ENSIGN GLOBAL COLLEGE

KPONG, EASTERN REGION

IMPACT OF SOCIAL MEDIA USE ON ADOLESCENT MENTAL HEALTH AND

WELL-BEING AT SELECTED PRIVATE SCHOOLS IN

THE GREATER ACCRA REGION GHANA

BY

FEODORA OFOSU OFFEI

(237100241)

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A THESIS SUBMITTED TO THE DEPARTMENT OF COMMUNITY HEALTH, IN THE

FACULTY OF PUBLIC HEALTH ENSIGN GLOBAL COLLEGE IN PARTIAL

FULFILLMENT OF THE REQUIREMENTS FOR THE MASTER OF PUBLIC HEALTH

DEGREE.

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DECLARATION

I hereby certify that except for references duly cited for other people's work, this project submitted to the Department of Community Health, Ensign Global College, Kpong is the result of my investigation under the supervision of Dr. Stephen Manortey, and has not been presented for any other degree elsewhere.

Feodora Offei (237100241)   ……………   06/06/24

(Student's Name & ID)   Signature   Date

Certified by:

Dr. Stephen Manortey   …………   …………

(Supervisor's Name)   Signature   Date

Certified by:

Dr. Stephen Manortey   …………   …………

(Head of Academic Program)   Signature   Date

DEDICATION

To my beloved father, Mr. Emmanuel Kwaku Ofosu Offei, whose unwavering generosity provided the foundation for my academic pursuits.

To my supervisor, Dr. Stephen Manortey, an epitome of kindness and selflessness.

Thank you.

ACKNOWLEDGEMENT

DEFINITION OF TERMS

Term	Definition
Social Media	A dynamic platform that interconnects users, fosters networks, and creates online communities.
Adolescent	A phase of life, which transpires after childhood and before adulthood; specifically, spanning ages 10 to 19 years.
Mental Health	A holistic state of well-being; not merely the absence of disorders.
Mental Well-being	A state which enables people to achieve their capabilities, face challenges, work well, and contribute towards society.
Impact	The effect; positive or negative.
Private Schools	Educational institutions that are independently owned and operated.

ABBREVIATIONS

Abbreviation	Meaning
ACT	Assets Coming Together for Youth Center for Community Action
AOR	Adjusted Odds Ratio
BSMAS	Bergen Social Media Addiction Scale
CI	Confidence Interval
CIS	Council of International Schools
COPPA	Children's Online Privacy Protection Act
COR	Unadjusted Odds Ratio
COVID-19	Coronavirus Disease 2019
DASS-Y	Depression. Anxiety and Stress Scale - Youth Version
FOMO	Fear of Missing Out
GIS	Ghana International School
NEASC	New England Association of Schools and Colleges
NGO	Non-Governmental Organization
OR	Odds Ratio
PAHO	Pan American Health Organization
SOS-HGIC	SOS-Hermann Gmeiner International College
USA	United States of America
WHO	World Health Organization
X	Formerly Twitter

ABSTRACT

Background

In this digital age, the youth in Ghana extensively rely on various internet-connected devices to access social media platforms. The purpose of this study was to analyze the impact of social media use on adolescent mental health and well-being, identify protective factors, and propose evidence-based interventions for a healthier digital future at selected private schools.

Methodology

This was an analytic cross-sectional study that quantified social media usage patterns and its implications on adolescents' mental health and well-being. Quantitative data was collected using a structured questionnaire. A multi-stage sampling technique was employed and data was analyzed with STATA.

Results

High frequency of social media use exhibited a significant association with increased levels of stress, anxiety, and depression among participants. The analysis indicated that gender (**p < 0.001**) and school (**p = 0.029**) showed a statistically significant association with stress level whereas age group (p = 0.508) and grade level (p = 0.259) were not significantly associated with stress level. Approximately 4 out of 5 respondents revealed that they use social media daily. Furthermore, investigating the frequency and duration of social media use revealed notable connections with various mental health outcomes and a commendable response rate of approximately 93.75%.

Conclusion

Social media plays a transformative role in the lives of adolescents in the selected private schools. The study highlighted the correlation between using social media and depression, stress, and anxiety. As well as the relationship between the frequency and duration of social media use distinguished by gender, age group, school, and grade level.

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CHAPTER 1

1.0 INTRODUCTION

1.1 Background

Mental health is not just the absence of disorders but a holistic state of well-being (Larsen, 2022). From the point of view of the Pan American Health Organization (PAHO), mental well-being enables people to achieve their capabilities, face challenges, work well, and contribute towards society (PAHO, 2023). Adolescent mental health, a global concern, affects nearly 15% of those aged 10-19, contributing to approximately 13% of the overall burden (WHO, 2022).

Social media is a dynamic platform that interconnects users, fosters networks, and creates online communities (Kapoor *et al.*, 2018). According to the World Health Organization (WHO), adolescence is commonly referred to as the phase of life which transpires after childhood and before adulthood; specifically, spanning ages 10 to 19 years (WHO, 2022). With social media being a major part of the ecosystem in the case of the digital world, it constitutes one-eleventh (about 11.5) of total time per day, approximately 11.5 billion hours (Harvey, 2014) and adolescents are prolific users worldwide (Kemp, 2023).

Globally, the impact of social media on adolescent mental health remains elusive despite extensive literature such as 'Social Media Use and its Impact on Adolescent Mental Health: An Umbrella Review of the Evidence' (Valkenburg *et al.*, 2021) and 'Reviewing the Impact of social media on the Mental Health of Adolescents and Young Adults' (Gupta *et al.*, 2022). Concerns about the mental health effects of social media on adolescent mental health have intensified, especially with increased online activities during the coronavirus disease (COVID-19) pandemic.

In the United States, 45% of adolescents are online constantly, with concerns about binge usage on platforms such as Instagram and YouTube (Mayo Clinic, 2022).   This covers platforms such as YouTube, Twitter, Snapchat, Facebook, TikTok and Instagram, all of which form our daily routine and is a preferred source of leisure and entertainment for adolescents globally (Kapoor *et al.*, 2018)

Lower age limit, set at 13, aligns with most social media platforms' age restrictions, ensuring compliance with the Children's Online Privacy Protection Act (COPPA) of 1998. Nevertheless, its generalized application stirs debates concerning its effects on adolescent mental health and well-being, calling for further research. In 2018, 54% of American teens accessed the internet almost all day, raising questions about its impact on mental health (Hogan and Strasburger, 2018).

 According to the Assets Coming Together (ACT) Center for Community Action, in 2024, the vast majority of adolescents (96%) reported daily usage of social media, with nearly half (46%) indicating continuous engagement and variations in online activity were observed across different age groups and racial or ethnic backgrounds. Specifically, adolescents aged 15-17 exhibited a higher likelihood of frequent internet use compared to younger teens, with rates at 50% versus 40% respectively (Youth, 2022).

 Prior studies in Ghana have fundamentally focused on academic performance among basic, secondary and tertiary school students including 'The Impact of Social Media on Ghanaian Youth: A Case Study of the Nima and Maamobi Communities in Accra, Ghana' (Markwei *et al.*, 2016). Additionally, there is a study on the 'impact of Social Media use on Ghanaian Secondary School students (Asare-Donkoh, 2018), fixated on the huge impact on academic performance contingent

upon their usage. However, a prominent constraint in this review is the provincial spotlight on 50% of Ghana's districts including Central, Western, Ashanti, Volta, and Northern.

