

**Addis Ababa University**

**College of Education and Behavioral Studies**

**School of Psychology**



**Relationship of Problematic Social Media Use and Depression  
Among Addis Ababa University Main Campus Regular  
Undergraduate Students**

**By: Haileleul Mekonnen, MD**

**A Thesis Submitted to the School of Psychology, College of Education and  
Behavioral Study, Addis Ababa University for the Partial Fulfillment of the  
Requirements for the Degree of Masters of Arts(MA) in Counseling  
psychology**

**MAY 2024  
ADDIS ABABA, ETHIOPIA**

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MAY 2024

ADDIS ABABA, ETHIOPIA

## **DECLARATION**

I hereby declare that this thesis is my original work and has not been presented for a degree in any other university, and all sources of material used for this thesis report have been duly acknowledged.

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Date: **12/05/24 GC**

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## LIST OF ABBREVIATIONS AND ACRONYMS

AAU	Addis Ababa University
AAUMC	Addis Ababa University Main Campus
AOR	Adjusted Odds Ratio
BSMAS	Bergen's Social Media Addiction Scale
CI	Confidence Interval
DSM	Diagnostic and statistical Manual of Mental Disorders
EDPM	Education and Planning Management
IA	Internet Addiction
MDD	Major Depressive Disorder
NPV	Negative Predictive Value
NR	Non response
PHQ-9	Patient Health Questionnaire 9
PPV	Positive Predictive Value
PSMU	Problematic social media use
SMU	Social media use
SPSS	Software Program for Social Science
TPB	Theory of Planned Behavior
WHO	World Health Organization
USA	United States of America

## Abstract

*Problematic social media use (PSMU) and its potential link to depression among university students have become significant areas of concern. This study aims to explore the prevalence of PSMU and its relationship with depression symptoms and identify demographic factors associated with level of depression among undergraduate students at Addis Ababa University's main campus. A cross-sectional survey was conducted among 316 students using a stratified random sampling method from March to April 2024. Data were collected using standardized questionnaires, including the Bergen Social Media Addiction Scale (BSMAS) and the Patient Health Questionnaire-9 (PHQ-9). Descriptive statistics and logistic regression analysis were employed to analyze the data. The study found that 17.1% of the respondents exhibited problematic social media use. Additionally, the prevalence of depression was found to be 77 (24.3%:95% CI :19.7-29.5) with 4.4% of the participant found to have severe depression. The odds of depression are 1.6 times higher in those compared to non-problematic social media users (AOR = 1.62; 95% CI: 1.4-1.8;  $p < 0.0001$ ). Moreover, individuals who frequently use social media to watch pornography have a 14 times greater likelihood of experiencing depression compared to those who do not watch pornography at all. Compared to men, female students report greater levels of depression. The findings indicate a high prevalence of PSMU among undergraduate students at Addis Ababa University and a significant association with depression symptoms. These results highlight the need for targeted interventions to address PSMU and its mental health implications among university students.*

**Keywords:** *Problematic social media use (PSMU), Depression, TikTok, Social media addiction, Addis Ababa University.*

# CHAPTER ONE: INTRODUCTION

## 1.1 Background to the Study

Social media is a way of communication that is an electronic communication platform, such as websites for social networking, where individuals create virtual communities to share information, ideas, and personal messages (Smith & Anderson, 2018). It is a global phenomenon, connecting people worldwide and creating a sense of a smaller, interconnected village.

In recent years, the ubiquitous presence of social media platforms has profoundly influenced the lives of young adults worldwide, including university students. Social media platforms such as Facebook, Instagram, and Twitter offer unprecedented opportunities for connectivity, information sharing, and social interaction (Boyd & Ellison, 2008). However, alongside these benefits, concerns have arisen regarding the potential adverse effects of excessive social media use on mental health, particularly its association with depression among young adults.

Studies by Kross et al. (2013) and Primack et al. (2017) have demonstrated that increased engagement with social media can lead to declines in subjective well-being and heightened levels of depressive symptoms among young adults in various cultural contexts. Meta-analytic findings by Vannucci et al. (2020) further underscore the consistent association between problematic social media use and increased risk of depression across diverse populations.

Research from countries like South Africa (Cheung et al., 2014) and Nigeria (Olumide et al., 2017) has highlighted the prevalence of problematic social media use among African youth and its correlation with adverse mental health outcomes, including depression and anxiety. Cultural factors, as explored in studies from Kenya (Muthee et al., 2019), also influence the impact of social media use on mental health among African youth.

Studies in Africa done by Matara (2017) in Kenyan universities identified significant social media consumption, with the University of Nairobi leading in users. Additionally, Ogaji et al. (2017) explored social media patterns among pharmaceutical undergraduates at Kenyatta University, emphasizing WhatsApp and YouTube as primary platforms for leisure and academic information sharing. These findings emphasize the high social media usage among university students and warrant an examination of its potential correlation with depression levels.

Depression is a global mental health concern that affects over three million individuals worldwide, with major depressive disorder (MDD) contributing significantly to disability. In the U.S., approximately 16.1 million aged 15 to 44 experience major depressive disorder annually. Africa, including Ethiopia, faces substantial challenges, with millions affected by depressive disorders (WHO, 2017; WHO, 2018).

Among university students, Numerous studies, including Wahed and Hassan (2017), highlight the alarming rates of depression among university students. The effects of depression extend beyond mental and academic performance, as evidenced by studies from Tahir et al. (2021), Bisson (2017), and Wanyoike (2015). To address this issue, understanding the causes of depression is crucial, making the proposed study on the relationship between social media use and depression among university students at Addis Ababa University.

In Ethiopia, the rapid expansion of social media usage has paralleled the country's increasing access to the internet, particularly among young adults and university students. Study done by Mengistu et al. (2021) on the prevalence and factors associated with problematic Internet Use among Dilla university students found that a high prevalence of problematic Internet use and there were various factors associated with increased prevalence of problematic Internet use. Although this study tried to highlight the prevalence of internet use among university students, it

didn't show problematic social media use which is different from the general problematic internet use.

There are few literatures that showed the prevalence of internet use and associated factors among different university students. However, on manual and different journal searches, there is scarce literature that reveals the relationship between problematic social media use and depression rate among Ethiopian university students, including the current study area.

Furthermore, this study addressed important interconnected factors that could be managed by stakeholders. It aimed in providing students with information on safe, beneficial, and healthy Internet practices and to help control psychological issues among them. Therefore, this study aimed at evaluating how widespread problematic social media use is and its relationship with depression among undergraduate students at Addis Ababa University.

## 1.2 Statement of the Problem

With the continuous evolution of technology, the increase in internet coverage, and the regular emergence of social media applications, young people have increasingly shifted towards online interactions rather than traditional face-to-face communication. Various activities are now predominantly conducted through diverse online social media platforms.

As of April 2024, globally social media users reached 5.07 billion, with an additional 2259 million users in the last 12 months, resulting in 62.9% worldwide social media usage (Kepios,2024). This data shows the rapid increase in the social media users with a significant proportion being young people.

In the United States of America (U.S.A), digital consumers spend approximately 2.5 hours daily on online socializing, with 69% of adults using more than one social media platform. On average, an American internet user has 7.1 social media accounts, and 88% of U.S. citizens' social media users aged 18 to 29 find it challenging to function without social media. These statistics highlight the prevalent use of social media, especially among young adults and university students (Kepios,2024).

Existing literature highlights the heightened use of social media among young individuals, particularly those enrolled in universities. Hussain (2012) conducted a study which revealed that university students are among the most active users of social media, utilizing these platforms for both academic and social purposes. Similarly, Dahlstrom et al. (2011) found that a significant proportion of university students spend multiple hours daily on social media. Parr (2015) demonstrated that social media serves as a crucial tool for communication and information sharing among students, influencing their academic performance and social interactions.

Furthermore, Matara (2017) noted that the use of social media among university students is driven by the need for social connectivity and engagement, which often leads to excessive use.

A systematic review by Keles et al. (2020) revealed that the prevalence of problematic social media use among university students ranges from 13% to 31%. In the United States, Primack et al. (2017) found that approximately 29% of university students reported experiencing problematic social media use.

Meta-analytic findings further showed the consistent association between problematic social media use and negative mental health outcomes among university students. Vannucci et al. (2020) conducted a meta-analysis that found an average prevalence of 24.5% for problematic social media use among this demographic. The analysis confirmed consistent associations between problematic use and increased risk of depression. Additionally, Wang et al. (2018) noted that 22.3% of Chinese university students met the criteria for problematic social media use, with female students more likely to report such behaviors compared to male students.

Regionally, studies have reported varying prevalence rates of problematic social media use among university students. In South Africa, Cheung et al. (2014) found that 12.8% of university students exhibited problematic social media use. These findings suggest that a significant number of university students worldwide are affected by problematic social media behaviors.

Concurrently, a literature review has revealed varying levels of depression among university students on a global scale. Wahed and Hassan (2017) reported that a substantial percentage of university students experience depressive symptoms. A study by Kulsoom and Afsar (2015) found that the prevalence of depression among university students in Saudi Arabia was notably high, highlighting the mental health challenges faced by this demographic. Peltzer et al. (2013)

conducted a cross-national study which identified high levels of depressive symptoms among university students in low- and middle-income countries, indicating that this is a widespread issue affecting students across different cultural and economic contexts. A study by Othieno et al. (2014) further illustrated the severity of this problem in Kenya, where a significant proportion of university students were found to suffer from moderate to severe depression.

The relationship between problematic social media use and depression among university students is a significant concern globally, with research highlighting consistent patterns across different areas. Meta-analytical studies by Kircaburun and Griffiths (2018) and Vahedi and Saiphoo (2018) have demonstrated a robust positive correlation between social media addiction and depressive symptoms among college students, showed the widespread nature of this issue. In the USA, studies such as those by Hunt et al. (2018) have further elucidated how excessive social media use, particularly platforms emphasizing image-centric content and social comparison, contributes to increased feelings of anxiety and depression among university populations. Similarly, research by Chukwuere et al. (2020) in Africa has shown that university students experience similar negative effects from social media use, including heightened stress levels and diminished psychological well-being.

