatively phrased items, '1' indicates higher and '6' indicates lower psychological wellbeing. Once the negatively phrased items are reverse coded, scores are added together. Since PWB is a continuous variable, scores are categorized in dichotomy (below and above hypothesized mean).

For each dimension, high scores reveal respondent's mastery of that area in life. Conversely, low scores reflect respondent's little mastery of that particular concept in life. Generally, scores above the hypothesized mean in the scale indicate high psychological wellbeing while sores below the hypothesized mean indicate lower psychological wellbeing.

Psychometric studies indicate that Ryff's Psychological Wellbeing Scale is a valid and reliable measuring instrument. Studies show the internal consistency of the scale to be good. Example, one study reported a coefficient alpha of 0.91 (Lin, 2015) while another reported even higher alpha value (0.96(Belay & Gerum, 2017)). Avery recent local study conducted among college students in Mekelle employing the shortest version reported alpha value of.87 (Shewit, 2020).

3.5. Pilot Study

The original scales are prepared in English which need to be translated into local language (Amharic) for ease of understanding. The translation was of two types: forward and backward. A subject matter expert (counseling psychologist) along with the researcher translated the scales into Amharic. Then a language expert fluent in English and Amharic languages translated the Amharic version back into English. Based on feedbacks, differences in translation were corrected accordingly.

Following translation, pilot study was conducted on a randomly selected 30 students at Addis Ababa University (School of Commerce). The rationale behind conducting pilot study is to test the practicality of the instruments and to have a quality and reliable measure to address the

research questions properly. To this end, confusing alternatives in some items were modified. To ensure the consistency of the instruments of the study (internal consistency), Cronbach's alpha was computed. Reliability analysis showed that Internet Addiction Test and Psychological Wellbeing Scale had adequate internal consistency with alpha value of .91 and .80 respectively. Hence, no item from either of the instruments was discarded as they had high and acceptable alpha values.

Another point of focus was validity of the measures. Special emphasis was given to examining the content validity (whether items in the scale are representative of the construct in question). Since there is no any statistical method to ensure this, professionals in the field were consulted. Finally, the researcher was able to secure reliable and valid instruments for the main study.

3.6. Data Collection Procedure

The data collection procedure generally took a lengthy process. The researcher first secured a letter requesting possible collaboration in the data gathering process. Given the outbreak of COVID-19 pandemic, which has suddenly changed normal life, meeting study participants in person appeared to be out of reach. The researcher, therefore, used other mechanisms-online and via telephone calls-to collect data.

In doing so, contact information (telephone number) of students of selected departments on the main campus was obtained from Office of the Registrar, Addis Ababa University. Before getting students' private information, the researcher, along with School of Psychology and Office of the Registrar, signed a Memorandum of Understanding which stated that the researcher use students' private information to collect data only.

Prior to starting collecting data, the researcher introduced himself, indicated why and from where their address was obtained, and gave a brief orientation regarding the purpose of the questionnaire. Confidentiality issues were also discussed. Having done all these and their willingness assured, students were asked to choose their preferred way of providing data i.e. through Telegram or having read the questions on the phone. Depending on their choice, the researcher either sent a link containing the questionnaire to their Telegram address or read the same items in the questionnaire on the phone. Those who provided data through Telegram, responses were automatically recorded and accessed by the researcher. Hard copied

questionnaires were prepared and read for those who had no Telegram account, those who didn't have internet access, those who had no smart phones to use Telegram, and those who just wanted to provide data orally. Data collection started 21st July, 2020 and ended September 7, 2020. Data analysis and writing up of the paper followed thereafter.

3.7. Methods of Data Analysis

Descriptive and inferential statistical methods were used to analyze data. Attempt was made to describe research participants' demographic information by employing descriptive statistics (frequency counts and percentage values). Besides, mean and standard deviation were calculated for demographic variables that are continuous.

To determine the level of internet addiction and status of PWB, frequency counts and percentage values were used. To see gender difference in internet addiction and psychological wellbeing, Independent Samples T test was employed. One Way ANOVA was used to see differences in internet addiction and psychological wellbeing in terms of purpose of internet use, year level and average time spent online. When ANOVA results indicated significant difference, post hoc tests were conducted in attempt to detect where the differences lie. In cases where assumption of homogeneity of variance was violated, Games Howell post hoc test was used. On the other hand, when assumption of homogeneity of variance was met, Tukey's HSD post hoc test was used. To determine the association between internet addiction and psychological wellbeing, Pearson product moment correlation was used. After adjusting for socio-demographic characteristics, multiple regression analysis was employed to identify variables that predict students' PWB. Employing these statistical methods was made possible after checking the assumptions and no violation of these assumptions was noted.

3.8. Ethical Considerations

Participation in the study was primarily based on willingness. To ensure this, oral informed consent was obtained from participants. Issues regarding confidentiality and purpose of the study were discussed. Moreover, how and from where the researcher accessed students' telephone number was clearly explained. Upon any feeling of discomfort during the process, participants were also informed that they have the right to withdraw from participation. As a final note, the right to know the outcome of the research (if needed) was communicated.

Chapter Four

Findings

In this chapter, major findings of the study are presented in the following sections.

Focus is given to describing the sample and demographic variables in the first section. The second section deals with students' level of internet addiction. Moreover, group (gender, year level, purpose of internet use and average time spent online per day) differences in internet addiction are dealt with. Students' status of PWB is presented in the third section. PWB difference in terms of gender, year level, purpose of internet use and average time spent online per day are also presented. Investigation of the association between internet addiction and PWB after adjusting for socio-demographic variables is addressed in the last section of this chapter.

4.1. Demographic characteristics of participants

Table 3: *Summary of Demographic Characteristics of Participants (N= 304)*

Variable	Category	Frequency (%)
Sex	Male	156(51.3)
	Female	148(48.7)
Age	Mean (20.76)	SD (1.42)
College of study	Fresh entry*	116 (38.2)
	Law	24(7.9)
	Business and Economics	95 (31.3)
	Social Sciences	69 (22.8)
Year level	Year I	116 (38.2)
	Year II	98 (32.2)
	Year III	90 (29.6)
Average time spent online per day	≤2 hours	108(35.5)
	>2-4 hours	108(35.5)
	>4-6 hours	57 (18.8)
	Over 6 hours	31 (10.2)

Purpose of internet use	Education or research	110 (36.2)
	Entertainment	87 (28.6)
	Social networking	90 (29.6)
	News	17 (5.6)

Note: **First year students were not assigned into their respective departments*

From a total of 384 sample proposed initially, the researcher was able to secure 304 participants (87.1 % of the total sample proposed initially) due to several reasons. These included unwillingness to participate in the study, network problem, misunderstanding about the purpose of the study, language problems, and not responding to telephone calls. The number 304 was considered a representative sample of the total population 3762. As can be seen from table 3 above, a little more than half (51.3%) of the participants were males. Females make up the remaining 48.7% of the participants. The participants' age ranged from 18 to 26 years with mean age of 20.76 years (SD = 1.42). In terms of year level, attempt was made to randomly select participants proportionally. Out of the total respondents, 38.2% of them were fresh entries. Second and third year students make up 32.2 % and 29.6 % of the total participants respectively.

College wise, participants were drawn from three colleges: College of Law and Governance Studies, College of Social Sciences and college of Business and Economics. The least number of participants were from Law (7.9%). Majority (31.3%) of the respondents were students of College of Business and Economics while the remaining 22.8% of participants were College of Social Sciences Students. First year students were not assigned into their respective departments. Hence, they were treated as a single entity in the above table.

The above table further shows that, on average, 35.5% of the participants spent more than two and up to four hours per day. In a comparable manner, 35.5% of the respondents reported that they stay online up to two hours per day. Those who stay online more than four hours and up to six hours make up 18.8 % of the participants while the remaining 10.2% reportedly stay online for more than six hours per day. Finally, it was found that students use internet for education and related purposes (36.2%), entertainment (28.6%), networking (29.6%) and for news (5.6%).