The normality to use the internet in communications has provoked questions about possible challenges among adolescents. This study was pivotal, especially in Ghana, where mental health problems exist but may be stigmatized (Awuah *et al*., 2022). It was in identifying the gap in knowledge concerning mental health and well-being among adolescents who use social media in the well-resourced school settings that this research was conducted at selected private schools in the Greater Accra Region, Ghana.

1.2 Problem Statement

Mental health, akin to physical well-being, exists on a spectrum, with conditions varying in their impact. Notably, not everyone has a clinically diagnosable mental health condition; rather, fluctuations in mental health are universal (Larsen, 2022). The most prevalent mental health conditions are anxiety and depression, which impact 264 million and 280 million individuals globally, respectively (Beyari, 2023). PAHO reports that one in every eight people worldwide live with a mental disorder (PAHO, 2022). Moreover, WHO estimates that about 10% of Ghanaians struggle with various forms of mental illness (Zurek, 2023).

The prevailing challenge in assessing the impact of social media on adolescents' mental health and well-being pertains to the absence of comprehensive and nuanced methodologies capable of delineating the complex interplay between social media use and mental health outcomes (Khalaf, 2023). Thereby, exacerbating the lack of understanding of the diverse ways adolescents engage with social media and the intricate layers of mental health challenges they may encounter. Understanding the diverse ways social media use can impact adolescents' and their mental health

outcomes is crucial due to its profound implications for promoting their overall well-being and development, as well as addressing contemporary societal issues (Odgers and Jensen, 2020).

From inspiring content to educational resources, social media opens doors to endless possibilities and personal growth, yet the global surge in social media usage presents a range of risks and consequences (Kruzan *et al*., 2022). For instance, cyberbullying can be a rife issue on social media, which involves people receiving threatening and humiliating messages, or being harassed, especially youths. This can severely impact mental health, leading to anxiety, depression, and even suicidal thoughts (Kruzan *et al*., 2022). Social media is a facade that shows perfect lives of the users prompting people to make comparisons and feel like they do not measure up to those standards. Such a constant comparison escalated on various platforms may result in low self-esteem, body image and negative feelings of inadequacy (Kruzan *et al*., 2022).

 Moreover, just like problematic drinking and substance use habits, ongoing use of social media may lead to addictive tendencies where people feel like they have to keep refreshing their timelines. This may cause a decline in performance as well as disrupt the normal sleep cycle of a person and also increase social isolation feelings (Kruzan *et al*., 2022). Additionally, misinformation is powerful and can spread extensively within a short period; this explains why fake news, conspiracy theories, and polarizing content reach a wide audience through social media platforms. This fosters the creation of bubbles of isolation where people are only going to get information they already believe in, only resulting in increased polarization of the society.

Existing studies in Ghana have identified a robust link between extensive social media usage and heightened susceptibility to conditions such as depression, anxiety, feelings of isolation, self-inflicted harm, and, in some instances, contemplation of suicide (Keles, McCrae and Grealish,

2020). These are also heightened by the increasing use of smartphones with a constant connection to social media. Although there are numerous upsides for using social media, there are increasing fears over its' possible impacts on one's mental health and well-being (Keles, McCrae and Grealish, 2020). Records indicate that excessive use of social media leads to higher levels of loneliness, depression, anxiety, and negative body image (Vannucci *et al*., 2020).

There is limited research on the impact on mental health and well-being in private schools in the Greater Accra Region of Ghana. In view of this, the study sought to analyze the effects of social media use on the level of depression, stress, as well as anxiety among the students in the aforementioned schools. These mental health problems call for more research efforts and further attempts at formulating proper treatment modalities.

1.3 Rationale of the Study

Indubitably, the burgeoning use of social media among adolescents offers myriad benefits including communicating and being abreast with information, finding new friends and communities; networking with other people who share similar interests or ambitions, an outlet for creativity and self-expression, inspiration, as well as accessing valuable resources (Robinson *et al*., 2020). From inspiring content to educational resources, social media opens doors to endless possibilities and personal growth. This study aims to increase awareness, guide policy development, drive focused interventions, arouse thoughtful debates, and advance more general goals that are in line with improving adolescent mental health and well-being. Consequently, given the chosen educational setting, this study constituted a crucial first step toward a thorough knowledge of the complex interactions between social media and adolescent well-being.

Furthermore, this study acts as a guide for further research where few studies have been made to highlight the various aspects of this intricate connection (Asare-Donkoh, 2018; Gupta *et al*., 2022; Markwei *et al*., 2016; Valkenburg *et al*., 2021). Consequently, mental health and well-being are dynamic aspects of the human experience that change over time. Likewise, social media use! This study will help address the gap in knowledge.

1.4 Hypothesis

H_O: High frequency of social media use is not associated with an increase in mental health scores among adolescents.

H_a: High frequency of social media is associated with an increase in mental health scores among adolescents.

1.5 Research Questions

    a) What is the association between social media usage and the mental health & well-being of adolescents at SOS–HGIC and GIS?

    b) What is the relationship between the frequency and duration of social media use among adolescents at SOS–HGIC and GIS?

    c) Is there any recognizable difference in the prevalence of mental health outcomes among adolescents considering sex and age at SOS–HGIC and GIS?

1.6 General Objective

To comprehensively analyze the impact of social media use on adolescent mental health and well-being, identify protective factors, and propose evidence-based interventions for a healthier digital future at SOS–HGIC and GIS.

1.7 Specific Objectives

1. To describe social media usage patterns among adolescents.

2. To describe the mental health status of the respondents.

3. To examine the relationship between social media use and mental health.

1.8 Profile of Study Areas

An Introduction to SOS–Hermann Gmeiner International College

In Tema, a busy port city, SOS–Hermann Gmeiner International College (SOS–HGIC) is spread out between two serene campuses. The academic campus is situated in Community 6, near ProVita Specialist Hospital and Community Six Seventh-day Adventist Church. The mission of SOS–HGIC is to offer kids from SOS Children's Villages around Africa, along with students from Ghana, a school of academic distinction in a spirit of Pan-Africanism and awareness of societal problems. A dedication to uplifting Africa, active community service, and internationalism in its broadest sense are all part of the school's ideology. Its' educational mission is holistic in nature and aims to develop all students into self-assured adults who can meet the challenges of a rapidly changing world by developing in them critical and analytical skills that will equip them to become compassionate thinkers who are aware of their common humanity, with a belief and pride in themselves as Africans.

Physical Features

The campus spans across a lush landscape, surrounded by verdant vegetation that adds to the tranquil ambiance. The college boasts modern and well-maintained infrastructure, with purpose-built facilities to facilitate academic and extracurricular activities. The college's physical features include state-of-the-art classrooms, laboratories, and a well-equipped library to support the educational needs of its diverse student population. The campus is thoughtfully designed to

provide a conducive environment for learning and personal development. Additionally, recreational spaces such as sports fields and communal areas contribute to the holistic growth of the students.

Population Structure

SOS–HGIC is known for its diverse and inclusive community. The college attracts students from various backgrounds, fostering a rich cultural exchange within its academic environment. The college's commitment to providing quality education is reflected in its diverse student body of 350.