These findings collectively suggest that while social media provides valuable benefits for university students, such as enhanced communication and information sharing, it also poses risks to their mental health, particularly in the form of increased depressive symptoms.

Given the observable surge in social media utilization and the concurrent rise in depression levels among undergraduates, it becomes imperative to investigate the potential correlation between social media use and depression in this population.

Despite the global and regional recognition of these issues, there is a lack of comprehensive research focused on Ethiopian university students, particularly those at Addis Ababa University. This gap in knowledge suggests the need for this study to assess the prevalence and impact of problematic social media use on depression among regular undergraduate students at Addis Ababa University.

### **1.3 Research Questions**

The investigation was based on the following research question:

1. What is the prevalence of problematic social media use among Addis Ababa University undergraduate students on the Main campus?
2. How does problematic social media use relate to the presence of depression symptoms?
3. How does demographic factors relate with depression symptoms?

### **1.4 Objective of the study**

#### **1.4.1 General objective**

The major objective of the study is to examine the relationship between problematic social media use and depression levels among Addis Ababa University's main campus undergraduates.

#### **1.4.2 Specific Objectives**

1. To determine the prevalence of problematic social media use among students at Addis Ababa University's main campus.
2. To examine the relationship between problematic social media use and the presence of depression symptoms among students at Addis Ababa University's Main campus.
3. To determine the association between demographic factors and the level of depression among students at Addis Ababa University's main campus.

## 1.5 Significance of the study

The rise of social media has revolutionized the way individuals communicate, interact, and share information. This transformation is particularly pronounced among university students.

This study, focusing on Addis Ababa University main campus regular undergraduate students, aims to explore the prevalence and relationship of problematic social media use (PSMU) and depression. The significance of this study lies in its potential to fill critical research gaps, inform policy and intervention strategies, and contribute to the broader understanding of social media's impact on mental health within an Ethiopian context.

One of the primary significance of this study is its potential to address a notable research gap. While numerous studies have explored the relationship between social media use and mental health in Western contexts, there is a scarcity of research focusing on African populations, particularly Ethiopian university students. This study will provide much-needed empirical data on the prevalence of PSMU and its correlation with depression among Addis Ababa University students, offering insights that are directly relevant to the Ethiopian context.

Depression are often under-recognized and under-treated in many developing countries, including Ethiopia. This study aims to raise awareness about the potential mental health risks associated with excessive social media use. By highlighting the prevalence of PSMU and its association with depression, the study can contribute to a broader understanding of these issues among students, faculty, and administrators at Addis Ababa University. Increased awareness can lead to more proactive measures to identify and support students struggling with mental health issues, ultimately fostering a healthier university environment.

The findings of this study have significant implications for policy and intervention strategies at Addis Ababa University and potentially other educational institutions in Ethiopia. Understanding the relationship between social media use and depression can inform the development of targeted interventions aimed at promoting healthy social media habits and improving mental health support services. Additionally, mental health services could be tailored to address the specific needs of students who exhibit signs of PSMU and depression, ensuring timely and effective support.

This study can serve as a foundation for future research in the area of social media use and mental health among Ethiopian students. By providing empirical data and insights, it can stimulate further investigations into the causal mechanisms underlying the relationship between PSMU and depression.

While this study is localized to Addis Ababa University, its findings will contribute to the global literature on social media use and mental health. By providing data from a non-Western context, the study can enhance the diversity and comprehensiveness of existing research.

For educators and administrators, the study provides evidence-based insights that can inform the development of curricula and programs aimed at promoting digital literacy and mental well-being. Health professionals, including counselors and psychologists, can use the findings to enhance their understanding of the digital behaviors of university students and tailor their interventions accordingly.

By addressing a critical research gap, enhancing mental health awareness, informing policy and intervention strategies, guiding future research, and contributing to global literature, the study holds the potential to make a substantial impact on the understanding and management of mental

health issues related to social media use. The practical applications of the study's findings can lead to improved mental health and academic performance, promoting the holistic development of students and encouraging responsible social media use.

Ultimately, this study aims to contribute to the well-being of university students and foster a healthier, more supportive educational environment.

## **1.6 Scope and Limitation of the Study**

This research specifically targeted undergraduate students at Addis Ababa University's Main campus. Consequently, the conclusions drawn from this study are applicable to university students with similar socio-demographic characteristics.

The study is specifically designed to investigate the relationship between problematic social media use and depression, focusing solely on this aspect of mental health. As a result, the findings should not be generalized to represent other mental health issues among students who use social media.

To narrow down the scope, this investigation concentrated within the context of seven specific social media platforms: Telegram, Twitter, Instagram, TikTok, YouTube, WhatsApp and Facebook. Conclusions and insights from this study are restricted to these seven forms of social media, excluding any other platforms.

It's important to note that this study employs a correlational study method, and therefore, it does not establish a cause-and-effect relationship between social media utilization and the level of depression. However, the outcomes may serve as a valuable basis for future cause-and-effect studies. The researcher made an effort to include certain socio-demographic characteristics, such

as gender, year of study and study department as part of the study to account for potential intervening factors in the research findings.

## 1.7 Operational Definitions

**Social Media** :- refers to electronic communication platforms, such as websites for social networking and micro blogging, where individuals create virtual communities to share information, ideas, and personal messages (Smith & Anderson, 2018).

**Social Media Use**:- refers to the engagement and interaction of individuals with online platforms designed for social networking, communication, content sharing, and community building(Kuss & Griffiths, 2017).

**Social Media Addiction**:- is defined as a pattern of behavior where individuals excessively engage with social media platforms beyond what is considered normal or healthy (Andreassen et al., 2016). This term is used interchangeable with problematic social media use in different literatures.

**Problematic Social Media Use(PSMU)**:- refers to the excessive, compulsive, or dysfunctional use of social media platforms, leading to negative consequences such as impaired daily functioning, psychological distress, or interference with real-life relationships(Andreassen et al., 2016). In this study Bergen social media addiction scale (BSMAS) was used to measure the presence of problematic social media use with study participants with BSMAS score of 19 and above are said to be problematic social media users.

**Internet addiction(IA):-** Defined as excessive or poorly controlled preoccupations, urges, or behaviors related to computer use and internet access that result in impairment or distress(Shaw & Black, 2008). It is a broader definition than problematic social media use.

**Depression:-** is a mood disorder characterized by persistent sadness, loss of interest or pleasure in activities once enjoyed, changes in appetite or weight, difficulty sleeping or oversleeping, energy loss, feelings of worthlessness, and thoughts of death or suicide((American Psychiatric Association, 2013).

Participants with PHQ-9 score of 5 and above are said to have depression and furthermore the severity of depression were also classified according to the total score of PHQ-9 as follows;

- Mild depression: PHQ-9 score 5 - 9
- Moderate depression: PHQ-9 score 10-14
- Moderately severe depression: PHQ-9 score 15 - 19
- Severe depression: PHQ-9 score 20 -27(Kroenke & Spitzer, 1999).

## **CHAPTER TWO: LITERATURE REVIEW**

### **2.1 Introduction**

This section provides findings on prior investigations regarding the prevalence of problematic social media use and the relationship between depression symptoms and other associated factors.

### **2.2 Prevalence of Problematic Social Media Use**

Problematic Social Media Use(PSMU) has been defined as the excessive, compulsive, or dysfunctional use of social media platforms, leading to negative consequences such as impaired daily functioning, psychological distress, or interference with real-life relationships(Andreassen et al., 2016).

Problematic social media use among university students varies widely, with reported rates ranging from 0.8% to 47.7% in different studies(Fernández-Villa et al., 2015; Marahatta et al., 2015). The majority of research indicates that excessive Internet usage negatively impacts physical health, family relationships, and academic achievement.

Studies conducted in various countries have showed significantly different estimates. For instance, the prevalence of problematic Internet use among college students was very low in Italy 0.8% a study by Fernández-Villa T.,et al.(2015), whereas in the UK, the prevalence rate has been reported as high as 18%(Niemz et al., 2005).

Tateno et al. (2018) investigated the prevalence and assessment of Internet addiction (IA) among Japanese college students through cross-sectional surveys conducted in 2014 and 2016, involving 1005 respondents with a mean age of 18.9 years. The findings revealed that 21.6% of students found to have internet addicted which is highly prevalent among college students.

Another similar study by Yu and Shek (2013) conducted a longitudinal study on Hong Kong adolescents, found that 22.5% met the criterion for Internet addiction by Wave 3, down from 26.4% at Wave 1 and 26.7% at Wave 2. Additionally, the study revealed that male students were more prone to problematic Internet use.

Another cross-sectional study done in India involving 384 dental students aimed to assess the prevalence of Internet addiction (IA) and its relationship with depression and academic performance found that 6% of students were addicted to the Internet, and 21.5% experienced depression with first-year students had the highest mean Internet addiction score with chatting being the primary use of the Internet(Kumar et al., 2018). These findings highlight the negative impact of Internet addiction on mental health and academic performance.

A cross-sectional study done to investigate the association between depression and problematic use of social media among pharmacy students in the United Arab Emirates found that the extent of problematic use of social media was similar between pharmacy students (49.8) and students in non-pharmacy disciplines which was 52.7%(Saigh et al., 2022).

Ali et al. (2017) conducted a cross-sectional survey to determine the prevalence and associated factors of Internet addiction (IA) among medical students at Sohag University, Egypt. The study, involving 587 students from three medical faculties, found a high IA prevalence rate of 47.7% using Young's 20-item scale. Significant predictors of IA included male gender, internet access via mobile phones, easy internet access at home, frequent use of social media and email, and poor family relationships.