4.2. Prevalence of internet addiction among students

Table 4 below shows the overwhelming majority (71.7%) of respondents were “normal” internet users indicating greater control over internet use. The remaining 24.3 % and 3.9% of participants reported “moderate” and “severe” level of internet addiction respectively reflecting problems in internet use.

Table 4*: Students’ Level of Internet Addiction*

Internet Addiction Classification	Frequency	Percent
Normal	218	71.7
Moderate	74	24.3
Severe	12	3.9
Total	**304**	**100**

4.3. Group difference in internet addiction

To examine group differences in the level of internet addiction, analysis of demographic characteristics was conducted. These factors included gender, year level, purpose of internet use and average time spent online with internet addiction being a dependent variable. Inferential statistical procedures (Independent Samples T Test and One Way ANOVA) were used to detect group differences in internet addiction.

From table 5 below one can understand that there is a slight variation in the mean scores between male (mean= 40.47, SD = 14.67) and female participants (mean = 41.66, SD = 14).However, this difference was not statistically significant (t (302) = .72, p = .47).

Table 5*: Group Differences in Internet Addiction*

Variable	Category	N	Mean	SD	Sig.
Gender	Male	156	40.47	14.67	
	Female	148	41.66	14	.47
Year level	Year I	116	42.81	16.48	
	Year II	98	41.26	12.5	.11
	Year III	90	38.56	13	
Purpose of internet use	Education or research	110	35.59	12.72	
	Entertainment	87	45.68	12.72	.00
	Social networking	90	44.19	14.41	
	News	17	36.06	8.44	
Average time spent online	≤2 hours	108	31.28	9.74	
	> 2 and up to 4 hours	108	43.40	13.18	
	> 4 and up to 6 hours	57	47.75	13.89	.00
	Over 6 hours	31	54.58	10.92	

Table 5 above shows the mean scores of participants in each year level. Slight differences were observed in the mean scores. One way-ANOVA showed no statistically significant difference among the groups, Welch's F (2, 199.41) = 2.27, p >.05. Students in the different year levels do not differ in their levels of internet addiction.

Students were asked for what purpose they use the internet most often. As can be seen from table 5 above, purpose of internet use included education, entertainment, communication or networking and news. One Way ANOVA was run to see if a statistical difference exists in internet addiction. Results revealed that a statistical significant difference existed at least in one of the groups, $F(3, 300) = 11.56$, $p = .00$.

To exactly identify the group(s) that has such differences, post hoc (posteriori) tests was conducted. Since the assumption of homogeneity of variances was violated, Games- Howell test was used. Post hoc multiple comparison (see Appendix C) revealed that four out of the six groups had significant differences. Internet addiction level for those who used the internet for entertainment (mean =45.68, SD = 14.7) and networking purposes (mean =44.19, SD = 14.41) were significantly different from those who use the internet for education and research purposes (mean = 35.59, SD = 12.72) and news purpose (mean = 36.06, SD = 8.44). This reflects problematic use of the internet by those who used it for entertainment (communication) and for socializing with others.

Table 5 above also shows that as time spent online increases so does mean score for internet addiction. For example, those who spent 2 hours and below online had a mean score of 31.28 (SD = 9.74) while those who went online over six hours per day had a mean score of 54.58 (SD=10.92). Analysis of One Way ANOVA revealed a statistically significant difference in the level of internet addiction as the p-value was quite smaller than the alpha value of .05, $F(3,300) = 44.4$, $p < .05$.

To detect which mean scores were different from which other mean scores post hoc test was conducted. Post hoc comparison test (see Appendix D) revealed that there was a statistically significant difference in the level of internet addiction between those who spent 2 hours and below and those who spent more than 2 hours and up to four hours online, four hours and up to six hours and those who spent over six hours online. Similarly, a statistically significant difference was observed between those who went online over two and up to four hours and those who spent over six hours online. It can, therefore, be said that those who spent two hours and less and those who spent over six hours online per day are the least and the most addicts respectively.

4.4. Students' psychological wellbeing status

Examining psychological wellbeing status of students was another objective of the present study. Descriptive statistics (frequency counts and percentage values) was used to meet this objective. Furthermore, respecting the continuous nature of the variable, hypothesized mean (mean split or

expected mean) was used to examine students' status of psychological wellbeing. Hence, scores below and above the expected mean indicate lower and higher status of psychological wellbeing respectively.

Table 6*: Descriptive Statistics and Students Overall Status of PWB*

Variable	Minimum	Maximum	Mean	SD	Low (%)	High (%)
PWB	51	105	80	9.39	9.9	90.1

As clearly indicated in table 6 above, students' minimum and maximum scores for PWB were 51 and 105 respectively with a mean score of 80 (SD = 9.39). This average score is higher than the expected mean reflecting students' higher status of PWB. The standard deviation score indicates a reasonable variation in PWB scores among students. Furthermore, close to 10% of students scored lower in PWB while the overwhelming majority (90.1%)of them scored higher in PWB. This implies majority of the participants were in a position to recognize and realize their potential, make meaningful engagement of personal lives, exercise autonomy, accept their past and present situations, and have good psychological health.

4.5. Group differences in psychological wellbeing

To examine group differences in the different scores of PWB, analysis of demographic characteristics was conducted. These factors included gender, year level, purpose of internet use and average time spent online with PWB being a dependent variable. Inferential statistical procedures (Independent Samples T Test and One Way ANOVA) were used to detect group differences in PWB after checking the assumptions.

Table 7*: Group difference in PWB*

Variable	Category	Mean	SD	Sig.
Sex	Male	80.23	9.6	.65
	Female	79.74	9.2	
Year level	Year I	81.04	7.9	.02*
	Year II	77.73	10.43	
	Year III	81.10	9.64	
Purpose of internet use	Education or research	81.88	8.03	.03*
	Entertainment	78.33	9.20	
	Networking	78.89	12.57	
	News	82.12	12.57	
Average time spent online	≤2 hours	82.02	8	.00*
	> 2 and up to 4 hours	79.93	79.93	
	>4 and up to 6 hours	79.04	8.94	
	over 6 hours	74.94	11.47	

**The mean difference is significant at.05 level (two tailed)*

Note: *Higher scores indicate high level of PWB*

Form table 7 above, it is clear that the mean PWB scores for males is 80.23 (SD = 9.6) and 79.74 (SD= 9.2) for females. Independent Samples T test revealed that the mean PWB scores for males and females appeared to show no statistically significant difference, t (302) = .45, p = .65.

Regarding year level, One Way ANOVA showed that there was statistically significant mean difference in scores of PWB among first year (mean = 80.04, SD = 7.9), second year (mean = 77.73, SD = 10.43) and third year students (mean = 81.1, SD = 9.64), F (2, 301 = 4.27, p = .02).

Tukey's Honestly Significant Difference (HSD) multiple comparison test (see Appendix E) revealed that second year students' mean score (77.73) was statistically and significantly different from both first (81.04) and third year students (81.1).

As is the case in the table 7above, mean PWB score for those who use the internet for education or research purposes is 81.88 (SD = 8.03). Mean scores of those who use the internet for social networking (mean = 78.89, SD = 10.1) and entertainment (mean = 78.33, SD = 9.02) appears to be relatively similar. Those who use the internet to get updated information had a mean score of 82.12 (SD = 12.57).

Analysis of Welch ANOVA indicated significant mean difference at least in one of the groups, F (3, 67.3) = 3.37, p = .02. In identifying which mean scores were different from which other means, Games-Howell test of post hoc comparison (see Appendix F) was used. The result revealed that the mean difference for those who use the internet for educational and entertainment purpose was statistically significant reflecting better psychological health for the former. The mean difference for the other groups was not statistically significant.