Figure 1: A Map of SOS-Hermann Gmeiner International College (SOS-HGIC, 2023)

An Introduction to Ghana International School

 GIS is a widely recognized and esteemed educational establishment, celebrated for its steadfast dedication to academic brilliance, broad range of extracurricular activities, and fostering of a diverse learning atmosphere. Situated in Cantonments, Accra, GIS endeavors to equip students with a comprehensive, internationally-oriented education that equips them to tackle and conquer the obstacles of a progressively competitive world. The Council of International Schools (CIS)

and the New England Association of Schools and Colleges (NEASC) have granted accreditation to GIS, making it the sole accredited international school in Ghana (GIS, 2023).

Physical Features and Population Structure

GIS has a library, a music department, a French room, a computer lab, and classrooms. There are also two assembly halls, a state-of-the-art cafeteria, a basketball court, and a sports field. The college attracts students from various backgrounds, fostering a rich cultural exchange within its academic environment. There are 45 nationalities and a maximum of 28 students in each class.

Figure 2: Map of Ghana International School (GIS, 2023)

1.9 Scope of Study

The study utilized an analytic cross-sectional study design, mainly gathering primary data. The impact of social media use on adolescent mental health and well-being at selected private schools in Greater Accra, Ghana indicates that the two variables mentioned above have an effect on adolescents and was plausible on the basis that:

   a) Examined the association between social media use & mental health and well-being.

b) Investigated the relationship between the frequency and duration of social media use & mental health outcomes.

c) Identify and analyze data for the prevalence of mental health outcomes.

Therefore, analyzed the impact of social media use on adolescent mental health and well-being, identified protective factors, and proposed evidence-based interventions for a healthier digital future.

1.10 Organization of Thesis

This study provides justification for analyzing the impact of social media use on adolescent mental health and well-being at the selected schools for the purpose of fulfilling the requirements for the master of public health degree. Chapter One serves as an introduction to the research topic, offering detailed background information and context for the study. It includes research objectives and hypotheses, the rationale behind the research, describes the public health problem and describes how the research serves the purpose of responding to the problem and elucidates the significance of the research, as well as its relevance. In Chapter Two, a thorough review of existing research and literature pertinent to the topic is provided. This chapter aims to summarize existing research, identify gaps in research, review studies relevant to the research questions and justify how this health problem fits into the broader field of public health. Chapter Three, known as the methodology chapter, describes the research methods employed in the study. It outlines the sample, research design, procedures, measures, data analysis methodology (For example, Cronbach's alpha) used to collect and analyze data, ensuring the study's validity and reliability.

Chapter Four presents the research's findings and the outcomes of the research hypotheses in a coherent and structured manner, incorporating tables, figures and their corresponding

interpretations. Chapter Five delves into the discussion and interpretation of the key results within the study's context. Chapter Six encapsulates the study's conclusion by summarizing the main findings and outcomes. It also offers insights for future research directions and provides recommendations to pertinent stakeholders based on the study's findings.

CHAPTER 2

2.0: LITERATURE REVIEW

2.1 Introduction

This research aimed to analyze the association between social media usage among adolescents and their mental health and well-being at selected private schools located in Accra, Ghana. The goal was to develop a comprehensive understanding of the complex relationship between social media use and the mental health and well-being of adolescents. Drawing on research studies and global data patterns (Baglari *et al*., 2020), this chapter highlights the research and works of literature that were pertinent to this health issue; both positive and negative outcomes including the need for customized interventions and refined viewpoints that can promote positive outcomes while mitigating potential risks associated with social media activities among this unique demographic. PubMed, Ensigns' Digital Repository database, Google Scholar, Elicit, Frontiers and Hinari were used to conduct literature search.

Social media platforms offer new freely accessible tools for self-expression, social connection, awareness, creative outlet and community engagement to adolescents (Valkenburg *et al*., 2021). Regardless of its potential benefits, excessive and maladaptive use of social media can exacerbate stress, anxiety, and depression among adolescents (Gupta *et al*., 2022). Case in point, the pervasive culture of comparison, Fear of Missing Out (FOMO) and validation-seeking inherent in social media platforms can engender feelings of inadequacy, jealousy, and loneliness.

Moreover, cyberbullying, misinformation, and exposure to harmful content pose significant risks to adolescent mental health and well-being, contributing to psychological distress and disengagement from offline activities (Gupta *et al*., 2022). These negative consequences are

further compounded by the rising prevalence of technological advancements with devices such smartphones, laptops, iPads and tablets facilitating constant access to social media platforms. Some of the free social media platforms being referred to include;

- **Facebook:** Allows individuals to share their views, opinions and contribute to others' posts, share status updates and send messages, as well as share videos and photos.

- **WhatsApp**: Allows users to send text, voice and video messages, create group chats and make calls.

- **Instagram:** Allows users to share photos and videos.

- **Snapchat:** Allows users to send photos and videos that do not last forever.

- **X (Formerly, Twitter):** Allows users to share information in real-time.

- **YouTube:** Allows users to share videos and create a sense of community.

- **TikTok**: Allows users to create, share and search for short videos.

2.2 Trends in Social Media Use

Social media has been around for less than twenty years; however, the twenty-first-century adolescents grew up with them being a standard part of their lives. Around the same time the launching of socials occurred, statistics recorded, and are still noticing, growing trends in mental health disorders among teenagers, taking into consideration suicide rates, non-suicidal self-harm and affective disorders (Vogels, 2022). Unquestionably, some variables, such as changes in societal standards, technical improvements, and the COVID-19 pandemic, have influenced recent patterns in adolescent social media use. The prevalence of youth who regularly use social media is 36.9% (Baglari *et al*., 2020).

Barthorpe et al., (Barthorpe *et al*., 2020), reveal that 14.7% of adolescents spending a lot of time on social media correlates with a higher incidence of depression, low self-esteem and self-harming in this group, especially in females. In January 2024, the global internet user count stood at 5.35 billion, an estimated 66.2% of the world's population (Chaffey, 2024). Among these users, approximately 5.04 billion people (62.3%) were actively engaged on social media platforms. As of April 2024, Facebook is the most popular site worldwide, followed by YouTube, Instagram, WhatsApp and TikTok (Chaffey, 2024).

Numerous studies have demonstrated that there are clear and significant trends in the way young people use social media (Hjetland *et al*., 2021). Looking in the rearview mirror, a study underscored the continuous obstacles in implementing age restrictions on social media platforms to shield adolescent users from harmful content. The absence of efficient regulation has prompted worries regarding the potential adverse consequences of unrestricted access to social media on the mental health of young individuals (Nesi, 2022). Another study in 2018 discussed the proliferation of social media platforms beyond traditional networks such as Facebook and Twitter (Kapoor *et al*., 2018).

Adolescents are now engaging with a wide range of platforms, including Instagram, Snapchat, TikTok, and YouTube, each offering unique features and content formats. There is a trend towards the consumption and sharing of visual content, such as images and videos, on social media platforms including Instagram and TikTok (Popat and Tarrant, 2023). These trends underscore the evolving landscape of social media use among adolescents and the need for continued research and for ongoing research and interventions to cultivate positive digital behaviors and enhance mental health and well-being outcomes in this demographic. The dominance of platforms such as

WhatsApp, Facebook, and Instagram among adolescents emphasize the ubiquity of social media in daily lives. A notable trend is the growing recognition of social media platforms as effective channels for delivering support and interventions to this demographic. These platforms offer unique advantages, such as wide accessibility and popularity among young people, making them promising avenues for reaching individuals who may not engage with traditional face-to-face treatment methods (Kruzan *et al.*, 2022).