A pilot study conducted at Ugandan public university among medical students examined the association between problematic internet, social media, and smartphone use with depression symptoms. The study found that 16.73% of the students reported moderate to severe depression symptoms. Prevalence rates for being at risk of smartphone addiction were 45.72%, social media addiction 74.34%, and internet addiction 8.55%(Sserunkuuma et al., 2023).

A study conducted at Dilla University, Ethiopia, found a high prevalence of problematic Internet use among undergraduate students, with 19.4% exhibiting symptoms according to Young's Internet Addiction Test(Mengistu et al., 2021). Significant factors associated with this behavior included male gender , depression, and the consumption of khat or caffeinated drinks. This finding is comparable with the global studies.

Another cross-sectional study done among 1,232 university students in southern Ethiopia found that 42.3% reported problematic social media use, indicating a significant prevalence of issues related to excessive use of social media among undergraduate students in the region (Mengistu et al., 2023).

Similarly, an institutional based cross sectional study conducted to examine the prevalence of internet addiction and its contributing factors among regular undergraduate students at Jimma University in south-west Ethiopia found 53.6% of participant having internet addiction(Amano et al., 2023). This study showed, internet addiction is prevalent among students and is linked to various psycho social, academic, and purpose-related aspects of internet use.

Even though problematic Internet use is becoming a serious problem and highly prevalent across the world, there is no much study done among Ethiopian university students.

## 2.3 Prevalence of Depression Among University Students

Depression among university students has been extensively studied due to its significant impact on mental health and academic performance. Various studies have highlighted the prevalence and associated factors contributing to depression in this population.

A systematic review and meta-analysis aimed to assess the prevalence of depression among Chinese university students, compiling data from 113 studies retrieved through electronic databases revealed the overall prevalence of depression 28.4% (95% CI: 25.7% to 31.2%). The findings underscored a persistently high prevalence of depression among Chinese university students (Gao et al., 2020).

Another systematic review done on the prevalence of depressive symptoms among university students in low- and middle-income countries (LMICs) based on data extracted from 37 studies published between 2009 and 2018 found that the overall prevalence of depressive symptoms among university students was estimated to be 24.4% (95% CI, 19.2% - 30.5%), highlighting a substantial burden of depression in this population (Akhtar et al., 2020).

A survey carried out by the American College Health Association revealed that 3,075 college students, accounting for 20% of those surveyed, had received a diagnosis of depression (American College Health Association, 2020).

The study conducted at the University of Patras in Greece employed an analytical cross-sectional design to assess depression prevalence among participants and revealed that 17.4% of students experienced depression, with 12.7% categorized as having borderline depression and 4.7% as clinical depression (Konstantinos et al., 2017). These study evidenced the prevalence of

depression among university students in Patras and highlight various sociodemographic and educational factors influencing its occurrence.

The study conducted at Punjab University, India aimed to assess the mental health status of students revealed an alarming prevalence rate of 59.2% for depression among the students(Singh et al., 2017). This study highlighted significant mental health challenges faced by university students.

A study conducted among 1,206 university students in Western Nigeria revealed that 8.3% of students met the criteria for depressive disorder, comprising 5.6% with minor depressive disorder and 2.7% with major depressive disorder. This finding showed the significant prevalence of depression among university students in Nigeria(Adewuya et al., 2006).

Similarly, a cross-sectional study at Obafemi Awolowo University in Nigeria investigates the prevalence of depression and its associations with sociodemographic, social among undergraduate students revealed a notable prevalence of depression with 7.0% of students experiencing severe depression and 25.2% reporting moderate to severe depression(Peltzer et al., 2013).

A cross-sectional study conducted among Bachelor of Medicine and Surgery students in Uganda assessed the prevalence of depression using the PHQ 9 questionnaire, the prevalence of depression was found to be 21.5%, with the majority experiencing moderate depression(Olum et al.,2020). This finding is comparable with that of study by Peltzer et al., (2013) and with that of the global results.

A meta-analysis and comprehensive review conducted to observe the prevalence of depression among university students in Ethiopia found a pooled prevalence of depression of 28.13%. Significant factors associated with depression included being female, being a first-year student, and having a family history of mental illness. This study revealed that more than one-fourth of students at Ethiopian universities experienced depression (Anbesaw et al., 2023).

Another systematic review and meta-analysis done to evaluate the prevalence of depression among high school, college, and university students in Ethiopia. The pooled prevalence of depression was 35.52% which is higher than the previous finding done by Anbesaw et al. (2023). This systematic review and meta-analysis highlight a substantial mental health burden, with more than one-third of Ethiopian students experiencing depression (Fentahun et al., 2024).

A study done to determine the prevalence of depression and its associated factors among Ambo University students indicated that 32.2% of the participants were experiencing depression. Factors significantly associated with depression included being female, with females being four times more likely to experience depression compared to males (Birhanu & Hassen, 2016).

Another cross-sectional study conducted at Debre Birhan University investigated the prevalence of depression and found that 17.1% of the undergraduate students were experiencing depression. The study identified significant factors associated with depression, including being female, academic year and alcohol use (Tamene & Dagne, 2021).

An institutional-based cross-sectional study conducted at Arsi University in Oromia, Ethiopia aimed to assess perceived stress, depression, and associated factors among undergraduate health

science students found a prevalence of depression 4.4% (Worku et al., 2020). This result is a bit lower than other university studies.

Similarly, a cross-sectional study conducted at Haramaya University aimed to determine the prevalence of depressive symptoms and their associated factors, the study found that 26.8% reported depressive symptoms (Hambisa et al., 2020). This study showed the high prevalence of depressive symptoms among university students.

Another cross-sectional study conducted to assess the prevalence of depression and its associated factors among Jimma University students found a depression prevalence of 28.2% with factors like having a mentally ill family member, being from the college of Social Science and Humanities, engaging in sex after drinking, being hit by a sexual partner, experiencing childhood emotional abuse and promoted academic performance were associated with depression (Ahmed et al., 2020).

A cross-sectional study conducted to assess the prevalence of depression and its associated factors among first-year students at Addis Ababa University Main campus found that, 27.7% of the students experienced depression (Berhanu, 2015). This study is similar with a study done by Hambisa et al., (2020) which shows high prevalence of depression among university students.

The collective findings from various studies examining the prevalence of depression among university students across the globe reveal a significant mental health challenge affecting this population. Across different universities and regions, prevalence rates vary but consistently highlight a substantial burden of depression. Studies consistently identify being female, being a first-year student, having a family history of mental illness, and engaging in substance use as

common factors associated with higher rates of depression. The prevalence ranges from 4.4% to as high as 35.52%, showing the variability across different settings and demographic factors.

## **2.4 Problematic Social media Use and Depression**

Over the past decade, problematic social media use has been identified as a major contributor to the development of depression among university students and existing data indicate a correlation between problematic social media use and depression(Shanshal et al., 2024).

A meta-analysis aimed to explore the relationship between depression and Internet addiction (IA) among adolescents aged 10 to 24, synthesizing data from 42 studies involving 102,769 participants. The analysis confirmed a positive correlation between depression and IA, with adolescents experiencing depressive disorders showing a higher risk of IA, and those with IA exhibiting a higher risk of depressive disorders. Furthermore, IA was found to have a stronger effect on increasing the risk of depression. The findings underscore the bidirectional nature of the relationship between depression and IA in adolescents(Ye et al., 2023).

Another study aimed to evaluate the association between Problematic Social Media Use (PSMU) and depressive symptoms among a nationally-representative sample of young adults in the U.S revealed that PSMU was significantly associated with a 9% increase in the odds of depressive symptoms (adjusted odds ratio [AOR] = 1.09; 95% CI: 1.05-1.13;  $p < 0.001$ ). This study concluded that PSMU was strongly and independently associated with increased depressive symptoms in this nationally-representative sample of young adults(Shensa et al., 2017).

A longitudinal study of 12,043 undergraduate Chinese university students conducted for assessing internet addiction (IA) and depressive symptoms at baseline and 12-month follow-up,

significant associations were found between IA and depression(Yang et al., 2022). The findings suggest bidirectional relationships between IA and depression among students, highlighting common vulnerabilities and possible causal links.

An online large-scale cross-sectional study involving 23,533 Norwegians adults aimed to investigate the relationship between addictive use of social media and video games and symptoms of psychiatric disorders, including ADHD, OCD, anxiety, and depression was done . The study found significant positive correlations between symptoms of addictive technology use and mental health issues, particularly depression(Andreassen et al., 2016). These findings underscore the complex interplay between demographic characteristics, mental health status, and compulsive engagement with modern online technologies.

Another cross sectional study done in Japan aimed to explore the relationship between internet addiction (IA) and depression among university students, along with identifying associated factors revealed that greater severity of IA was significantly associated with higher odds of depression(Seki et al., 2019). These findings underscore the complex relationship between IA, mobile phone use patterns, academic disciplines, and depression among university students.

Similarly, a cross-sectional study was conducted from November to December 2021 among undergraduate pharmacy students in Mosul city, Iraq, to assess social media addiction and depression using specifically designed questionnaires. There was a significant positive correlation between social media addiction and depression, with predictors including using social media for more than 4 hours and poor academic performance(Shanshal et al., 2024). The study concluded that social media addiction and depression are prevalent and related among pharmacy students in Iraq.

Another cross-sectional study was conducted to investigate the association between depression and problematic use of social media among United Arab Emirates university students and problematic social media was identified as an independent predictors of depression. The findings suggest that studying pharmacy may mitigate the impact of problematic social media use on depression among university students(Saigh et al., 2022).