Descriptive statistical procedures showed that mean scores of PWB of students differ based on average time spent online. Table 7 above also clearly shows that for university students as online time increases, PWB mean scores decrease. For example, the mean score for those who spent two hours and below online was 82.02 (SD = 8) compared to the mean score of those who spent more than six hours online (mean= 74.94, SD= 11.47). Further One Way ANOVA analysis also revealed that the p – value was smaller than the alpha value (.05) which indicates the mean scores of at least one of the group pairs were statistically significant, F (3, 300) = 5.07, p = .002.

To identify which mean scores are different from which other means, post hoc comparison specifically Tukey's HSD post hoc multiple comparison test (see Appendix G) was conducted. Results showed that the mean score of those who access the internet for two hours and below per day was significantly different from those who access the internet for more than six hours per

day. In other words, those who went online for two hours and below were in a relatively better state of psychological health than those who went online for more than six hours per day.

4.6. The Relationship between Internet Addiction and Psychological Wellbeing

Pearson product moment correlation showed that internet addiction and PWB had a statistically significant negative relationship, r (304, 304) = -.4, p = .00. In other words, as internet addiction increases, PWB decreases and vice versa.

Multiple regression analysis was run to identify the predicting power of internet addiction and demographic variables on the dependent variable PWB. Factors included as predictors were internet addiction, age, sex, years stayed in university, purpose of internet use and average time spent online. The variance explained by joint and each predictor variable on the outcome variable (PWB) was examined. Prior to running the regression analysis, assumptions of normality of residuals, homoscedasticity (equal distributions of residuals)and the absence of multi collinearity were first checked using appropriate statistical procedures. Hence, normal P-P plot indicated the presence of approximate normal distribution of the data for the dependent variable (see Appendix I). The existence of linear relationship was also evidenced by scatter plot (see Appendix H). Moreover, the absence of multi collinearity was assured by the presence of less than 10 (ranged from 1.2 to 1.5) Variance Inflation Factor (VIF) values.

Table 8*: Predicting power of the model*

R	R-squared	Adjusted R-- squared	Sig.
.41[a]	.164	.147	.00[b]

The value (.41) in the R column of table 8 above tells that there was a moderate relationship between the outcome variable (PWB) and all the independent variables combined suggesting a good predicting ability of the model. Moreover, the value in the R-squared column indicates the model (socio demographic variables and internet addiction combined) explained 16.4% of the variance in the outcome variable. To test whether the model significantly predicts the outcome

variable, Analysis of Variance was conducted. As can be seen in the table 8 above, the significance value was less than the alpha value of .05. It can therefore be said that the outcome variable was significantly predicted by the regression model, F (6, 297) = 9.71, *p* = .00.

From table 9 below, one can understand that predictor variables like age (p = .82), sex (*p* = .38), year level (*p* =.94), purpose of internet use (*p* = .73), average time spent online (*p* = .71) did not significantly contribute to the model. The table further illustrates the only variable that contributed significantly to the model was internet addiction (*p* = .00). This variable alone was responsible for some 15% of the variance in PWB. This means a one-unit increase in PWB was associated with .26 points decrease in internet addiction.

Table 9*: The Contribution of Independent Variables to PWB*

Independent variable	**β**	**Adjusted R^2**	**Sig.**
Age	-.1	_	.82
Sex	-.62	_	.38
Year level	-.08	_	.94
Purpose of internet use	-.19	_	**.73**
Average time spent online	-.09	_	**.71**
Internet addiction	-.26	.147	.000

Chapter Five

Discussion

This chapter emphasizes on discussing the findings of the study in line with the research questions, previous empirical findings and theoretical models.

5.1. Prevalence of internet addiction among university students

According to Young (1989), level of internet addiction is classified in to three: no problem with internet use, frequent problem with internet use and significant problem with internet use. Results of the current study showed that majority (71.8%) of the student participants were normal internet users meaning they do not make problematic use of the internet. This finding is supported by Use and Gratification theory of internet addiction. According to this theory, consumers are rational beings that actively and purposively seek information while being aware of the content (Mehrad & Tajer, 201).

While 24.3 % of the students reported frequent problems with internet use, the remaining 3.9 % of them indicated significant problems with internet use. Hence, the prevalence of internet addiction among university students was 28.2%. The internet addiction prevalence rate in this finding seems to be similar with a previous finding conducted in Ethiopia where close to one-third of the participants were reported as being addicts (Habtamu, 2017). This may be due to employment of similar instruments and the similarity of the setting.

Contradicting the current finding, studies conducted abroad reported a much lower prevalence rate of internet addiction. For example, Smita & Azhar (2018) put the prevalence rate of internet addiction among university students in Mauritious at 5.1%. Even more, a much lower prevalence rate (3.9%) was reported from Italy (Bruno & et al., 2014). The relatively higher prevalence rate of internet addiction in the current study may be due to lack of recreational facilities that makes students spend a great deal of time on the internet. More importantly, data were collected in time of COVID 19 pandemic. This global crisis has restricted social gatherings, limited face-to-face interactions with others and fueled uncertainty, pushing students to spend more time online than usual.

5.2. Differences in internet addiction due to demographic characteristics

The present study revealed no difference in internet addiction between male and female participants. Similar previous findings were obtained in a couple of countries. Dai (2016) and Smita &Azhar (2018) conducted similar studies in China and Mauritious respectively with results revealing no significant difference between males and females in internet addiction.

In strict contradiction with the current study, some previous studies indicate significant difference in internet addiction between male and female participants. To begin with, a study conducted at Addis Ababa University revealed that compared to males, females make problematic use of the internet (Habtamu, 2017). The same finding was also observed in neighboring Kenya (Ogachi et al., 2019). Still other studies revealed findings arguing males are more vulnerable to problematic internet use than females (Akhter, 2013; Desouky & Ibrahem, 2015; Tomaszek & Cymerman, 2019). The differences in the findings could be attributed to the instruments used, sample size, methods of data collection and the time when data was collected.

Majority of the student participants in the different year levels had control over their internet use. Statistical procedures showed internet addiction mean scores didn't significantly differ among first, second and third year students. Similar and contradicting findings were observed in previous studies. The findings of the present study contradict with previous findings of one local study. In this study, students' level of internet addiction was found to increase with years stayed in university (Kerebih & Habtamu, 2019). According to this study, compared to second year students, first year were less vulnerable to internet addiction. The same is true with second and third year students. A study conducted outside of Ethiopia indicated a slightly different finding. Compared to second year students, first and third year students were more addicted to the internet (Dai, 2016). However, the finding of the present study was consistent with a previous study conducted among Addis Ababa University students. No significance difference in internet addiction was observed based on years stay in university (Habtamu, 2017).

The similarities and differences in the present and previous findings may depend on a number of factors including the instruments used to collect data, sample size and the setting where and when the study was conducted.

Students used the internet for many purposes. These included for education and/or research related purposes, to get connected with others, for entertainment purposes and to get updated information. Majority of the students used the internet for educational and networking purposes and significant variation among the groups did exist in internet addiction. The present study revealed that students who use the internet for entertainment and communication (social networking) purposes tend to be more vulnerable to internet addiction than those who make use of the internet for education and getting latest information. The finding is comparable with a local study which indicated that compared to students who use the internet for academic purposes, those who use the internet for non-academic purposes (e.g. social networking) were more vulnerable to internet addiction (Habtamu & Kerebih, 2019). This could be because going online to study or conduct researches may be more satisfying than spending time online for entertainment or networking.