Social media challenges encompass people undertaking a myriad of tasks and activities in front of the camera and subsequently sharing the clips on social media platforms, and nominating others to replicate the task (Gupta *et al*., 2022). Typically, this range of activities spans a spectrum, starting from the mundane tasks and ending with feats that are either more promising or unusual. The essence of a challenge lies in its ability to evoke amusement, spontaneity, or a sense of novelty. Indeed, the allure of challenges lies in their entertainment value, serving as a source of enjoyment and engagement within the digital realm.

Dopamine is a neurotransmitter involved in reward and motivational pathways in the brain, and possibly implicated in some psychiatric disturbances (Popat and Tarrant, 2023). Mental health expert, Dr. Gregory Jantz, stated that the average child's brain is developing in such a way that the impulse control increases drastically, thereby, creating toxic situations with development since the dopamine is excessively pumped into the brain when there is frequent social media engagement (CBS, 2023). Thus, a 400% spike of dopamine (approximately the same amount as you could get in cocaine) is driving that attention span, creating addictive behaviors. In addition, most companies offer social media tools that are designed to be addictive; programmed to get the users attention while maximizing their profits. Most users spend large portions of their day in a

state of fragmented attention especially, with adolescents (Gupta *et al*., 2022). For example, a platform like Instagram, can connect amazing people together and bring about beautiful things, however, it is remiss if we just glossed over the impact it has on mental health. Particularly, adolescent's mental health and well-being. It is addictive because the likes create a spike of dopamine in the brain, thereafter the brain wants more so we plug back in. In this case, there is a rush of dopamine and when the stimuli (likes) aren't there, the mood then drops.

Discovering the double edge sword of social media, while it connects us, it can also affect our mental well-being. Nowadays, lots of young folks are turning to social media for a shoulder to lean on, especially when they're feeling down or stressed. Instead of reaching out to a therapist, real-life friends and family or a counselor, they're finding solace in the supportive words of friends or even strangers on platforms such as Instagram or TikTok.

2.3 Related Literature in Ghana

In Ghana, research on the impact of social media on adolescent mental health is limited but emerging. Previous studies have primarily focused on academic performance, overlooking the broader spectrum of mental well-being (Markwei *et al*., 2016; Asare-Donkoh, 2018). Thus, there is a gap in knowledge concerning the nuanced interplay between social media use and mental health outcomes among adolescents in well-resourced school settings in Ghana.

Despite the manifold advantages linked to social media usage, there is a growing apprehension regarding its potential ramifications on individuals' mental health and well-being (Keles *et al.,* 2020). Individuals' age, gender, personality traits, and pre-existing mental health conditions play a role in how they use social networking sites which in turn may influence their well-being (Gupta *et al*., 2022). However, parental monitoring, peer pressures, and school environments have

significant influences on reducing or enhancing the negative aspects of social media on the mental health of the youth (Valkenburg *et al*., 2021). In this digital age, high school students in Ghana extensively utilize various internet-connected devices such as iPads, mobile phones, laptops, and tablets to access social media platforms (Markwei *et al*., 2016). While a notable gap exists in empirical studies examining youth social media usage in Ghana, the available literature primarily focuses on discussions regarding social media's impact on academic performance.

To bridge the gap could mean a theoretical and practical way of learning where students are exposed to creativity, innovations and technology on these various social media platforms. Amofah-Serwaa and Dadzie, in 2015, conducted a study on social media's impact on child behavior in a basic school (Amofah-Serwaa and Dadzie, 2015). Their research found that participants were well-aware of and utilized various platforms, such as Facebook, Twitter, WhatsApp, Yahoo Messenger, and Skype, for communication, entertainment, and social interaction. However, parents lacked knowledge regarding their children's social media connections. Student behavior was reported to be positively influenced by social media, with 48% unaffected, 2.5% perceiving positive learning effects, and 23.3% experiencing concentration challenges. Parents noted improvements in friendliness, dressing, speech, and reading habits in over 70% of cases, but concerns included inappropriate dressing, unconventional hairstyles, distractions, and the use of non-standard language. Mitigation suggestions included teacher control, policy formulation for responsible social media use, and parental supervision with academic-focused restrictions (Amofah-Serwaa and Dadzie, 2015).

Additionally, another study investigated the dual nature of social media among students, which offers a rich avenue for connection and collaboration but raised concerns about its potential

negative impacts on academic life in Ghana (Dadzie, 2019). The preferred platforms were WhatsApp and Facebook, serving purposes such as making friends, discussing school matters, and entertainment. Varied daily usage patterns were observed, with 38% spending over 8 hours and 38% accessing social media during school hours. Negative impacts included reduced study time, distractions, procrastination, and language-related challenges. Despite these drawbacks, 45.1% of respondents perceived improved reading skills through social media use (Asare-Donkoh, 2018).

2.4 Impact of Social Media Use on Adolescents Mental Health and Well-being

Unequivocally, social media is recognized as a vital tool for youth to interact with others and get support, which builds their feeling of belonging and validation. Online communities provide a forum for exchanging knowledge on coping strategies for difficult circumstances and mental health concerns, which can lead to mutual support (Gupta *et al*., 2022). Well-moderated discussion boards facilitate candid conversations, lessen feelings of loneliness, and help people recover from mental health issues. Social media is also extremely informative, information about literally any topic on earth can be obtained from using it! Some also use social media for entertainment purposes or to display creativity and increase connectivity.

The rule of life is that everything that has advantages, also has its disadvantages, therefore, the impact of social media can be harmful to adolescents. Fake news, cybercrimes, antisocialist, comparative, competitive, disconnected, materialist, and separatist, in every way eroding what it means to be human. Simply put, it has divested us of what it means to be human, especially when used in the wrong way. Not only can it consume a massive chunk of time that could be spent doing something more productive, it also has an impact on mood and the pressure of this digital world is felt deeply by adolescents.The study by Popat and Tarrant that examined adolescents' perspectives

on social media and mental health and well-being (Popat and Tarrant, 2023) sheds light on both the positive and negative impacts, highlighting key factors that can affect adolescents' well-being. Nonetheless, the research also highlights some negative side effects of social media use on adolescent well-being. Instances of judgment, comparison to others, and scrutiny of appearance on social media platforms can undermine self-esteem. Posting without consideration for privacy or appropriateness, coupled with engaging in "stress" posting, may lead to long-lasting negative consequences. Concerns are also raised about the potential detrimental effects of social media on real-life relationships, contributing to heightened anxiety and sleep disturbances. Negative outcomes encompass cyberbullying, online exclusion, and exposure to distressing content. This review stresses the need for adolescents to balance the positive and negative effects of social media on their mental health. By being aware of the risks and taking steps to mitigate them, they can benefit from social media while prioritizing their well-being. Understanding the complex factors that influence mental health in online platforms is vital.