A study conducted among 808 pharmacy undergraduate students across Egypt aimed to assess internet addiction (IA) and its associations with mental health disorders and academic performance and the findings revealed a prevalence of potential IA in 38.5% of students with a strong association was observed between IA and depression, anxiety, and stress collectively(Sayed et al., 2022). These results showed the need for identifying and managing IA among students, alongside addressing associated psychological disorders through appropriate interventions.

A pilot study conducted among 269 Ugandan medical students aimed to investigate the association between online behaviors, smartphone addiction, social media addiction, internet addiction, and depression symptoms during the COVID-19 pandemic. Results indicated a prevalence of moderate to severe depression symptoms in 16.73% of students. Significant predictors of depression symptom severity included various online use behaviors and addictions: smartphone addiction, social media addiction, and internet addiction. Specifically, increased severity of internet addiction was associated with higher depression symptoms(Mamun & Griffiths, 2019).

Ogachi et al. (2019) conducted a study to examine the correlation between pathological internet usage and depression among Kenyan undergraduate students. The findings indicated that a

higher level of internet usage among university students was linked to depression. However the survey didn't say if using social media was one of the reasons undergraduates utilized the internet.

A cross-sectional study assessed Facebook addiction among 422 Ethiopian university students alongside measures of self-esteem, anxiety, depression, and study habits and results indicated a high prevalence of Facebook addiction among participants, with significant associations found between Facebook addiction and lower academic performance, as well as symptoms of anxiety and depression(Dule et al., 2023). This study also shows similarity with the global findings.

Another cross-sectional study conducted among undergraduate students at Dilla University aimed to assess the prevalence of problematic Internet use and its associated factors found a high prevalence of problematic Internet use and depression being significantly associated with problematic Internet use(Mengistu et al., 2021).

Similarly, a cross-sectional study conducted at the University of Gondar involving 1514 undergraduate students revealed depression being significantly associations with problematic Internet use(Tilahun et al., 2024).

The reviewed studies consistently demonstrate a significant association between problematic social media use (PSMU) and depression. However, there is a scarcity of data on the relationship of problematic social media use and depression among Ethiopian university students.

Consequently, this study investigates the relationship between depression and problematic social media use in this population. Additionally, it assesses factor that are associated with problematic social media use and depression .

## **2.5 Social Media Strategies for Reducing Depression Levels**

A study by Rice et al. (2014) emphasized the role of social media in providing an outlet for expressing feelings, including stress, frustration, and anger, which could contribute to depression. Ridout and Campbell (2018) also explored the effectiveness of social networking sites in psychological health interventions among youth, revealing positive outcomes, increased mental health knowledge, and reduced depression through web-based interventions.

A study done by Deady et al. (2016) evaluated the practicality and efficiency of an automatic web-based self-help method for managing symptoms of depression and alcohol consumption in youth, showing a significant reduction in depression and alcohol use outcomes. Naslund et al. (2014) investigated whether peer and social support through social media platforms helped individuals dealing with psychiatric conditions, with findings indicating that social media support minimized isolation and provided hope.

Additionally, a study by Drouin et al. (2018) showed that students with more severe depression symptoms frequently used social media as their primary source of support.

## **2.6 Theoretical Framework**

This segment elucidates the Theory of Planned Behavior (TPB) by Icek Ajzen (1985) and Albert Ellis' (1957) Cognitive Theory of Depression as the conceptual framework guiding this study.

### **2.6.1 Theory of Planned Behavior (TPB) Icek Ajzen's (1985)**

TPB serves as a fundamental approach for predicting and elucidating diverse behaviors. It aims to discern individuals' intentions to engage in specific actions, focusing on behaviors subject to self-control (Ajzen, 1985). The key construct is behavioral intent, shaped by perceptions of the likelihood of desired outcomes and subjective assessments of risks and benefits associated with

the behavior. The TPB, consisting of six components—attitudes, behavioral intention, subjective norms, perceived behavioral control, perceived power, and social norms—has effectively explained various health-related actions. Given its emphasis on intention, motivation, and anticipated outcomes, this model proves pertinent to understanding intentional social media use among university students and forms the foundation for grasping the motivations behind their engagement.

Moreover, the TPB's incorporation of perceived power and perceived behavioral control aligns with the investigation's focus on the intentional use of social media by students and their expectations of outcomes. Notably, the TPB posits that the expected outcomes influencing behavior can elucidate why social media usage might contribute to student depression. If desired outcomes, such as positive social feedback, are not realized, it may lead to a sense of inadequacy and, ultimately, depression.

### **2.8.2 Albert Ellis'(1957) Cognitive Theory of Depression**

The cognitive Theory of Depression believes that dysfunctional thinking leads to intense emotions and maladaptive behaviors. Those individuals with depression tend to focus on negativity, engage in overgeneralization, and disregard positive aspects, which is called cognitive distortion. This theory aligns with this study as social media provides a platform for individuals with depressive tendencies to engage in constant comparisons, fostering feelings of inadequacy and inferiority.

In summary, the literature review has provided a comprehensive overview of studies investigating the relationship between problematic social media use and depression levels among university students.

## **CHAPTER THREE: METHODOLOGY**

### **3.1 Introduction**

The design of the study, target population and sample size, variables, study's setting, and the sampling techniques employed, study tools, study pilot, data gathering and analysis protocols, and data management and ethical considerations are all covered in this section.

### **3.2 Study Design**

The research employs a cross sectional study method to explore the relationship between the use of social media and depression among undergraduate regular students at Addis Ababa University Main campus. The research design allowed to make necessary inferences that can be actionable in the form of suggestions for policies and further research (Simon & Goes, 2011).

### **3.3 Variables of the Study**

The study variables are social media use and level of depression. The independent variables include measures of problematic social media use, encompassing factors such as frequency, types of platforms engaged with and duration of use. Depression serves as the dependent variable, focusing on its severity and symptoms. Control variables are also considered, including gender, year of study and department of study.

### **3.4 Study Location**

This investigation was done in Addis Ababa, Ethiopia among regular undergraduate students at Addis Ababa University Main campus. Addis Ababa is purposively selected having been ranked with the highest speed of internet connection in the country (Adam L. et al., 2024). Addis Ababa is also suitable since it hosts the majority of the public and private Universities and therefore enrolls students from a variety of socioeconomic backgrounds. This allowed to get a diverse sample size as that of the entire university population.

### **3.5 Target Population**

This study targeted 1837 learners undertaking their studies at AAU Main campus, as per the document from the registrar.

#### **Table 1**

*2023/24 Academic Calendar Enrolled Student of AAU, Registrar Office 2024*

College/institute/ school and department	Year I		Year II		Year III		Year IV		Year V		Total	
	F	T	F	T	F	T	F	T	F	T	F	T
<b>College of Education and Behavioral Studies (CEBS)</b>	-	-	54	87	40	153	63	225	-	-	157	465
Edu. Planning & Planning			1	6	7	32	8	44			16	82
Psychology			53	80	18	22	24	33			95	135
Social Sciences & Language Education				1	9	53	17	63			26	117
Science & Mathematics Education					6	46	11	80			17	126
Special Needs Education							3	5			3	5
<b>PGDT</b>	-	-	-	-	-	-	-	-	-	-	-	-
Social Sciences & Language Education											-	-
Science & Mathematics Education											-	-
<b>College of Business and Economics</b>	-	-	628	1,489	249	651	369	855	-	-	1,246	2,995
Accounting and finance			104	249	21	64	65	165			190	478
Economics			43	165	31	131	36	157			110	453
Management			70	235	51	142	47	149			168	526
Public administration & Policy			14	59	13	40	82	136			109	235
<b>School of Commerce</b>	-	-	397	781	133	274	139	248	-	-	669	1,303
Accounting and finance			99	170	24	38	33	54			156	262
Business Adm. & Information System			58	105	57	112	42	73			157	290
Economics			32	73	14	31	17	28			63	132
Logistic & Supply Chain Mgt,			72	143	17	40	16	30			105	213
Management			58	122	8	22	14	29			80	173
Marketing Management			78	168	13	31	17	34			108	233
<b>College of Law and Governance Studies</b>	-	-	64	101	39	87	38	108	33	66	174	362
Law			64	101	39	87	38	108	33	66	174	362
<b>College of Social Sciences</b>	-	-	135	279	35	97	73	145	-	-	243	521
Archeology & Heritage Management			1	4							1	4
Geography and Environmental Science				7	1	6	3	11			4	24
History											-	-
Philosophy											-	-
Political Science & International			44	111	17	39	15	44			76	194
Sociology			56	77			8	12			64	89
Social Antroplogy											-	-
<b>School of Social Work</b>	-	-	34	80	17	52	47	78	-	-	98	210
Social work			34	80	17	52	47	78			98	210
<b>College of Humanities Language Studies ,Journalism and communication</b>	-	-	46	75	50	108	55	96	-	-	151	279
Oromo Language, Literature & Folklore			-		8	15	18	27			26	42
Linguistics					4	6					4	6
Tigna Language, Literature & Folklore											-	-
Modern European Languages											-	-
Amharic Language, Literature & Folklore				5	5	13	3	5			8	23
Foreign Languages and Litature			3	7	20	48	6	12			29	67
<b>School of Journalism and Communications</b>	0	0	43	63	13	26	28	52	0	0	84	141
School of Journalism and Communications			43	63	13	26	28	52			84	141

### 3.6 Sample Size determination

The sample size was on the basis of Kathuri & Pals (1993) method of determining sample sizes.

$$n = \frac{\chi^2 N p (1 - p)}{e^2 (N - 1) + \chi^2 p (1 - p)}$$

Where:

n = sample size required

N = in this situation, the given population size from the sample frame is 1837.

P = Population proportion, assumed to be 0.50

e<sup>2</sup> = the extent of precision with a value of 0.05

X<sup>2</sup> = 3.841.

Based on the above formula, the sample size therefore consisted of 318.

Non response rate taken 10% and final sample size become 350.