Looking at the average time students spent online, vast majority of the students spent four hours and below online. In the current study, it was found out that internet addiction among university students increase as online time increases. For instance, compared to those who have gone online for two hours and below every day those who went online for six hours and above were more addicted to the internet. This finding is consistent with studies by Akhter & Khalek (2020) who reported that students who make excessive use of the internet are more likely to make problematic internet use and Al-Muqrin, AlShareef and Zaidi (2016) who found out that internet addiction increases with online time.

5.3. Psychological wellbeing of university students

As one of the main objectives of this particular study, the PWB of university students was examined using appropriate statistical procedures. Findings have shown that a sizable majority of university students had higher PWB. More specifically, students were found to have positive relations with others, strive to grow as a person, and had purpose in life. They were also in a position to realize their potential while positively accepting their present and past life.

Similar findings have been documented in a number of studies conducted in other nations as well as in Ethiopia. For example, majority of Ilia state university students in Georgia were found to be

better off psychologically (Turashivili & Japardize (2012). Recently conducted study among Malaysian university students also evidenced higher PWB (Khairani, Idris, & Shamsudin, 2019). Yikerbelegn (2018) who assessed the PWB of Addis Ababa University students in Ethiopia reported that the vast majority of students were found to have high PWB.

The presence of similar PWB status among university students might be possibly because students usually come from different backgrounds but with the same aim. This may have provided them with the opportunity to understand and appreciate their differences while sticking to their aim. Studying and doing assignments together may promote positive relations among them. Moreover, being a university student can encouraging to strive to grow as people and can be helpful in realizing students' potential. All these may positively contribute for students' higher status of PWB.

5.4. Psychological wellbeing differences due to demographic characteristics

The present study revealed that males and females do not significantly differ in their status of PWB. Higher PWB scores were observed in both sexes. Prior studies supporting and contradicting the findings of the current study are enormous. To begin with, a study conducted by Waghmare (2016) revealed no significant PWB mean score difference between male and female university students. Salleh & Mustafa (2016) and Hassan (2019) also reported similar findings.

There are also studies with contradicting findings with the present study both locally as well as abroad. (2015) A study conducted in Turkey (Humcagiz & Ginduz, 2015) revealed higher PWB among males than females. However, a local study by Belay & Gerum (2017) showed that female university students' PWB was lower than their male counterparts. Sample size, instruments of data collection, scoring methods and cultural variations may have contributed for the existence of different findings.

Regarding number of years students stayed in university, first, second and third year students' PWB appeared to be high. But when looked specifically, first year students had higher status of PWB than second year students. Similarly, third year students had higher level of PWB compared to second year students. This finding is inconsistent with a local study conducted by

Belay & Gerum (2017). Their study revealed no significant difference among university students in the different year levels. The existence of contradicting results may be due to sample size, sampling techniques, the time when data were collected.

In general, university students purpose of the internet use can be classified in two four: academic purpose, networking, entertainment and news. The findings of the present study showed that accessing the internet for academic purposes was associated with higher PWB. This could be because spending time for educational purpose may provide a sense of accomplishment, indicate purpose in life, and helps to realize one's potential and grow as a person. The researcher couldn't find any such previous study to compare with.

Time wise, mean scores of PWB decrease as online time increases. The findings of the present showed that for university students, the PWB status of those who spend much time online was significantly different from those who spend online little time. Indeed, those who spent more than six hours a day online had lower status of PWB than those who spent two hours and below. No previous study was found to support or contradict this study.

5.5. The relationship between internet addiction and psychological wellbeing

Pearson product moment correlation showed that internet addiction and PWB had a statistically significant inverse relationship. This means as internet addiction increases, PWB decreases and vice versa. Furthermore, multiple regression analyses showed that internet addiction was associated significantly and negatively with PWB indicating internet addiction as a risk factor for lower PWB. As to the researcher's knowledge, no local study addressed this issue. Consistent with findings of the present study, previous studies conducted abroad (Al-Muqrin, AlShareef and Zaidi, 2016; Cardak , 2013; Mahadevaswamy and Lancy , 2018; Rehman, Shafi and Rizv,2016;Ruize et al., 2017; Sharma and Sharma, 2018; Xu et al., 2011) found that internet addiction and PWB have negative relationship. These studies reported that students with lower levels of internet addiction are more likely to be higher in PWB. The presence of inverse relation between internet addiction and PWB in the current study may be attributed to a number of factors. For instance, students with internet addiction may tend to make unwise use of their time, which prevents them from realizing their potential and grow as person. In addition, students who

make problematic use of the internet may reflect no purpose and direction in their life; hence low PWB. Similarly, students with low PWB may spend more online time. For example, those who have no purpose and meaning in life, those who don't accept themselves and those who have less environmental mastery may spend more online time aimlessly resulting in uncontrolled (and problematic) use of the internet.

Chapter Six

Summary, Conclusion and Recommendations

6.1. Summary

The major purpose of the present study was to examine the relationship between internet addiction and PWB. Specifically, the study examined the level of internet addiction among main campus students at Addis Ababa university. PWB status of these students was also examined. Moreover, attempt was made to investigate level of internet addiction and status of PWB in terms of such demographic variables as sex, year level, purpose of internet use and time spent online.

The study used cross sectional research design to meet the objectives stated. By employing multistage sampling technique, data were gathered from a total of 304 students (female = 148, male = 156) drawn from three colleges. First, second and third year regular undergraduate students from College of Law and Governance Studies, College of Social Sciences and College of Business and Economics responded to structured questionnaire comprised of three parts: Socio demographic characteristics questionnaire (6 items), Internet Addiction Test (20 items) and Psychological Wellbeing Scale (18 items).

Data collected were analyzed using descriptive and statistical inferential procedures. These procedures included frequency, percentage, mean, standard deviation, Independent Samples T test, Pearson product moment correlation, One Way ANOVA and multiple regression analysis. Assumptions were checked before conducting inferential statistics.

The present study revealed that 28.2% the participants were classified as being addicted to the internet. No significant difference in internet addiction was observed between male and female students as well as students in the different year levels. However, internet addiction was significantly higher for those who used the internet for entertainment and social networking purposes. Furthermore, findings of the present study indicated that as online time increases, internet addiction increases.

Regarding PWB, the vast majority of the students had higher status of PWB. Having scored approximately equal mean scores in PWB, males and females had no statistically significant difference. However, first and third year students had a statistically significant higher PWB status than second year students. In addition, students who used the internet for academic works most often had higher status of PWB than students who used it for entertainment, communication and news purposes. Again, students who went online for two hours and below per day had higher PWB status than students who stayed online for more than six hours per day.

With regard to the relationship between internet addiction and PWB, findings of the present study revealed that the two variables had a statistically significant negative relationship. The increase in PWB was associated with decrease in internet addiction. Indeed, multiple regression analysis revealed that PWB was significantly associated with internet addiction, after adjusting for confounding variables. Some 15% of the variance in the outcome variable (PWB) was explained by internet addiction (a criterion variable).

6.2. Conclusion

Based on the findings of the present study, the researcher has made following conclusions.

Problematic internet use is a growing concern among main campus students at Addis Ababa University students. This implies a sizable number of university students exhibit frequent and severe problems involving excessive or poorly controlled preoccupations, urges and behaviors associated with internet use.

Male and female students do not differ in their level of internet addiction, which implies that being male or female has nothing to do with internet addiction. Similarly, students' level of internet addiction does not depend on their batch (year level). Compared to students who use the internet for entertainment and networking purposes, students who use the internet for academic related works are less likely to make addictive use of the internet. This implies students who access the internet for educational and research related purposes make wise and more controlled use of the internet. Longer online time is associated with high level of internet addiction. This means too much online time implies problematic use of the internet.

Majority of main campus students at Addis Ababa University have high PWB status. This indicates majority of the students strive to realize their potential and grow as a person, make good mastery of their environment, accept their past and present life situations, engage positively with others, have purpose in life and internally regulate their behavior.