Popat and Torrant point out that social media celebrities and social media influencers have a significant impact on teens' self-perceptions and life experiences (Popat and Tarrant, 2023). Imagine watching famous personalities leading seemingly perfect lives on platforms such as Instagram or YouTube. Adolescents view these influencers as role models and may start to compare their lives to the content they consume online. The problem is that these influencers only show their highlight reels and not the real struggles they face. This can lead teens to feel that their lives are not good enough, which can lead to insecurity and dissatisfaction. The constant exposure to idealized versions of others' lives can lead to feelings of inadequacy and lower self-esteem, contributing to depression. Additionally, a study also delved at the problem of social media addiction in youth (Khalaf, 2023). If they are constantly checking their phones for notifications or

experiencing anxiety when they're not online, it can make it hard for them to focus on other important aspects of their lives such as schoolwork or spending time with family and friends. Excessive use of social media can result in behaviors that may contribute to anxiety and decrease wellbeing. As noted by previous studies (Baglari *et al.*, 2020), there exists a tendency among adults to attribute various societal problems faced by younger generations to media consumption, often oversimplifying complex behaviors and patterns of media use under a single term. This conceptual bundling fails to account for the diverse goals served by different media behaviors and the distinct outcomes produced by varying patterns of use (Schonning *et al.*, 2020). Moreover, the empirical uncertainty surrounding the impact of digital technology on adolescent mental health is compounded by the lack of documented metrics for assessing technology use. Self-reports, the most commonly used method for measuring technology use, are susceptible to inaccuracies due to individuals' subjective perceptions of their behavior (Khalaf, 2023). Consequently, there is a need for more precise measurement techniques guided by scientific research to better understand the repercussions of diverse digital applications (Naslund, 2020). Research findings regarding the effects of social media on adolescent mental health have yielded mixed results, further complicating our understanding. While some studies suggest a somewhat negative impact of social media use on mental health (Noori, *et al.*, 2022), others emphasize the need for a nuanced exploration of the elements influencing mental health, social interaction, and emotional growth in adolescents (Beyari, 2023). The challenge lies in synthesizing these findings to provide a comprehensive understanding of the impact of social media on young user's mental health.

CHAPTER 3

3.0 METHODOLOGY

3.1 Research Methods and Design

An analytic cross-sectional study design was used to explore social media usage patterns and its implications on the studied participants' mental health and well-being. Quantitative data was collected using a structured questionnaire that has been standardized and modifications were made.

Insights were gathered from the diverse group of respondents considering their demographic parameters such as age with a three-year age category and gender from the amalgamation of the selected private schools. The sample size calculation was obtained using Yamane's formula in proportional allocation; a sample size of approximately 241.

Cronbach alpha analysis, descriptive statistics, univariate, bivariate, multivariate logistic regression model and Pearson Chi-Square test with an alpha level of 0.05 were used were among the tests used to characterize the data once it was all entered into Microsoft Excel and imported into STATA analytic software (*StataCorp. 2007. Stata Statistical Software. Release 18. StatCorp LP, College Station TX, USA).*

A multi-stage sampling technique was adopted with purposive sampling used in selecting the schools. A systematic random sampling approach was used to identify student participants to fill the digital questionnaire.

3.2 Data Collection Techniques and Tools

Data collection involved a quantitative method. The main tools for assessing the mental health of adolescents were the adapted DASS Youth Version - Depression, Anxiety, and Stress Scale (Szabo and Lovibond, 2022), as well as the Bergen Social Media Addiction Scale (BSMAS) with modifications (Yue *et al*, 2022). The questionnaire was designed to evaluate the mental health and well-being outcomes including but not limited to depression, anxiety, and stress among young individuals, as well as social media assessment providing a quantitative framework for understanding mental health variations using the Likert scale.

An electronic questionnaire, developed with Microsoft 365 was used for data collection. A copy of the questionnaire is provided in Appendix 2 for reference. The data collection period commenced on the 30th of January 2024 and concluded on the 20th of April, 2024. This time frame allowed for a thorough exploration of adolescent experiences on social media platforms and their corresponding mental health implications.

3.3 Study Population

The study population included both male and female students within the ages, 10 to 19 years old enrolled at SOS–HGIC and GIS. Data was gathered on demographic characteristics such as age, and gender to gain an in-depth understanding of the influence of social media on this population.

Inclusion Criteria:

Inclusion criteria for the study included**:**

- Respondents who were at least 10 years old and at most 19 years old.

- Respondents who were fluent in English language.

Exclusion Criteria:

Exclusion criteria included:

- Respondents who were < 10 years and >19 years old.

- Respondents who may not necessarily speak English exclusively.

3.4 Sampling Technique and Sample Size

The sampling technique utilized was the multi-stage sampling method. Yamane's formula was utilized (Yamane, 1967). The formula is generally expressed as:

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

Where

N = the population size

e = the margin of error

Considering the estimated population of 606 adolescents within the selected private schools, proportional allocation was employed. Therefore, the estimated sample size for the study was:

$$n = \frac{606}{1 + (0.05^2) \times 606} = 241$$

The calculation for proportional allocation was as follows:

School A is SOS–HGIC and School B is GIS, therefore,

$$ni = \frac{N_i}{N} \times n$$

$$nA = \frac{313}{606} \times 241 = 124.5 \approx 125$$

$$nB = \frac{293}{606} \times 241 = 116.5 \approx 117$$

The aim was to reach a sample size of 241, with the given target being set at the formulation of the study plan. This number is a result of the objectives of the research, the sample size needed in order to achieve significant statistical power, and the resources available for the study. However, as we progressed into the data collection phase, we encountered a greater level of interest and participation than anticipated. Consequently, we were fortunate to exceed the initial target and obtain a slightly larger sample of 300 respondents overall.

3.5 Pre-testing

During the pre-testing phase, a small subset of respondents, 10 adolescents with similar characteristics to the main study population, were selected to address any practical constraints inherent in the research process and to ensure clarity and validity. This subset completed the electronic questionnaire. Feedback responses were gathered and all necessary adjustments were made. This was conducted at SOS–HGIC, however, the few students who partook in the pre-testing phase were not included in the main study.

3.6 Data Handling

Data was collected anonymously and stringent measures were implemented to maintain the confidentiality and integrity of the collected data. The principal investigator oversaw the process of data cleaning and management. The information recorded directly on the questionnaire served as the primary data source. To ensure secure storage and backup, soft copies of all datasets and associated work were transmitted to the investigator through email and an external drive. This was to ensure that all participants remained anonymous while contributing towards a major part of this research.

The perceived responses were expected from 125 students at SOS-HGIC and 117 students at GIS. Nonetheless, the target research participants were somewhat limited with 69 participants from SOS-HGIC and 231 from GIS. The response rates of the study, therefore, may have been pulled down by time limitation, availability of the participants, and other barriers to the completion and return of the questionnaires. Nevertheless, it is important to note that despite the various challenges faced above, the research questions were still answered with fruitful data collected.

3.7 Study Variables

In research, variables are characteristics that may be quantified, altered, or impacted; their relationships with the intended outcomes are examined through analysis. Thus, the cause-and-effect variables: the independent and dependent. Therefore, social media use and mental health and well-being outcomes. The variables were measured and defined using univariate, bivariate and multivariate analysis. Cronbach alpha (reliability test) analysis was used in assessing how consistently the items in the questionnaire measured the same thing.