### **3.6.1 Sampling strategy**

In this study, the stratified random sampling technique was used to ensure a representative sample of the student population across different departments and academic years. The total student population of 1837 was divided into strata based on the 16 departments and the four academic years (second, third, fourth, and fifth year). A proportional sample size was determined for each stratum, aiming to select a total of 350 students. After determining the distribution for each stratum, simple random sampling was applied within each subgroup.

## **Table 2**

*Proportionate Sampling from Each Department*

Departments	2 <sup>nd</sup> year (Pop/ Sample)	2 <sup>nd</sup> year (M/F)	3 <sup>rd</sup> year (Pop/Sample)	3 <sup>rd</sup> year (M/F)	4 <sup>th</sup> year (Pop/ Sample)	4 <sup>th</sup> year (M/F)	5 <sup>th</sup> year (Pop/Sample)	5 <sup>th</sup> year (M/F)	Total Pop.
Psychology	80 / 15	40 /40	22 / 4	11 / 11	33 / 6	16 / 17	-	-	135
EDPM	6 / 1	3 / 3	32 / 6	16 / 16	44 / 9	22 / 22	-	-	82
Social Science and Languages	6 / 1	3 / 3	32 / 6	16 / 16	44 / 9	22 / 22	-	-	82
Science and Math	1 / 0	1 / 0	53 / 10	26 / 27	63 / 12	32 / 31	-	-	117
Special Needs	-	-	-	-	5 / 1	2 / 3	-	-	5
Law	101 / 19	50 / 51	87 / 17	44 / 43	108 / 21	54 / 54	66 / 12	33 / 33	362
Archaeology	-	-	-	-	4 / 1	2 / 2	-	-	4
Geography	7 / 1	4 / 3	6 / 1	3 / 3	11 / 3	6 / 5	-	-	24
Political Science	111 / 21	55 / 56	39 / 7	20 / 19	44 / 9	22 / 22	-	-	194
Sociology	77 / 15	39 / 38	-	-	44 / 9	22 / 22	-	-	121
Social Work	80 / 15	40 / 40	52 / 10	26 / 26	78 / 15	39 / 39	-	-	210
Oromo Language	-	-	15 / 3	8 / 7	27 / 5	14 / 13	-	-	42
Linguistics	-	-	6 / 1	3 / 3	-	-	-	-	6
Amharic Language	5 / 1	3 / 2	13 / 2	7 / 6	5 / 1	3 / 2	-	-	23
Foreign Language	7 / 1	4 / 3	48 / 10	24 / 24	12 / 2	6 / 6	-	-	67
Journalism	63 / 12	32 / 31	26 / 5	13 / 13	52 / 10	26 / 26	-	-	141

### 3.6.2 Inclusion and Exclusion Criteria

- **Inclusion Criteria:** All undergraduates enrolled at Addis Ababa University Main campus during the study period were eligible for inclusion in the study.

- **Exclusion Criteria:** those who were critically ill were excluded from the study.

### 3.7 Research Tools

A self-reported questionnaire was used to collect the data. The social networking usage scale by Gupta and Bashir (2018) was adopted to capture data on the function of social media utilization. The scale uses a 5-point Likert scale (Always=5, Often=4, Sometimes=3, rarely=2 and never=1).

The presence of problematic social media use was evaluated using the Bergen Social Media Addiction Scale (BSMAS). The Bergen Social Media Addiction Scale (BSMAS) consists of six measures that assess the fundamental components of addiction (i.e., salience, mood modification, conflict, withdrawal, tolerance, and relapse). Each question is answered on a 5-point Likert scale ranging from very rarely (1) to very often (5), resulting in a score ranging from 6 to 30. The BSMAS has been translated into several languages and has shown acceptable psychometric properties across studies (Andreassen et al., 2012).

PHQ 9 scale was adopted to collect data on assessing the level of depression among university students (Kroenke & Spitzer, 1999). This instrument has nine questions that evaluate the frequency with which patients have had depressed symptoms during the last two weeks. The nine questions closely align with the DSM-V's nine criteria for major depressive disorders.

Participants choose from four options: not at all, several days, more than half the days and nearly every day and each question scored from 0 (not at all) to 3 (nearly every day), and the total score ranges from 0 to 27. The lower the score, the less severe the depression level and the higher the score the more severe level of depression (Kroenke & Spitzer, 1999).

- No Depression: is a self-reported depressive symptom identified by the PHQ-9 scale with a score  $< 5$ .
- Mild depression: PHQ-9 score 5 – 9.
- Moderate depression: 10-14.
- Moderately severe depression: PHQ-9 score 15 - 19.
- Severe depression: PHQ-9 score 20 -27 (Kroenke & Spitzer, 1999).

### 3.8 Validity and Reliability of Research Tools

#### 3.8.1 Validity

The study questionnaire assessed together with the supervisor to ensure that entire elements of function of social media utilization, social media use and depression are covered in the questionnaire to enhance the content validity. To further enhance the construct and content validity, social networking usage scale adopted to capture data on the function of social media utilization, Bergen Social Media Addiction Scale (BSMAS) was adopted to measure problematic social media use. Additionally, to measure the level of depression the PHQ 9 tool was adopted. All tools were established valid in past studies(Wang & Gorenstein, 2013; Gupta & Bashir, 2018).

#### 3.8.2 Reliability

The internal consistency strategy was employed to see the study tools' reliability. Cronbach alpha used to statistically confirm the tools' reliability, A Cronbach coefficient of 0.7 or higher is required for an instrument to be considered reliable (Cronbach & Shavelson, 2004). Table 3 shows the comparison of reliability of the original tools and the internal reliability of items after piloting and all tools considered as reliable.

**Table 3**

Comparison of *Internal Reliability Result of Tools Used in The Study and the Original*

Tools		Cronbach's Alpha )	
The Social Networking Usage Scale	32	$\alpha = .83$	$\alpha = .80$

Bergen Social Media Addiction Scale	6	$\alpha = .88$	$\alpha = .94$
The Patient Health Questionnaire(PHQ 9)	9	$\alpha = .89$	$\alpha = .81$

### 3.9 Pilot Study

A pilot investigation was done among medical students of addis ababa university college of medicine and health science. The institution is located in A.A., the capital of Ethiopia. The questionnaires were filled by 10% of the sample size but different population; thus, a total of 35 students were sampled to ensure its structure, wording, and the length of time that participants would be spending in responding to it.

### 3.10 Data Collection Procedures

Approval to proceed with data collection was given from the supervisor, then a support letter was taken from the department and submitted to AAU registrar office and each department. The class representatives in each level of study and department contacted and a 10 minutes online training was given on how to distribute questionnaires to the sampled students. The questionnaire was prepared in soft copy to be filled online and distributed through each department's Telegram groups with the aid of the class representative. Written consent forms were given to read and sign before agreeing to participate in it. The participants were given 30 minutes to fill in the questions independently, since the data was collected online additional time to answer the questionnaire were given as it took more time to navigate through the tool on Google form and to ensure that all the items were adequately responded to.

### **3.11 Data Analysis and Presentation**

This investigation produced quantitative data. Each completed forms were checked for completeness and consistency. Data were entered to MS Excel then exported to SPSS version 29 for analysis. The data on demographic characteristics were analyzed via descriptive statistics. Data on social media utilization and the level of depression were also analyzed through descriptive statistics, explanatory variables such as: sex, department, year of study, frequency of social media use, function of social media use, form of social media use and problematic social media use were analyzed first by bi variable analysis. Based on the p-value ( $< 0.25$ ) of the bi variable analysis, the result of the multi variable analysis was revealed.

### **3.12 Data Management and Ethical Considerations**

A letter was obtained from School of Psychology of AAU. Then an official letter of support was submitted to the AAU registrar's office and each department office of Addis Ababa University's main campus. Confidentiality was maintained at all levels of the study, and the collected information was kept in a secure place.

## CHAPTER FOUR: RESULT

### 4.1 Introduction

This section presents findings from the analysis conducted on determining the prevalence of problematic social media use and its relationship with depression. It includes descriptive and inferential statistics of sociodemographic characteristics, prevalence of problematic social media, the prevalence of depression, the bivariate and multivariate analysis of demographic factors with depression and the correlation of PSMU and level of depression among Addis Ababa University main campus students.

### 4.2 Sociodemographic Characteristics

A total of three hundred sixteen (N= 316) regular undergraduate students from AAU main campus participated. Out of 350 participants from the initial determined sample size, ten (10) were not using any form of social media, 14 participants refused to take part when they gave their consent and the remaining 10 participants had an incomplete response, leaving the final sample of 316 participants.

From the participants, 72 (22.8%) were from the Department of Law, followed by 40 (12.7%) from the Department of Social Work, and 7.9% from the Department of Psychology. Table 4 shows the frequency and percentage of participating departments.

More than half of the participants were male 181(57.3%) and 135(42.7%) were females. Figure 3 shows a pie chart of distribution of participants based on gender.