Male and female students do not significantly differ in their status of PWB. This implies realizing one's potential, accepting oneself, having purpose in life, and being independent are not associated with whether someone is male or female. Second year students have lower status of PWB compared to first and third year students. This indicates second year students to be less capable of growing as a person and realizing their potential, have little mastery of their environment, lead life with no sound purpose, experience difficulty making decisions independently and have little acceptance of their present and past lives. Accessing the internet for academic related works is associated with better psychological health. Online time is associated with students' status of PWB. Too much online time may indicate little purpose in life, poor relationship with others, little mastery of the environment and difficulty living life to the fullest.

Students' internet addiction level and PWB status are negatively correlated. This implies students who make problematic use of the internet are less likely to accept their lives, incapable of striving to grow as person and realize their potential. In addition, students who make uncontrolled use of the internet are more likely to lead life with little meaning and purpose, less likely to build positive and satisfying relations with family members, friends, and the community in which the live, and experience difficulty making autonomous decisions. Moreover, it can be concluded that internet addiction is a significant risk factor for PWB.

6.3. Recommendations

Taking the findings of the current study and conclusions drawn in to consideration, the researcher has forwarded the following recommendations:

- As the internet becomes common among students and online technology being promoted in higher educational institutions, students, parents and teachers need to be aware of the addictive nature of the internet. As it is indicated in the present study, a good number of

students were addicted to the internet. Therefore, universities, parents, and teachers should help students make wise use of the internet by encouraging them to spend a reasonably appropriate time and use the internet for academic and research related purposes.

- Psychologists, counselors and other mental health practitioners working in the university should provide students and parents with psychoeducation on internet addiction and design and implement specific strategies that would help them provide counseling services to students with internet addiction.
- Although the current study showed that only a small percentage of students had lower status of PWB, the issue of psychological care should not be overlooked. Universities should appreciate the importance of psychological health among students and consider training guidance-counselors who provide psychosocial support and referral services to students.
- Accessing the internet for entertainment purpose and spending longer hours on the internet were found to be associated with lower status of PWB. Thus, concerned bodies need to find ways of helping students to make controlled use of the internet and encourage them to use the internet for educational purposes most often.
- Findings of the present study also indicated a negative relationship between internet addiction and PWB. It is therefore imperative to suggest that higher educational institutions need to be mindful of this negative association. Psychologists, counselors and other mental health practitioners should provide students and parents with psychoeducation on how internet addiction and PWB are related. More importantly, clinicians (psychologists and/or counselors) should assess students' status of PWB using appropriate tools, design and implement specific intervention strategies tailored to each students needs.
- As to the researcher's knowledge, this is the first attempt to determine the association between internet addiction and PWB in the Ethiopian context. More studies should be conducted on students from different universities for a better understanding of the phenomena. Moreover, future researchers are encouraged to employ a mixture of both quantitative and qualitative approach to gain a broader understanding of internet addiction and PWB of university students.

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Appendix A- Questionnaire (English Version)

Addis Ababa University
School of Psychology

I am MA candidate of the School of Psychology, Addis Ababa University. Currently, I am collecting data to help me complete my thesis. The purpose of this questionnaire is to gather data for the study on the relationship between Internet addiction and psychological wellbeing among students at Addis Ababa University. Thank you for deciding to participate in the study. The information you provide is very useful for the successful completion of this research. Please read the questions carefully and give your genuine response.

NB:

- The information you provide will be kept confidential and will be used for this study only
- If you want to know your level of internet addiction and/or status of psychological wellbeing, you are welcome to contact the researcher
- If you feel uncomfortable in the process, you are free to withdraw from the study

Part one: Socio-demographic data
Instruction: For the following questions, please provide your answer

1.College:_____1.1.Department/School:_____2.Age: _____

3. Year level: ○ 1st year ○ 2nd year ○ 3rd year

4. Sex: ○ male ○ female

5. For what purpose do you use the internet most often? ○ For education or research
○ For entertainment
○ For networking
○ For news

6. On average, how much time do you spend accessing the internet per day? _____

Part two: **Internet Addiction Test**

Instruction: For the following questions, choose the alternative that best describes your internet use behavior.

1. How often do you find that you stay on-line longer than you intended?	□ Always □ Often □Sometimes	□ Rarely □ Never
2. How often do you neglect schoolwork to spend more time on-line?	□ Always □ Often □Sometimes	□ Rarely □ Never
3. How often do you prefer the excitement of the Internet to intimacy with your best friend?	Always Often Sometimes	□ Rarely □ Never
4. How often do you form new relationships with fellow on-line users?	□ Always □ Often □Sometimes	□ Rarely □ Never
5. How often do others in your life complain to you about the amount of time you spend on-line?	□ Always □ Often □Sometimes	□ Rarely □ Never
6. How often do your grades or school work suffers because of the amount of time you spend on-line?	□ Always □ Often □Sometimes	□ Rarely □ Never
7. How often do you check your e-mail, Face book or any other social media before something else that you need to do?	□ Always □ Often □Sometimes	□ Rarely □ Never
8. How often does your job performance or productivity suffer because of the Internet?	□ Always □ Often □Sometimes	□ Rarely □ Never
9. How often do you become defensive or secretive when anyone asks you what you do on-line?	□ Always □ Often □Sometimes	□ Rarely □ Never
10. How often do you block out disturbing thoughts about your life with soothing thoughts of the Internet?	□ Always □ Often □Sometimes	□ Rarely □ Never

11. How often do you find yourself anticipating when you will go on-line again?	□ Always □ Often □Sometimes	□ Rarely □ Never
12. How often do you fear that life without the Internet would be boring, empty, and joyless?	□ Always □ Often □Sometimes	□ Rarely □ Never
13. How often do you break, yell, or act annoyed if someone bothers you while you are on-line?	□ Always □ Often □Sometimes	□ Rarely □ Never
14. How often do you lose sleep due to late-night log-ins?	□ Always □ Often □Sometimes	□ Rarely □ Never
15. How often do you feel preoccupied with the Internet when off-line, or fantasize about being on-line?	□ Always □ Often □Sometimes	□ Rarely □ Never
16. How often do you find yourself saying "just a few more minutes" when on-line?	□ Always □ Often □Sometimes	□ Rarely □ Never
17. How often do you try to cut down the amount of time you spend on-line and fail?	□ Always □ Often □Sometimes	□ Rarely □ Never
18. How often do you try to hide how long you've been on-line?	□ Always □ Often □Sometimes	□ Rarely □ Never
19. How often do you choose to spend more time on-line over going out with others?	□ Always □ Often □Sometimes	□ Rarely □ Never
20. How often do you feel depressed, moody or nervous when you are off-line, which goes away once you are back on-line?	□ Always □ Often □Sometimes	□ Rarely □ Never

Part Three: Psychological Wellbeing Scale

Instruction: The statements below deal with how you feel about yourself and your life. Read each statement carefully and put a "√" mark against the alternative that best describes the degree to which you agree or disagree with each statement.

	Statements	strongly disagree	disagree	disagree slightly	agree slightly	agree	strongly agree
1	In general, I feel I am in charge of the situation in which I live.						
2	I live life one day at a time and don't really think about the future.						
3	When I look at the story of my life, I am pleased with how things have turned out.						
4	The demands of everyday life often get me down.						
5	I think it is important to have new experiences that challenge how you think about yourself and the world.						
6	Maintaining close relationships has been difficult and frustrating for me.						
7	I tend to be influenced by people with strong opinions.						
8	I am quite good at managing the many responsibilities of my daily life.						
9	I like most aspects of my personality.						
10	I have confidence in my opinions, even if they are different from the way most other people think						

11	People would describe me as a giving person, willing to share my time with others.						

Statements		strongly disagree	disagree	disagree slightly	agree slightly	agree	strongly agree
12	In many ways, I feel disappointed about my achievements in life.						
13	I sometimes feel as if I've done all there is to do in life						
14	I have not experienced many warm and trusting relationships with others.						
15	Some people wander aimlessly through life, but I am not one of them.						
16	I judge myself by what I think is important, not by the values of what others think is important.						
17	I gave up trying to make big improvements or changes in my life a long time ago.						
18	For me, life has been a continuous process of learning, changing, and growth.						