To determine the prevalence of depression, anxiety and stress among the participants, the adapted DASS-Y (Szabo and Lovibond, 2022) and BSMAS questionnaire (Yue *et al*, 2022) was distributed to assess participants' perceptions regarding social media use and its impact on mental health and well-being. On a scale ranging from 0 to 2, each item was assigned a score, 0 represented 'False,' 1 represented 'neutral' and 2, 'true.' Analysis based on demographic variables such as age, gender, and grade, otherwise known as covariates, provided insights into potential variations in the impact of social media across the diverse group. The STATA analytic software (*StataCorp. 2007. Stata Statistical Software. Release 18. StatCorp LP, College Station TX, USA)* was employed in data analysis.

Table 1: Background Information – Variables

Category	Variables Included	Statistical Analysis
Demographic Characteristics	Age, gender, grade & school	Descriptive
Social Media Usage Patterns	Time Spent Frequency of use	Descriptive
Mental Health Indicators	Depression, anxiety & Stress (BSMAS and DASS-Y)	Cronbach's Alpha

3.8 Data Analysis

Descriptive statistics was employed to present a clear summary of the data, revealing patterns, central tendencies, and variations in adolescent mental health across different social media platforms. The STATA analytic software (*StataCorp. 2007. Stata Statistical Software. Release 18. StatCorp LP, College Station TX, USA)* facilitated an in-depth exploration of quantitative data, allowing for the identification of recurring themes and nuanced perspectives. Analysis based on

demographic variables such as age, gender, and grade provided insights into potential variations in the impact of social media across diverse groups.

3.9 Ethical Consideration

Informed consent, participant confidentiality, minimization of participant discomfort, right or freedom of withdrawal were some ethical factors considered. Clearance was obtained from the Ethical Review Committee of Ensign Global College prior to the study's start. Explicit permission from all the selected private schools was granted to conduct the research within their premises while ensuring data protection of all participants. Detailed documentation of these forms can be found in Appendices 1 and 3.

3.10 Limitations of Study

1. Data was collected over a short period and does not track changes over an extended time.

2. Indubitably, the voluntary participation fosters a sense of autonomy and self-determination among participants, increasing the validity of the study. Nonetheless, the absence of incentives may have posed challenges in terms of response rates.

3. The subjectivity can be conceptualized as a limitation, as there may have been self-reporting bias. In view of this, participants were assured of anonymity and confidentiality, fostering an environment conducive to honest reporting and reducing the influence of social desirability bias. This assurance aimed to increase the likelihood of obtaining more accurate and candid responses from participants. Additionally, rigorous data cleaning and analysis procedures were employed to address any inconsistencies or outliers present in the self-reported data.

3.11 Assumptions

It was assumed that all students were honest and fluent in English and the research instruments utilized to gather data were meticulously validated and accurately measured the desired hypotheses. It was further assumed that all selected students had sound mind and were truthful with their responses on the use of social media.

CHAPTER 4

4.0 RESULTS

4.1 Introduction

Chapter 4 presents the quantitative findings derived from the school-based data collection endeavor. It encapsulates the key analysis derived from the questionnaire in the form of tables, graphs and figures.

4.2 Background Information

A robust sample size comprising 320 administered questionnaires were earmarked for discerning insights from the student populace of the selected private schools. It is worth noting that 300 meticulously curated datasets were deemed suitable for inclusion in the final analysis after data cleaning, thus, yielding a commendable response rate of approximately **93.75%.** These results offer a comprehensive understanding of the association between adolescents' social media use and mental health outcomes.

4.3 Demographic Characteristics of Respondents

A total of 300 adolescents participated in the study, with ages ranging from 11 to 19 years. The average age of the respondents was (13.33 ± 2) years, indicating a moderate level of dispersion around the mean age. The youngest participant was 11 years old (13%), while the oldest was 19 years old (1%). Out of the 300 respondents, 169 were female, accounting for 56% of the total sample, while 131 were male, representing 43.8% of the sample.

Grade 6 had 24 (8%) students. Grade 7 had 94 (31%) students, which is the highest number of participants. Sixty-six (22%) students represented Grade 8, 45 (15%) students in Grade 9, 34 (11%) students in Grade 10 and 21 (7%) students in Grade 12. However, there were only 16 (5%) students representing Grade 11.

Table 2: Demographic Characteristics of Participants (Students)

Variable	Category	Frequency (N)	Percentage (%)
Age	11-13	188	62.67
	14-16	81	27
	17- 19	31	10.33
Gender	Male	131	43.7
	Female	169	56.3
Grade Level	6 – 8	184	61.33
	9 – 12	116	38.67
School	SOS–HGIC	69	23
	GIS	231	77

Source: Field data, 2024

4.4 Social Media Usage Patterns among Adolescents

The types of social media platforms used included YouTube, WhatsApp, Snapchat, TikTok, Instagram, Discord and even LinkedIn. The majority of respondents (80%) reported using social media on a daily basis. A smaller percentage (12%) reported using social media on a weekly basis, while only a few (7%) respondents barely used social media or seasonally (0.67%).

The distribution of time spent on social media among respondents is presented in the table below. Each category represents a range of time intervals, and corresponding frequencies. The majority of respondents, 28% (85), reported spending > 4 hours a day using social media platforms. This was followed by 23% (69) of respondents who indicated spending 2 to 3 hours on social media. Sixteen percent (48) of respondents reported spending 3 to 4 hours on social media, while approximately 15% (44) spent 1 to 2 hours. 12% (36) reported spending 30 minutes to an hour

whereas 6% (18) spend <30 minutes a day. The average duration = (4.16 ± 1.57). The duration of social media usage by platforms among respondents is presented in the table below. Each category represents a social media platform, and corresponding frequencies. The majority of respondents, 35% (105), spend time on YouTube. 34% (102) of respondents indicated using TikTok. Approximately 12% (35) of respondents reported spending time on snapchat, 10% (29) use Instagram, 8% (23) engage with WhatsApp, 1% (3) use twitter, 0.7% (2) spend time on discord and 0.3% (1) on LinkedIn. These results are shown in the table and figures below.

Table 3: Social Media Usage Patterns among Adolescents

Frequency of Social Media Use	Frequency	Percentage
Barely	21	7%
Daily	241	80.3%
Seasonal	2	0.67%
Weekly	36	12%
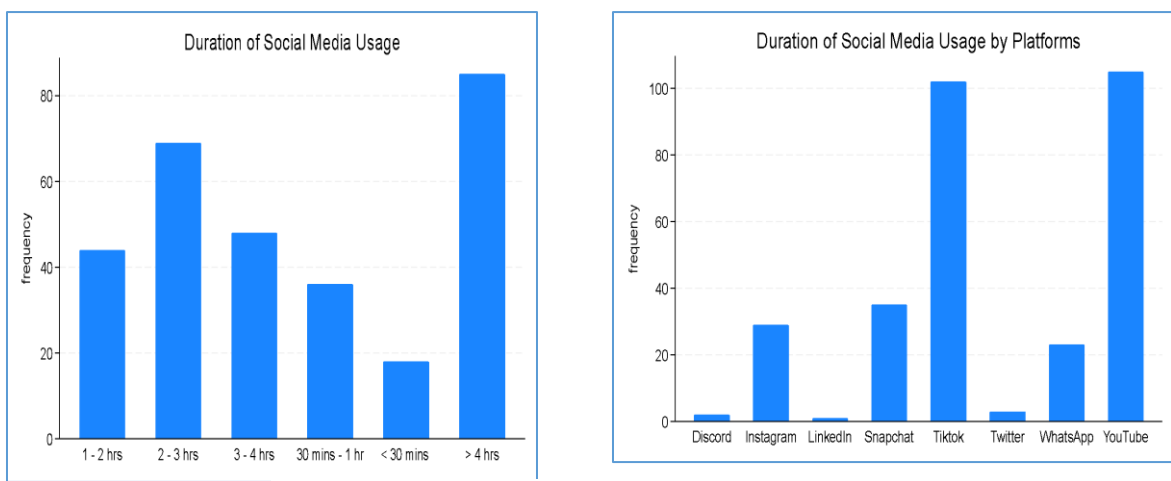
Figure 3: Duration of Social Media Use