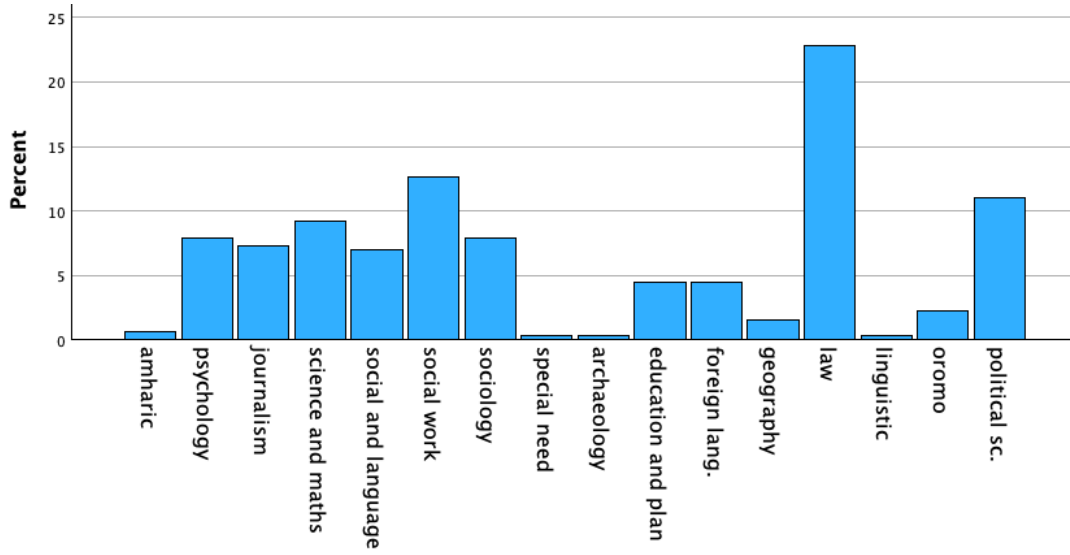
The distribution of students across different years of study was 33.9% second year, 28.5% third year, 33.9% fourth year, and 3.8% fifth year. Figure 2 shows a bar chart of the level of study with respective percentages.

**Table 4***Department of Study of AAU Main Campus Regular Undergraduate Students*

	Frequency	Percent	Valid Percent	Cumulative Percent
<b>Departments</b>	Amharic	2	.6	.6
	Psychology	25	7.9	7.9
	Journalism	23	7.3	7.3
	Science and math	29	9.2	9.2
	Social and language	22	7.0	7.0
	Social work	40	12.7	12.7
	Sociology	25	7.9	7.9
	Special need	1	.3	.3
	Archaeology	1	.3	.3
	Education and planning	14	4.4	4.4
	Foreign lang.	14	4.4	4.4
	Geography	5	1.6	1.6
	Law	72	22.8	22.8
	Linguistic	1	.3	.3
	Oromo lang.	7	2.2	2.2
	Political sc.	35	11.1	11.1
	Total	316	100.0	100.0

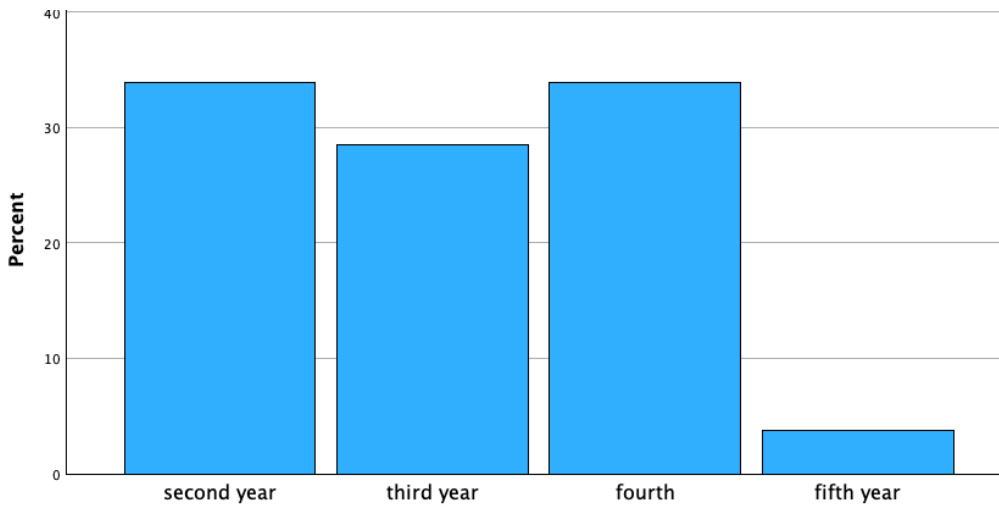
**Figure 1**

*Bar chart of participants department of study*



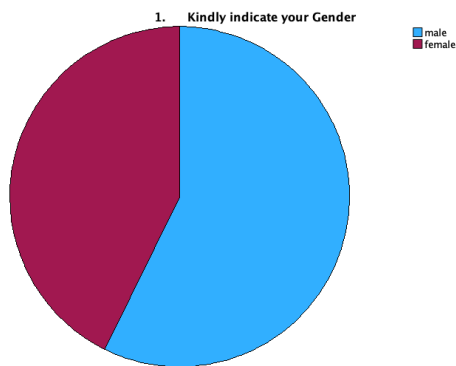
**Figure 2**

*Bar chart of level of study*



**Figure 3**

*A Pie Chart of Distribution of Participants Based on Gender.*



#### **4.2.1 Social Media Platforms**

From the social media platforms, telegram is mostly used 309(97.8%) followed by TikTok 224(70.9%) and YouTube 127(40.2%). Table 5 shows the frequency and percentage of social media platform usage.

**Table 5***Different Types of Social Media Platforms*

Social media platforms	Frequency	Percent
1. Telegram	309	97.8
2. Tiktok	224	70.9
3. YouTube	127	40.2
4. Instagram	70	22.2
5. Facebook	54	17.1
6. Twitter	43	13.6
7. Whatsupp	39	12.3

**4.2.2 Purpose of Social Media Use**

From the participants, 290(99.2%) use social media platforms to chat with friends, 98.3 percent use social media platforms to get updates on academic dates, 310(97.9%) participant use social media for social networking, 307(97%)participants use social media to watch movies and 65(20.5%) use social media to watch pornography. Table 6 shows the frequency and percentage of social media use purpose among the participants.

**Table 6***Purpose of Social media use*

Social media function	Frequency	Percent
1. Utilizing social media for dating	290	93.8
2. To communicate with relatives	298	94
3.To chat with friends	314	99.2
4.For social networking	310	97.9
5.To consult lectures	305	96.3
6.To prepare for exams	124	39.1
7.To get updates on academic's dates	311	98.3
8.To watch music videos	300	94.8
9.To watch movies	307	97.0
10. To watch pornography	65	20.5
11. To publish online content	269	85.1

**4.3 Prevalence of Problematic Social Media Use**

As of now, there is no standard cutoff point for social media users to say it is problematic or not, but most of the researchers use a cutoff point of 19 and 24 based on the Bergen Social Media Addiction Scale (Bányai et al.,2017). A study done in Hungary among a Large-Scale Nationally Representative Adolescent Sample by Bányai et al. (2017) tested different cut points to classify

PSMU and a cutpoint of 19 gave them a sensitivity of 83 %, 99% specificity, 73% PPV, 99% NPV and 98 % of accuracy, with this measurement they recommend 19 as an ideal cut point to classify as at risks of PSMU (Bányai et al.,2017).

In this study using a cutoff point of 19 on the Bergen social media addiction scale (BSMAS), 54 participants (17.1%: 95% CI:13.1-21.7) were classified as problematic social media users. Table 7 shows the frequency and percentage of problematic social media uses.

**Table 7**

*The Frequency and Percentage of Problematic Social Media Use.*

Social Media Use Score	N	%
Non Problematic Social media Use	262	82.9%
Problematic Social Media Use	54	17.1%

The distribution of Problematic Social Media Use (PSMU) among different demographic factors reveals significant variation. Among the participants, 19 males, representing 35.2% of the total male participants, exhibit signs of problematic social media use. In contrast, 35 females, which constitute 64.8% of the total female participants, are affected by PSMU. This indicates that a higher proportion of females are experiencing problematic social media use compared to males.

The prevalence of PSMU varies significantly across different departments. The Law department has the highest number of PSMU cases, with 12 students (22.2%) affected. Following closely are the Social Work department with 7 cases (13%), Journalism with 5 cases (9.3%), and both Science and Mathematics and Education & Planning departments, each with 5 cases (9.3%). The

Psychology department has the fewest cases, with 4 students (7.4%) experiencing PSMU. This distribution suggests that certain fields of study may be more susceptible to problematic social media use, possibly due to varying academic pressures or social environments.

When considering the year of study, the 2nd-year students show a prevalence of 17 PSMU cases, which accounts for 31.5% of this group. The 3rd-year students have the highest number of cases, with 20 students affected, representing 37% of the total. In the category of 4th year and above, there are 17 PSMU cases, also making up 31.5% of the students in this category. This data indicates that PSMU is relatively evenly distributed across different years of study, though 3rd-year students exhibit a slightly higher tendency towards problematic use. Table 8 shows distribution of PSMU among different sociodemographic factors.

**Table 8***Distribution of Problematic Social Media Use Among Different Demographic Factors*

Demographic Factor	Category	PSMU Cases	Percentage of PSMU Cases
<b>Sex</b>	Male	19	35.2%
	Female	35	64.8%
<b>Department of Study</b>	Law	12	22.2%
	Social Work	7	13%
	Journalism	5	9.3%
	Science and Mathematics	5	9.3%
	Education & planning	5	9.3%
	Psychology	4	7.4%
<b>Year of Study</b>	2nd Year	17	31.5%
	3rd Year	20	37%
	4 <sup>th</sup> year and above	17	31.5%

#### 4.4 Prevalence of depression

According to the finding, the prevalence of depression was found to be 77 (24.3%:95% CI :19.7-29.5) among Addis Ababa University's main campus regular students. From the participants 14(4.4 %) were found to have severe depression, 40(12.7%) were classified as having mild depression and 17(5.4%) participants were classified as having moderate depression. Table 9 shows the frequency and percentage of depression levels among participants.

Regarding recommendations for social media strategies for reducing the level of depression, 260 participants (82.3%) believe that there is a connection between the use of social media and depression.

Of the participants who believe there is a connection between the use of social media and depression, 52 participants (20%) recommended social media-based strategies to decrease levels of depression.