This is the end of the questionnaire. Thank you for your time and cooperation.

Appendix B - Questionnaire (Amharic Version)

አዲስ አበባ ዩኒቨርስቲ

የሳይኮሎጂ ትምህርት ቤት

እኔ በ አዲስ አበባ ዩኒቨርስቲ የሳይኮሎጂ ትምህርት ቤት የሁለተኛ ዲግሪ ተማሪ ስሆን በአሁኑ ጊዜ የመመረቂያ ፅሁፍ (thesis) እየሰራሁ እገኛለሁ። ለዚህም ይረዳኝ ዘንድ መጠይቅ በማዘጋጀት መረጃ እያሰባሰብኩ ነው። የዚህ መጠይቅ ዋና ዓላማ የተማሪዎች የኢንተርኔት አጠቃቀም ሁኔታና ስነልቦናዊ ደህንነትን በተመለከተ መረጃ በመሰብሰብ ጥናት ማካሄድ ነው። በዚህ ጥናት ላይ ለመሳተፍ ፍቃደኛ ስለሆናችሁ እያመሰገንኩ ለጥያቄዎቹ ትክክል ወይም ትክክል ያልሆነ መልስ የሚባል የለውም።የምትሰጡት መረጃ ለጥናቱ ስኬት ወሳኝ በመሆኑ ጥያቄዎቹን በጥንቃቄ በማንበብ መልሶቹን በታማኝነት እንድትመልሱ በትህትና እጠይቃለሁ። ስለትብብራችሁ በቅድሚያ አመሰግናለሁ!

ማሳሰቢያ፡

- የምትሰጡት መረጃ ምስጢራዊነቱ የተጠበቀ ሆኖ ለዚህ ጥናት ዓላማ ብቻ የሚውል ነው።
- የኢንተርኔት አጠቃቀም ሁኔታና ስነልቦናዊ ደህንነት ደረጃ ማወቅ የሚፈልግ አጥኚውን ማነጋገር ይችላል።
- በቃለ-መጠይቁ ሂደት የማይመች ሁኔታ ቢፈጠር ሂደቱን ማቋረጥ ይቻላል።

<u>ክፍል አንድ፡ ጠቅላላ መረጃ</u>

መመሪያ፡- ለሚከተሉት ጥያቄዎች አጭር መልስ ስጡ።

1. ኮሌጅ፡_____ 1.1. የትምህርት ክፍል (ዲፓርትመንት)፡_____
2. ዕድሜ፡ _____

3. ስንተኛ ዓመት ነህ/ሽ? 1ኛ ዓመት ☐ 2ኛ ዓመት☐ 3ኛ ዓመት ☐

4. ፆታ፡ ሴት ☐ ወንድ ☐

5. በአብዛኛው ጊዜ ኢንተርኔት ለምን ይጠቀሙታል?

☐ ለትምህርት ወይም ጥናት ☐ ከሌሎች ሰዎች ጋር ለመገናኘት

☐ ለመዝናናት ☐ ለዜና

6. በቀን በአማካኝ ምንያህል ጊዜ ኢንተርኔት በመጠቀም ያሳልፋሉ? _____

<u>ክፍል ሁለት፡ የኢንተርኔትአጠቃቀም ሁኔታ</u>

መመሪያ፡- ለሚከተሉት ጥያቄዎች ከተሰጡት አማራጮች በመምረጥ የኢንተርኔት አጠቃቀማችሁን ሁኔታ ግለፁ።

1.ካሰባችሁት በላይ ጊዜያችሁን ኢንተርኔት ላይምንያህል ታጠፋላችሁ?	☐ ሁልጊዜ ☐ አብዛኛውን ጊዜ ☐ የተወሰነ ጊዜ	☐ አንዳንዴ ☐ ምንም
2. ኢንተርኔት ለመጠቀም ብላችሁ የትምህርት ስራዎችን ምንያህል ችላ ትላላችሁ?	☐ ሁልጊዜ ☐ አብዛኛውን ጊዜ ☐ የተወሰነ ጊዜ	☐ አንዳንዴ ☐ ምንም
3. ከጓደኞቻችሁ ጋር ከመሆን ይልቅ ኢንተርኔትን መጠቀም ምንያህል ትመርጣላችሁ ?	☐ ሁልጊዜ ☐ አብዛኛውን ጊዜ ☐ የተወሰነ ጊዜ	☐ አንዳንዴ ☐ ምንም
4.ከማህበራዊ ድረ-ገፅ(ኢንተርኔት) ተጠቃሚዊች ጋር አዳዲሰ ግንኙነቶችን ምንያህል ትመሰርታላችሁ?	☐ ሁልጊዜ ☐ አብዛኛውን ጊዜ ☐ የተወሰነ ጊዜ	☐ አንዳንዴ ☐ ምንም
5. ለእናንተ ቅርብ የሆኑ ሰዎች ኢንተርኔት ላይ የምታጠፉትን ጊዜ በተመለከተ ቅሬታ ምንያህል ያቀርባሉ?	☐ ሁልጊዜ ☐ አብዛኛውን ጊዜ ☐ የተወሰነ ጊዜ	☐ አንዳንዴ ☐ ምንም
6. የትምህርት ውጤቶቻችሁ ወይም የትምህርት ስራዎቻችሁ ጊዜያችሁን ኢንተርኔት በመጠቀም ምክንያት ምንያህል ተጎድቷል?	☐ ሁልጊዜ ☐ አብዛኛውን ጊዜ ☐ የተወሰነ ጊዜ	☐ አንዳንዴ ☐ ምንም
7. ቅድሚያ የሚሰጣቸው ሌሎች ጉዳዮች እያሉ ኢ-ሜይል፤ ፌስቡክ ወይም ሌሎች ማህበራዊ መገናኛ መንገዶች ምንያህል ታስቀድማላችሁ?	☐ ሁልጊዜ ☐ አብዛኛውን ጊዜ ☐ የተወሰነ ጊዜ	☐ አንዳንዴ ☐ ምንም
8. ኢንተርኔት በመጠቀማችሁ ምክንያት ሌሎች ስራዎች ምንያህል ተጎድተዋል?	☐ ሁልጊዜ ☐ አብዛኛውን ጊዜ ☐ የተወሰነ ጊዜ	☐ አንዳንዴ ☐ ምንም
9. ኢንተርኔት ላይ ምን እንደምትሰሩ ስትጠየቁ ሚሰጥራዊ ምንያህል ትሆናላችሁ?	☐ ሁልጊዜ ☐ አብዛኛውን ጊዜ ☐ የተወሰነ ጊዜ	☐ አንዳንዴ ☐ ምንም
10. የሚረብሹ ሓሳቦችን ኢነተርኔት ላይ በሚገኙ እውነታዎች ምንያህል ትከላከላቸዋላችሁ?	☐ ሁልጊዜ ☐ አብዛኛውን ጊዜ ☐ የተወሰነ ጊዜ	☐ አንዳንዴ ☐ ምንም
11. ራሳችሁን ኢንተርኔትየምጠትቀሙበትን ጊዜ በማሰብ ምንያህል ታገኙታላችሁ?	☐ ሁልጊዜ ☐ አብዛኛውን ጊዜ ☐ የተወሰነ ጊዜ	☐ አንዳንዴ ☐ ምንም
12. ህይወት ያለ ኢንተርኔት አሰልቺ፤ ባዶ እና ደስታ-የለሽ ይሆናል ብላችሁ ምንያህል ትፈራላችሁ?	☐ ሁልጊዜ ☐ አብዛኛውን ጊዜ ☐ የተወሰነ ጊዜ	☐ አንዳንዴ ☐ ምንም
13. ኢንተርኔት ስትጠቀሙ የሚረብሻችሁን ሰው ምንያህል ትቆጣላችሁ ወይም ትጮሃላችሁ?	☐ ሁልጊዜ ☐ አብዛኛውን ጊዜ ☐ የተወሰነ ጊዜ	☐ አንዳንዴ ☐ ምንም