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Approval Requirement for Accessing Social Media

The pie chart below depicts that a significant majority of adolescents (66%) require approval to access social media platforms, whereas 34% do not need such approval. This suggests that a notable portion of students have some level of restriction or guidance in their social media usage.
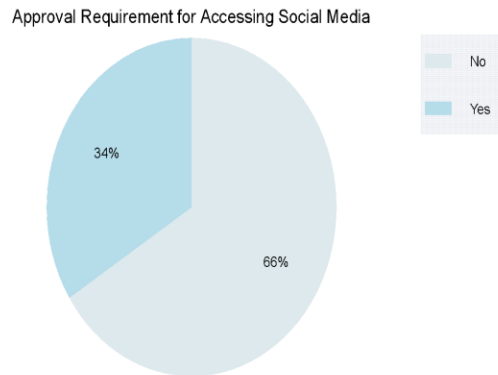
Figure 3: Approval Status Required for Social Media Access Reported by Students

4.5 Prevalence of Depression, Anxiety and Stress

With regards to depression, 86.67% (254) of the respondents reported having low episodes of depression while 15.33% (46) reported high levels. High levels of stress were recorded at 33.67% (101) with low levels at 66.33% (199). Students experiencing symptoms of high and low levels of anxiety were 34% (102) and 66% (198) respectively.

Psychological Impact of Social Media Use
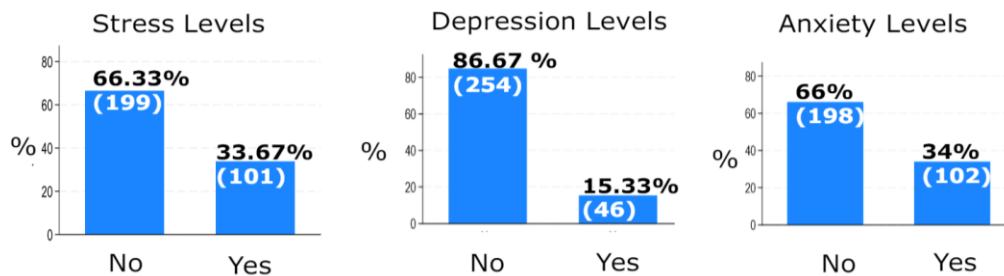
Figure 4: Psychological Impact of Social Media Use

4.6 Assessment of Mental Health Challenges/Outcomes of Adolescents

Table 4 presents an overview of participants' responses to the modified DASS-Y Likert Scale Questions concerning mental health and well-being of adolescents with an unstandardized Cronbach's alpha (α) analysis (Cronbach, 1951). A closer examination revealed that several items exhibited a median score of 1, indicating disagreement. Notably, question 6 on the scale, which assessed "*the presence or severity of sadness*", displayed a skewness of **1.34**, revealing that it is positively skewed towards the right tail, therefore, with a more pronounced skewness, there are more extreme values on the right side. Ergo, not having that full impact. Additionally, the analysis of the dataset revealed a predominance of responses towards the lower end of the scale, suggesting a reduced level of agreement with the statement. This observation is supported by a mean score of 0.42 on the scale. Notable is also the application of the unstandardized Cronbach's alpha (α) analysis that was executed on the adapted DASS-Y questionnaire. This endeavor resulted in a derived reliability coefficient of **0.74**, signifying a level of reliability that meets the criteria of *"acceptable."* The spectrum of the total correlations extended from 0.22 to 0.72. Remarkably, within this range is statement 6, *"I cannot stop feeling sad"* which exhibited the most substantial correlation (with α = 0.72).

Table 4: Distribution of responses & Cronbach's Alpha Analysis of the modified DASS-Y on a Likert Scale

Items	Mean	Median	SD	Skewness	Alpha	Label
Q1	.78	1	.69	.33	0.68	I get upset about little things.
Q2	.83	1	.75	.28	0.70	I find myself over-reacting to situations.
Q3	.93	1	.84	.13	0.68	I stress about a lot of things.
Q4	.93	1	.77	.12	0.70	I am easily irritated.
Q5	.56	0	.77	.93	0.70	I find it difficult to relax.

Q6	.42	0	.70	**1.34**	0.72	**I cannot stop feeling sad.**
Q7	.95	1	.77	.17	0.76	I get annoyed when people interrupt me.
Test scale					**0.74**	**Mean (unstandardized items)**

Source: Field Data, 2024

The Bergen Social Media Addiction Scale (BSMAS) with adaptations (Yue *et al*., 2022) was employed. The scale ranged from 1 Star: Strongly Disagree, 2 Stars: Disagree, 3 Stars: Neutral, 4 Stars: Agree to 5 Stars: Strongly Agree. Table 5 presents an overview of participants' responses to the adapted BSMAS Rating Scale questions. Statements from question 8, "**You spend a lot of time thinking about social media or planning how to use it**", and question 9, "**You feel an urge to use social media more and more**", have relatively high mean scores of **2.64** and **2.90,** respectively. Indicating a substantial level of engagement with social media among adolescents. Moreover, the skewness values from the distribution are relatively low (.28, .09, .65, .54), suggesting a symmetrical distribution to some extent as ≠ 0. The reliability testing of the questionnaire resulted in a Cronbach Alpha (α) score of **0.68**, an acceptable reliability of internal consistency. The spectrum of the total correlations extended from 0.07 to 1.0.

Table 5: Distribution of responses & Cronbach's Alpha Analysis of the modified BSMAS on a Rating Scale

Items	Mean	Median	SD	Skewness	Alpha	Label
Q8	2.64	3	1.22	.28	0.61	You spend a lot of time thinking about social media or planning how to use it.
Q9	2.90	3	1.24	.09	0.53	You feel an urge to use social media more and more.
Q10	2.32	2	1.28	.65	0.68	You have tried to cut down on social media without success.
Q11	2.42	2	1.36	.54	0.61	You become restless or troubled if you are prohibited from using social media.

Test scale	0.68	Mean (unstandardized items)

Source: Field Data, 2024

4.7 Bivariate Analysis of Selected Variables on the Chosen Dependent Variables

A Pearson's Chi-Square test was conducted to measure the association between various independent variables (grade level, gender, age group, and school) and the stress level reported by respondents. The analysis indicates that gender (**p < 0.001**) and school (**p = 0.029**) show a statistically significant association with stress level whereas age group (p = 0.508) and grade level (p = 0.259) are not significantly associated with stress level.