**Table 9**

*Depression Level Among Addis Ababa University Main Campus Regular Students*

	Frequency	Percent	Valid Percent	Cumulative Percent
Depression level	No	239	75.6	75.6
	Depression			
	Mild	40	12.7	12.7
	Depression			
	Moderate	17	5.4	5.4
	Moderate to	6	1.9	1.9
	severe			
	Severe	14	4.4	4.4
	Depression			
	Total	316	100.0	100.0

#### 4.5 Problematic Social Media Use and Depression

In this study, in order to see the relationship between problematic social media use and depression logistic regression analysis was used. Initially bivariant analysis was and based on the

p-value ( $< 0.25$ ) of the analysis, the result of the multivariable analysis used to determine the presence of relationship between depression and problematic social media use

The analysis reveals that individuals with problematic social media use have a significantly higher likelihood of experiencing depression, with an adjusted odds ratio of 1.62 (95% CI: 1.4-1.8; p-value 0.00001). This indicates that these individuals are 62% more likely to suffer from depression compared to non-problematic social media users. The association is highly statistically significant, as evidenced by the very low p-value (0.00001). Table 10 shows logistic regression analysis of depression and problematic social media use

#### **4.6 Factors Associated With Depression**

In this study, explanatory variables such as sex, department, year of study, frequency of social media use, function of social media use and form of social media use were analyzed first by bivariable analysis. Based on the p-value ( $< 0.25$ ) of the bivariable analysis, the result of the multivariable analysis revealed that sex and utilization of social media to watch pornography were significantly associated with depression. Table 10 shows lists of variables linked to depression among undergraduates on AAU main campus.

The logistic regression analysis indicates that females are significantly more likely to experience depression compared to males, with an adjusted odds ratio of 2.4 (95% CI: 1.328-4.35). The association is statistically significant, as evidenced by the p-value of 0.0001, which suggests a very low probability that this finding is due to chance. The confidence interval further supports this conclusion, as it does not include one and indicates a precise estimate of the increased risk.

The logistic regression analysis reveals high association between frequent use of social media for watching pornography and the likelihood of experiencing depression. Individuals who frequently

use social media for this purpose are 14.05 times more likely to suffer from depression compared to those who never engage in such activities (AOR=14.05; 95% CI: 5.9-32). The association is highly statistically significant with a p-value of 0.00001.

**Table 10**

*Factors Associated with Depression Level in AAU, Main Campus Undergraduates*

Explanatory Variable		Depression Prevalence		Bivariate analysis (COR)	Multivariate analysis (AOR)	P value
		No	Yes			
<b>Sex of respondents</b>	Male	148	33	1		
	Female	91	44	2.168(1.28-3.6)	<b>2.4(1.328-4.35)</b>	0.04
<b>Frequency of TikTok users</b>	Less than one hr.	120	25	1		
	Above one hr.	119	52	2.097(1.22-3.6)	1.6(0.88-2.9)	0.12
<b>Frequency of YouTube</b>	Less than one hr.	51	28	1		
	Above one hr.	188	49	0.47(0.272-0.829)	<b>0.49(0.19-1.25)</b>	0.13
<b>Utilize to watch pornography</b>	Never	230	48	1		
	Often	9	29	15.44(6.89-34.7)	<b>14.05(5.9-32)</b>	0.0001
<b>Social media use</b>	PSMU	4	50	1.65(1.4-1.8)	<b>1.62(1.4-1.8)</b>	0.00001
	No PSMU	235	27	1		

## CHAPTER FIVE: DISCUSSION

### 5.1 Prevalence of Problematic Social Media Use

This study found that 17.1% of the participants show problematic social media use (PSMU), as measured by the Bergen Social Media Addiction Scale (BSMAS). Although the rates vary, this prevalence is consistent with other studies conducted in different regions. For instance, a survey done in the U.S. among young adults by Shensa et al. (2017) found that 44 percent of the adults were using social media problematically, which is significantly higher than this finding. A more similar to this finding done in China by Hou et al. (2019) found that a prevalence rate of 15.9% among university students.

In contrast, a study done among Hungarian university students by Bányai et al. (2017) reported a problematic social media use prevalence of 4.5%, which is lower than this finding. Another study by Andreassen et al. (2016) found a PSMU prevalence of 10% among Norwegian university students. Additionally, a study done in Turkey by Kircaburun et al. (2018) found a prevalence rate of 10.2%, which is still lower than this finding but closer.

The higher prevalence observed in this study could be due to the increasing accessibility of smartphones, the majority of university students' widespread use of social media, as well as the university's constant access to WIFI, both of which may contribute to increased rates of problematic usage.

Due to a variety of methodological problems, including convenience sampling, focusing mostly on college students, and/or having small sample sizes, earlier research revealed a broad range of prevalence rates (Wilson, K. et al,2010; Wolniczak, I.,2013; Zhou, S. X.,2012; Jafarkarimi, H.,2016). For example, among undergraduates of Nigerian universities, the proportion of

problematic social media users was 1.6% (Alabi, O. F.,2013). On the other hand, 47% of Malaysian college students reported PSMU (Jafarkarimi, H. et al, 2016).

Additionally, the prevalence variation might also have resulted from the scale used to assess social media use, the cutoff point used to classify participants as problematic and non-problematic can also contribute to the significant difference among studies.

## **5.2 Prevalence of Depression**

According to the PHQ-9 scale, 24.3% of individuals met the criteria for depression, with 4.4% experiencing severe depression. This finding is comparable to other studies. In a study done by Berhanu, Y. (2015) among freshmans' at AAU main campus students, the prevalence of depression was 27.7% which is similar to this finding, though the study was done among first-year students.

A systematic review done by Ibrahim et al. (2013) reported that, a prevalence range of 10% to 85% for depression among university students worldwide. Another study done by Auerbach et al. (2016) across 23 countries found that a prevalence of 20.3% for major depressive disorder among university students, closely matches this finding.

Another study done among Australian university students by Farrer et al. (2016) found that 26% were having depression, which resembles to this finding. This shows that university students globally face similar mental health challenges, despite the presence of differences in geography, culture, and other psychosocial factors.

The high prevalence of depression in this study could be due to academic pressures, and financial difficulties which can contribute to psychological distress. Furthermore, the socio-political condition (ongoing war in Ethiopia for those who came from war zone areas), and economic

instability in Ethiopia may exacerbate these stressors, leading to higher levels of depression among students.

### **5.3 Relationship Between Problematic Social Media Use and Depression**

This study revealed that a significant positive correlation between problematic social media use and depression. Those Students who were classified as problematic social media users were more likely to report higher levels of depression. This relationship is supported by previous research. For instance, a study done by Keles et al (2020) found that excessive social media use is associated with increased depression, anxiety, and psychological distress among adolescents and young adults. A meta-analysis done by Huang (2017) found that problematic social media use is positively associated with depression.

Another study done in USA among young adults by Shensa et al. (2017) found that individuals with higher social media use were significantly more likely to report depression symptoms. Exposure to idealized pictures and the pressure to uphold an online identity can exacerbate poor self-esteem and feelings of inadequacy, which are recognized previously as depression risk factors. (Kaplan, H. I., & Sadock, B. J. (2022)).In most reviewed studies problematic social media use was strongly associated with depression levels among university students.

The findings from this study show that there is a strong link between problematic social media use and depression among Addis Ababa University students. Students who use social media excessively are more likely to feel depressed than those who don't. This matches with what other studies have found.

For example, a study by Keles et al. (2020) showed that too much social media use is connected to higher levels of depression, anxiety, and stress in young people. Another study by Huang (2017) confirmed that problematic social media use is linked to depression. Additionally, Shensa et al. (2017) found that young adults in the USA who used social media a lot were more likely to have depression symptoms. They explained that seeing perfect images online and feeling pressure to look perfect can make people feel worse about themselves, which can lead to depression. Kaplan and Sadock (2022) also recognized these feelings as risk factors for depression.

Most studies agree that problematic social media use is strongly linked to higher depression levels among university students. This study adds to the evidence that reducing problematic social media use could help lower depression levels among students.

In conclusion, it is important to address problematic social media use to improve students' mental health. Schools, policymakers, and mental health professionals should work together to create strategies that promote healthier social media habits and provide support for those affected by its negative effects. By encouraging a balanced approach to social media use, we can help reduce some of the mental health issues it causes and improve students' overall well-being.

#### **5.4 Frequency and Forms of Social Media Use**

In this study increased depression levels were linked to higher social media usage frequency, yet multivariate analysis could not find a statistically significant correlation. This shows that although using social media often may increase the risk of depression, other important variables also need to be considered. In contrast, a study done by Twenge et al. (2018) reported that excessive screen time, including social media use, is associated with higher levels of depression and anxiety among adolescents.

This study's finding suggests that the way students engage with social media is more important than the amount of time spent on it.

## **5.5 Demographic Factor**

This study identified gender and specific uses of social media (watching pornography) as significant predictors of depression. Female students and those students who frequently use social media to watch pornography had higher odds of experiencing depression. This finding shows a similarity with those of Andreassen, et al. (2016), found that female students use social media problematically.

Additionally, a study done by Primack et al. (2017) found that female adolescents are more likely to experience depression related to social media use than males, supporting this finding of gender difference in the impact of social media use.

Regarding the association between watching pornography and depression, research of Smahelova et al. (2017) explored that frequent exposure to online pornography is associated with higher levels of psychological distress and depressive symptoms among young adults, which is similar to this study.

## **6. Limitations**

This study specifically targeted undergraduates at AAU's main campus. Consequently, conclusions drawn from this study apply to university students with similar socio-demographic characteristics. The study is specifically designed to investigate the relationship between social media use and depression. As a result, the findings should not be used to generalize other psychiatric conditions like anxiety, and stress that are affected by social media use.

The capacity to determine a causal relationship between depression and social media use is limited by the cross-sectional methodology. The directionality of PSMU and depressive symptoms may be improved by both longitudinal research and qualitative evaluations.