14. ኢንተርኔት አምሽታችሁ ከመጠቀም የተነሳ እንቅልፍ ምንያህል ታጣላችሁ?	☐ ሁልጊዜ ☐ አብዛኛውን ጊዜ ☐ የተወሰነ ጊዜ	☐ አንዳንዴ ☐ ምንም
15. ኢንተርኔት በማትጠቀሙበት ጊዜ ኢንተርኔት ስለመጠቀም ምንያህል ታስባላችሁ?	☐ ሁልጊዜ ☐ አብዛኛውን ጊዜ ☐ የተወሰነ ጊዜ	☐ አንዳንዴ ☐ ምንም
16. ኢንተርኔት እየተጠቀማችሁ እያለ "የተወሰኑ ተጨማሪ ደቂቃዎችን ልጠቀም" ምንያህል ትላላችሁ?	☐ ሁልጊዜ ☐ አብዛኛውን ጊዜ ☐ የተወሰነ ጊዜ	☐ አንዳንዴ ☐ ምንም
17. ኢንተርኔት ላይ የምታጠፉትን ጊዜ ለመቀነስ አስባችሁ ሳይሳካላችሁ ምንያህል ቀርቶ ያውቃል?	☐ ሁልጊዜ ☐ አብዛኛውን ጊዜ ☐ የተወሰነ ጊዜ	☐ አንዳንዴ ☐ ምንም
18. ኢንትርኔት በመጠቀም የምታሳልፉትን ጊዜ ለመደበቅ ምንያህል ትሞክራላችሁ?	☐ ሁልጊዜ ☐ አብዛኛውን ጊዜ ☐ የተወሰነ ጊዜ	☐ አንዳንዴ ☐ ምንም
19. ጊዜያችሁን ከሌሎች ሰዎች ጋር ከማሳለፍ ይልቅ ኢንተርኔት መጠቀምን ምንያህል ትመርጣላችሁ?	☐ ሁልጊዜ ☐ አብዛኛውን ጊዜ ☐ የተወሰነ ጊዜ	☐ አንዳንዴ ☐ ምንም
20. ኢንተርኔት ሳትጠቀሙ ስትቀሩ የሚመጡ፤ ስትጠቀሙ ግን የሚጠፉ እንደ ድባቴ፤ ደስታ ማጣት ወይም ጭንቀትና ፍርሃት ዓይነት ስሜቶች ምንያህል ታስተናግዳላችሁ?	☐ ሁልጊዜ ☐ አብዛኛውን ጊዜ ☐ የተወሰነ ጊዜ	☐ አንዳንዴ ☐ ምንም

ክፍል ሶስት፡ ስነልቦናዊ ደህንነት መለኪያ

መመሪያ፡ የሚከተሉት ዓረፍተ ነገሮች ተማሪዎች ስለራሳቸውና ስለህይወታቸው ምን እንደሚሰማቸው ለማወቅ የተዘጋጁ ናቸው። እያንዳንዱን ዓረፍተ ነገር በጥንቃቄ ካነበባችሁ በኋላ መስማማት ወይም አለመስማማታችሁ መጠን ከተሰጡት አማራጮች ውስጥ የ ☐በመጠቀም ግለፁ።

	ዓረፍተ ነገሮች	በጣም አልስማም	አልስማማም	በመጠኑ አልስማማም	በመጠኑ እስማማለሁ	እስማማለሁ	በጣም እስማማለሁ
1	ባጠቃላይ በህይወቴ ውስጥ ያሉ ሁኔታዎች በእኔ ቁጥጥር ስር እንዳሉ ይሰማኛል።						
2	ስለዛሬ እንጂ ስለነገ ህይወቴ አላስብም።						
3	እስካሁን ድረስ ባሳለፍኩት ህይወት ደስተኛ ነኝ።						
4	ብዙ ጊዜ የየቀን የህይወት ውጣ ውረዶች አሰልቺ ናቸው።						
5	ስለራሴና ስለዓለም ያለኝን እሳቤ የሚቀይሩ አዳዲስ ልምድና ፈተናዎችን መጋፈጥ አስፈላጊ እንደሆነ አስባለሁ።						

6	ከሰዎች ጋር ያለኝን ቅርብ ግንኙነት ጠብቆ ማቆየት ለኔ ከባድና ፈታኝ ነው።						
7	ጠንካራ ሓሳብ ያላቸው ሰዎች በቀላሉ ተፅእኖ ያሳድሩብኛል።						
8	ብዙ የዕለት ተዕለት የህይወት ሃላፊነቴን በመወጣት ረገድ ስኬታማ ነኝ።						
9	አብዛኛውን ማንነቴን እወደዋለሁ።						
10	ከብዙሃኑ ሀሳብ ጋር የሚቃረን ቢሆንም እንኳ በራሴ ሃሳብ ሙሉ እምነት አለኝ።						
11	ሰዎች ጊዜዬን ለሌሎች ለማካፈል ፍቃደኛ የሆንኩ ደግ ሰው በማለት ይገልፁኛል።						
12	በብዙ መልኩ ሲታይ ባሳለፍኩት የህይወት ጉዞ እበሳጫለሁ፤ እናደዳለሁ።						
13	አንዳንድ ጊዜ በህይወት ውስጥ ማድረግ ያለብኝን እንዳደረግኩ ይሰማኛል።						
14	ከሌሎች ጋር አስዳች እና እምነት የሚጣልበት አይነት ግንኙነት ኖሮኝ አያውቅም።						
15	አንዳንድ ሰዎች ያለምንም አላማ ይኖራሉ፤ እኔ ግን ከነሱ ውስጥ አልመደብም።						
16	ራሴን የምገመግመው ሌሎች በሚሉት ሳይሆን እኔ ይጠቅማል ብየ በማስበው ጉዳይ ነው።						
17	በህይወቴ ላይ ትልቅ ለውጥ ለማምጣት በማደርገው ጥረት ተስፋ ቆርጫለሁ።						
18	ህይወት ለኔ ቀጣይነት ያለው የመማር፤ የመለወጥ እና የማደግ ሂደት ሂደት ነው።						

መጠይቁ እዚህ ላይ ያበቃል፤ ስለሰጣችሁኝ ጊዜ እና ስለትብብራችሁ አመሰግናለሁ።

Appendix C (Post hoc comparison)- Internet addiction difference based on purpose of internet use

Games-Howell post hoc comparison						
(I) Purpose of internet use	(J) Purpose of internet use	(I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Education or research	Entertainment	-10.087*	1.988	.000	-15.25	-4.93
	Social networking	-8.598*	1.943	.000	-13.64	-3.56
	News	-.468	2.380	.997	-6.96	6.02
Entertainment	Education or research	10.087*	1.988	.000	4.93	15.25
	Social networking	1.489	2.189	.904	-4.19	7.17
	News	9.619*	2.584	.003	2.68	16.56
Social networking	Education or research	8.598*	1.943	.000	3.56	13.64
	Entertainment	-1.489	2.189	.904	-7.17	4.19
	News	8.130*	2.550	.015	1.27	14.99
News	Education or research	.468	2.380	.997	-6.02	6.96
	Entertainment	-9.619*	2.584	.003	-16.56	-2.68
	Social networking	-8.130*	2.550	.015	-14.99	-1.27

*. The mean difference is significant at the 0.05 level.

Appendix D (post hoc comparison)- Internet addiction difference based on average time spent online

Post Hoc Multiple Comparison

(I) Average time spent online	(J) Average time spent online	(I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
≤ 2 hours	> 2 and up to 4 hours	-12.120*	1.632	.000	-16.34	-7.91
	> 4 and up to 6 hours	-16.477*	1.963	.000	-21.55	-11.41
	over 6 hours	-23.303*	2.443	.000	-29.61	-16.99
>2 and up to 4 hours	≤ 2 hours	12.120*	1.632	.000	7.91	16.34
	>4 and up to 6 hours	-4.356	1.963	.120	-9.43	.71
	over 6 hours	-11.182*	2.443	.000	-17.49	-4.87
>4 and up to 6 hours	≤ 2 hours	16.477*	1.963	.000	11.41	21.55
	> 2 and up to 4 hours	4.356	1.963	.120	-.71	9.43
	over 6 hours	-6.826	2.676	.054	-13.74	.09
over 6 hours	< 2 hours	23.303*	2.443	.000	16.99	29.61
	> 2 and up to 4 hours	11.182*	2.443	.000	4.87	17.49
	> 4 and up to 6 hours	6.826	2.676	.054	-.09	13.74

*. The mean difference is significant at the 0.05 level.

Appendix E (post hoc comparison)- PWB difference based on year level

Tukey HSD Post hoc Multiple Comparison

(I) Year level	(J) Year level	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Year I	Year II	3.308*	1.275	.027	.31	6.31
	Year III	-.057	1.305	.999	-3.13	3.02
Year II	Year I	-3.308*	1.275	.027	-6.31	-.31
	Year III	-3.365*	1.357	.036	-6.56	-.17
Year III	Year I	.057	1.305	.999	-3.02	3.13
	Year II	3.365*	1.357	.036	.17	6.56

**. The mean difference is significant at the 0.05 level.*

Appendix F (post hoc comparison)- PWB difference based on Purpose of Internet use

Post hoc (Games – Howell) Multiple Comparison

(I) Purpose of internet use	(J) Purpose of internet use	Mean Difference	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Education or research	Entertainment	3.548*	1.249	.026	.31	6.79
	Social networking	2.993	1.311	.106	-.41	6.40
	News	-.236	3.143	1.000	-9.12	8.64
Entertainment	Education or research	-3.548*	1.249	.026	-6.79	-.31
	Social networking	-.556	1.452	.981	-4.32	3.21
	News	-3.784	3.204	.645	-12.77	5.20
Social networking	Education or research	-2.993	1.311	.106	-6.40	.41
	Entertainment	.556	1.452	.981	-3.21	4.32
	News	-3.229	3.229	.751	-12.26	5.81
News	Education or research	.236	3.143	1.000	-8.64	9.12
	Entertainment	3.784	3.204	.645	-5.20	12.77
	Social networking	3.229	3.229	.751	-5.81	12.26

*. The mean difference is significant at the 0.05 level.

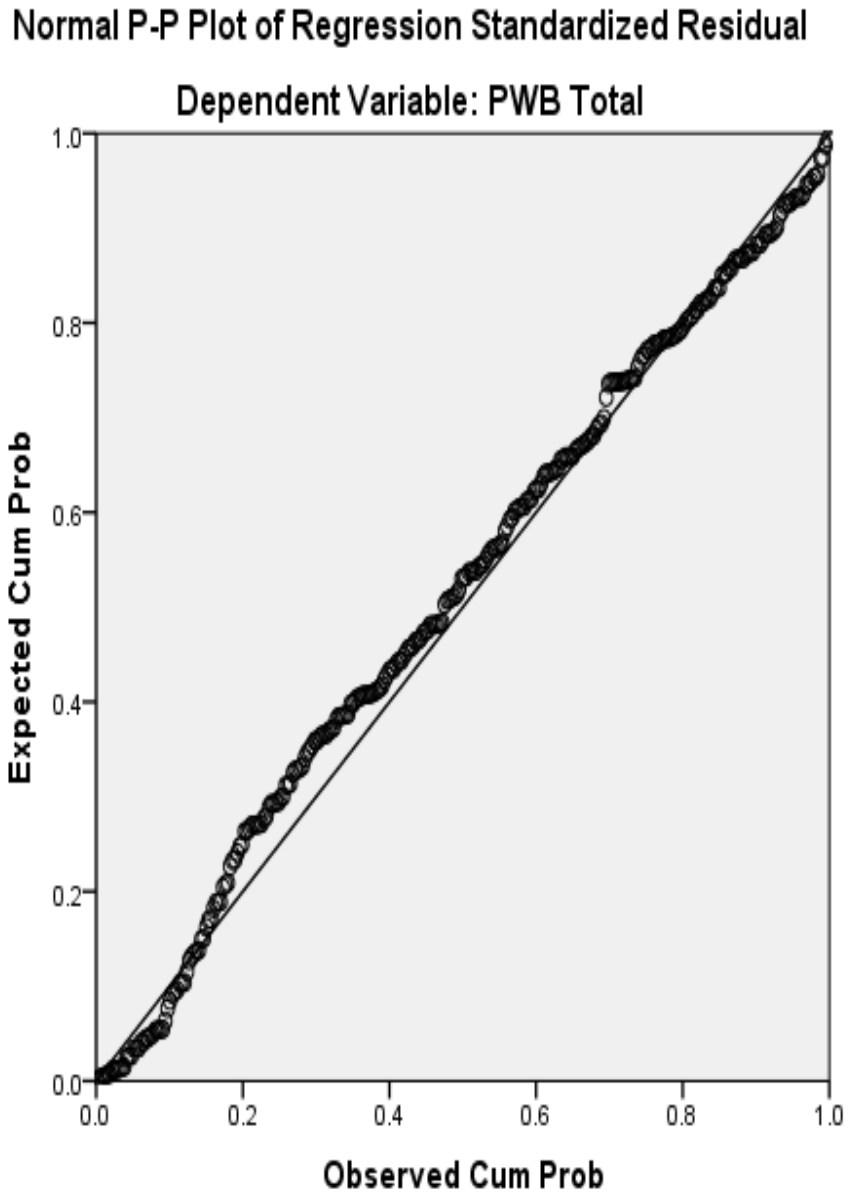
Appendix G (post hoc comparison)- PWB difference based on average time spent online

Tukey HSD Post Hoc Comparison

(I) Average time spent online	(J) Average time spent online	(I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
≤ 2 hours	> 2 and up to 4 hours	2.093	1.214	.314	-1.05	5.24
	>4 and up to 6 hours	2.983	1.412	.156	-.70	6.67
	over 6 hours	7.083*	2.199	.013	1.18	12.99
> 2 and up to 4 hours	≤2 hours	-2.093	1.214	.314	-5.24	1.05
	>4 and up to 6 hours	.891	1.511	.935	-3.05	4.83
	over 6 hours	4.990	2.264	.138	-1.06	11.04
>4 and up to 6 hours	≤ 2 hours	-2.983	1.412	.156	-6.67	.70
	> 2 and up to 4 hours	-.891	1.511	.935	-4.83	3.05
	over 6 hours	4.100	2.376	.322	-2.21	10.41
Over 6 hours	≤ 2 hours	-7.083*	2.199	.013	-12.99	-1.18
	> 2 and up to 4 hours	-4.990	2.264	.138	-11.04	1.06
	>4 and up to 6 hours	-4.100	2.376	.322	-10.41	2.21

*. The mean difference is significant at the 0.05 level.

Appendix H- Linear relationship



Appendix I- Normal distribution