## **7 Conclusion and Recommendations**

### **7.1 Conclusion**

The current study identified significant problematic social media use among addis ababa university main campus students. There was strong evidence of association between problematic social media use and depression indicating that students with higher levels of problematic social media use are more likely to experience depression. Additionally, a significant association was observed between depression and female undergraduate students, and significant association was also found between depression and those who use social media to watch pornography.

### **7.2 Recommendations**

Based on the result of this study, the following recommendations were forwarded to different stakeholders:

#### **1. For University students**

- Practice healthy Social Media Use: Establish specific time limits for social media usage and take regular breaks to prevent excessive use.
- Engage in Offline Activities: Balance online activities with offline pursuits such as physical exercise, joining clubs, and participating in face-to-face social interactions.
- Monitor Consumption: Students at universities should employ a variety of designs, such as setting screen time limits and utilizing apps to restrict internet access, to reduce their use of social media.
- Seek Support: Utilize university counseling services if experiencing overwhelming social media use or symptoms of depression.

## **2. For Student Clinic and Counselors**

- Early Detection and Intervention: Implement screening tools to identify students at risk of problematic social media use and depression.
- Individual and Group Therapy: Offer both individual and group therapy sessions focused on managing social media use and coping with depression.
- Collaborate with Departments: Work closely with academic departments to identify students who may benefit from counseling services.

## **3. For Counseling Psychology Department**

- Develop Targeted Programs: Create specialized counseling programs aimed at addressing problematic social media use and its psychological impacts.
- Awareness Campaigns: Conduct regular workshops and seminars to educate students about the potential mental health risks associated with excessive social media use.

## **4. For Universities and colleges**

- Integrate Mental Health Education: Include mental health awareness and digital literacy in the curriculum to help students understand the impacts of social media.
- Provide Resources: Allocate resources for mental health services and ensure students have easy access to counseling and support.
- Promote Healthy Social Media Use: Encourage the development of healthy social media habits through university-wide campaigns and initiatives.

## **5. For Mental Health Advocates**

- Raise Awareness: Organize and participate in campaigns to educate students about the mental health risks associated with problematic social media use and promote healthy digital habits.

- Promote Digital Literacy: Advocate for the integration of digital literacy programs in educational institutions to help students understand the impact of social media on mental health.
- Facilitate Access to Resources: Ensure that students are aware of and have easy access to mental health resources and support services available on and off-campus.
- Advocate for Policy Changes: Work with policymakers to develop and implement policies that promote responsible social media use and support mental health initiatives in educational settings.
- Collaborate with Institutions: Partner with universities, colleges, and schools to design and implement mental health programs targeted to address issues related to social media use.

## **6. For Ministry of Health**

- National Awareness Campaigns: Launch national campaigns to raise awareness about the mental health impacts of problematic social media use.
- Support Research and Training: Fund research on social media use and mental health, and provide training for healthcare professionals on how to address these issues.
- Mental Health Services in Universities: Ensure that all universities have access to adequate mental health services and support structures.

## **7. For Policy Makers**

- Regulate Social Media Use: Develop policies that promote responsible social media use among young people. In this finding, pornography shows a strong association with depression in those who use social media to watch such content, so the country should restrict websites that generate pornographic content
- Support Mental Health Programs: Allocate funding for mental health programs in educational institutions.

### **7.3 Future Research Directions**

To determine the causal linkages between problematic social media usage and depression, future researchers should focus on longitudinal studies. Additionally, exploring the effective interventions that reduce problematic social media use and its outcomes would be valuable.

Qualitative assessments may also help to enhance the directionality of problematic social media use and depression symptoms. Furthermore, assessment of other mental health conditions like anxiety, and stress would help to generalize and widen the scope of the study.

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## APPENDIX A

### INFORMED CONSENT

Dear Respondent, I am a Postgraduate student obtaining a Master's degree in counseling psychology at Addis Ababa University. I am investigating, the Prevalence and relationship of problematic social media use and depression among Addis Ababa University psychology undergraduate students. On this Questionnaire, do not write your name anywhere. Please take the time to carefully read the instructions and respond to each question as honestly as possible. If you have any difficulty comprehending any of the questions, please don't hesitate to ask for help. There is no such thing as a correct or incorrect response; all responses are valid. Your responses and opinions will be treated with strict confidentiality and used solely for the purposes of the study.

Please tick [] or **write down** the answers that echoes your honest opinion. **Please respond to all items.**

Your participation in this investigation is **voluntary**. Please complete the consent form below to certify that you have read the above information and willingly consented to participate in this investigation.

Thank you for your assistance.

Sincerely

Haileleul Mekonnen Tilinty, MD

## Consent

I have read the preceding information and understand that participation in this study is entirely voluntary, and that my privacy and anonymity will be protected. I accept to participate in this activity.

Respondent's signature \_\_\_\_\_ Date \_\_\_\_\_

## APPENDIX A2

### QUESTIONNAIRE

#### SECTION A: DEMOGRAPHIC CHARACTERISTICS

Tick the suitable answer or fill in the spaces provided

1. Kindly indicate your Gender

Male

Female

2. Kindly indicate your level of study

First Year  Second year

Third Year  Fourth Year

Other  Please indicate \_\_\_\_\_

#### SECTION B: FREQUENCY AND FORMS OF SOCIAL MEDIA USE

How frequently do you use the following social media apps in a day, please tick in the appropriate box

S/No	Social Media	Not at all	Less than 1 hour	Less than 3 hour	Less than 5 hour	More than 5 hour
1.	Facebook					
2.	Telegram					
3.	Twitter					
4.	Instagram					
5.	WhatsApp					
6	YouTube					
7	TikTok					

#### SECTION C: FUNCTIONS OF SOCIAL MEDIA USE

This is a questionnaire designed to evaluate an individual's social networking usage. The scale's items are presented in the form of statements. You must carefully read each statement and respond by ticking ( ) just the one that you believe is the most appropriate and true in your situation. There is no right or incorrect answer. Example: I utilize social media for sharing pictures.

Always    Often    Sometimes    Rarely    Never

In the above statement, if you feel the correct response could be Always, then put a tick (√) in that column. Kindly do not leave any statement unattempt. There is no time limit. Your answers will be utilized for research purposes solely and the answers will be always kept confidential.

Sr	Social Function	Always	Often	Sometimes	Rarely	Never
01	I utilize social media for dating					
02	I prefer using social media to communicate with relatives					
03	I utilize social media to acquire information on social occurrences					
04	I utilize social media to chat with friends					
05	I prefer to engage in social media for social networking					
06	I employ social media to keep in touch with the latest gossip					

07	I utilize social media to send and receive photos from families and acquaintances					
08	I use social media to interact anonymously with people					
	<b>Academic Function</b>					
09	I utilize social media applications for virtual class group discussion.					
10	I utilize social media to consult with my lecturers					
11	I prefer using social media to do my academic research work					
12	I utilize social media to prepare for exams					
13	I utilize social media to create multimedia presentations					
14	I employ social media to share study materials					
15	I look in social					

	media sites to get updated on important academic dates					
16	I utilize social media to purchase academic materials					
	<b>Entertainment Function</b>					
17	I utilize social media to watch music videos					
18	I employ social media to view and share memes					
19	I prefer using social media to watch movies					
20	I utilize social media to share audio files					
21	I utilize social media to watch pornography					
22	I utilize social media to listen to music					
23	I utilize social media for video chatting					
24	I engage in social media to create live Videos					

	<b>Informative Function</b>					
25	I utilize social media to follow current news					
26	I utilize social media to get job related information					
27	I utilize social media to share and receive Ideas					
28	I utilize social media for career development					
29	I utilize social media to trade goods and services					
30	I utilize social media to publish content online					
31	I utilize social media for digital marketing					
32	I utilize social media to review products and services					

**Section D: Problematic social media use**

Instructions: For each question, please indicate the extent to which the statement applies to you. Choose the response that best reflects your feelings and behaviors regarding social media use.

	Questions	Very rarely or never	Rarely	Occasionally	Often	Very often
1	I often spend more time on social media than intended.					
2	I feel an urge to use social media more and more.					
3	I have tried to cut down on my use of social media without success.					
4	I become restless or troubled if I am prohibited from using social media.					
5	I use social media so much that it has had a negative impact on my job or studies.					
6	I feel anxious or upset if I cannot check updates on social media.					

**SECTION E: PHQ 9 scale**

This section contains of 9 groups of statements that measure feeling. Kindly read each group of questions keenly and then select the one statement in every group that best defines how you have been feeling for the past two weeks, including today. Circle the number beside the statement you pick. If various statements in the group appear to apply equally well, circle the highest number for that group.

S. №	Over the last 2 weeks, how often have you been bothered by any of the following problems? (Use “✓” to indicate your answer	<b>Not at all(0)</b>	Several days (1)	More than the half days (2)	Nearly every day (3)
1	Little interest or pleasure in doing things				
2	Feeling down, depressed, or hopeless				
3	Trouble falling or staying asleep, or sleeping too much				
4	Feeling tired or having little energy				
5	Poor appetite or overeating				
6	Feeling bad about yourself or that you are a failure or have let yourself or your family down				
7	Trouble concentrating on things, such as reading the newspaper or watching television				
8	Moving or speaking so slowly that other people could have noticed? Or the opposite				

	being so fidgety or restless that you have been moving around a lot more than usual				
9	Thoughts that you would be better off dead or of hurting yourself in some way				
	<b>Total score</b>				

**SECTION F: RECOMMENDATIONS FOR SOCIAL MEDIA STRATEGIES TOWARDS  
REDUCING LEVEL OF DEPRESSION**

Do you think there is a connection between social media and depression?

YES

NO

What social media-based strategies do you think can be adopted to decrease level of depression?

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THANK YOU FOR YOUR PARTICIPATION