Grade level didn't have much of an impact on depression levels. Whether students were in grades 6 to 8 or 9 to 12, the numbers didn't show any significant difference in depression rates. Ergo, there is no significant association between grade level (p = 0.743) or age group (p = 0.376) and depression levels. There is a significant association between school attended and depression levels (p = 0.021) as well as gender and depression levels (p = 0.010). The analysis from the table below suggests that neither grade level, gender, age group, nor the school attended by participants significantly influenced the reported levels of anxiety in this study. Therefore, there was no observed association between sex, religion and ethnicity and the anxiety level since their p-values were > 0.05. The results are summarized in the table below.

Table 6: Bivariate Analysis of Stress, Anxiety and Depression Levels

Variable	Stress Level		P value
	Yes	No	
Grade level			
Grade 6 to 8	57 (30.98)	127 (69.02)	**0.259**
Grade 9 to 12	44 (37.93)	72 (62.07)	
Gender			
Female	76 (44.97)	93 (55.03)	**<0.001***
Male	25 (19.08)	106 (80.92)	
Age Group			
11 to 13	59 (31.38)	129 (68.62)	**0.508**
14 to 16	31 (38.27)	59 (61.73)	
17 to 19	11 (35.48)	20 (64.52)	
School			
SOS–HGIC	31 (44.93)	38 (55.07)	**0.029***
GIS	70 (30.30)	161 (69.70)	

Depression Level			
Grade Level			
Grade 6 to 8	27 (14.67)	157 (85.33)	**0.743**
Grade 9 to 12	19 (16.38)	97 (83.62)	
Gender			
Female	34 (20.12)	135 (79.88)	**0.010***
Male	12 (9.16)	119 (90.84)	
Age group			
11 to 13	25 (13.30)	163 (86.70)	**0.376**
14 to 16	16 (19.75)	65 (80.25)	
17 to 19	5 (16.93)	26 (83.87)	
School			
SOS–HGIC	17 (24.64)	52 (75.36)	**0.021***
GIS	29 (12.55)	202 (87.45)	
Anxiety Level			
Grade level			
Grade 6 to 8	60 (32.61)	124 (67.39)	**0.534**
Grade 9 to 12	42 (36.21)	74 (63.79)	
Gender			
Female	56 (33.14)	113 (66.86)	**0.806**
Male	46 (35.11)	85 (64.89)	
Age Group			
11 to 13	64 (34.04)	124 (65.96)	**0.519**
14 to 16	25 (30.86)	56 (69.14)	
17 to 19	13 (41.94)	18 (58.06)	
School			
SOS–HGIC	24 (34.78)	45 (65.22)	**0.886**
GIS	78 (33.77)	153 (66.23)	

Source: Field Data, 2024

4.7 Multivariate Logistic Regression

A multivariate logistic regression model was used to explore the effect of various factors including grade level, gender, age group, and school as well as the likelihood of stress levels. Students in Grades 9 to 12 were 1.03 times more likely to experience stress compared to their counterparts in the lower grade, adjusting for all other variables. However, the males who partook in the study are 0.71 times less likely to experience stress spells. The odds of having stress spells as a student in grade 9 to 12 was 1.2 (95% CI=1.36(.84-2.22), adjusting for all other variables even though there was no significance.

Students from GIS were 0.66 times less likely to experience depression compared to those from SOS-HGIC and were statistically significant with depression levels **(p-value<0.012)**. Additionally, all male respondents showed a statistically significant association (**p-value<0.011)** with depression. Age group from 14 to 16 (p-value 0.230) were 2.04 (95% CI= (.64-6.50), times more likely to feel depressed. The odds of the anxiety level among students in Grade 9 to 12 are 1.50 times higher than those in Grades 6 to 8, but this difference is not statistically significant (p = 0.331), adjusting for all other variables. None of the variables indicate an association with anxiety level. The results are summarized in the table below;

Table 7: Multivariate Analysis of Mental Health Challenges among Adolescents

Stress Level				
Variable	**COR**		**AOR**	
	OR (95% C.I)	**P value**	**OR (95% C.I)**	**P value**
Grade level				
Grade 6 to 8	1	-	1	-
Grade 9 to 12	1.36 (.84-2.22)	**0.215**	1.03 (.44-2.44)	**0.945**
Gender				
Female	1	-	1	-

Male	.29 (.17-0.49)	**0.001***	.29 (.17-0.49)	**0.001***
Age group				
11 to 13	1	**-**	1	**-**
14 to 16	1.36 (.79-2.33)	**0.273**	.88 (.37-2.13)	**0.781**
17 to 19	1.20 (.54-2.67)	**0.650**	.60 (.18-1.99)	**0.401**
School				
SOS–HGIC	1	**-**	1	**-**
GIS	.53 (.31-0.92)	**0.025***	.46 (.22-0.93)	**0.032***
Depression Level				
Grade Level				
Grade 6 to 8	1	**-**	1	**-**
Grade 9 to 12	1.14 (.60-2.16)	**0.690**	.37 (.11-1.30)	**0.120**
Gender				
Female	1	**-**	1	**-**
Male	.40 (.19-0.81)	**0.011***	.39 (.19-0.81)	**0.011***
Age Group				
11 to 13	1	**-**	1	**-**
14 to 16	1.60 (.80-3.20)	**0.179**	2.04 (.64-6.50)	**0.230**
17 to 19	1.25 (.44-3.57)	**0.672**	1.26 (.27-6.20)	**0.776**
School				
SOS–HGIC	1	**-**	1	**-**
GIS	.44 (.22-0.86)	**0.016***	.34 (.14-0.78)	**0.012***
Anxiety Level				
Grade Level				
Grade 6 to 8	1	**-**	1	**-**
Grade 9 to 12	1.17 (.72-1.91)	**0.522**	1.50 (.66-3.42)	**0.331**
Gender				
Female	1	**-**	1	**-**
Male	1.09 (.68-1.77)	**0.720**	1.10 (.68-1.80)	**0.678**
Age Group				
11 to 13	1	**-**	1	**-**
14 to 16	.86 (.49-1.51)	**0.611**	.67 (.28-1.55)	**0.347**
17 to 19	1.40 (.64-3.04)	**0.395**	1.05 (.34-3.25)	**0.939**
School				
SOS–HGIC	1	**-**	1	**-**
GIS	.96 (.54-1.68)	**0.876**	1.10 (.54-2.22)	**0.789**

Source: Field Data, 2024

CHAPTER 5

5.0 DISCUSSION

1.1 Introduction

This study was aimed at thoroughly analyzing the impact of social media use on adolescent mental health and well-being, identifying protective factors, and proposing evidence-based interventions for a healthier digital future at SOS–HGIC and GIS. The outcomes presented in this study shed light on various aspects of knowledge related to social media usage within the study population.

1.2 Social Media Usage Patterns of Respondents

The predominant findings from the analysis of social media usage patterns among respondents revealed an excessive frequency (241) of day-by-day utilization, indicating a pervasive integration of social media into adolescents' lives. This highlights the impact on their behaviors and interactions. Conversely, a smaller proportion of respondents (36) reported utilizing social media every week, suggesting less frequent, nonetheless, still notable engagement with social media platforms. The results suggest a widespread engagement with digital platforms, raising concerns about its implications for mental well-being. This distribution of social media usage underscores the need for a nuanced understanding of adolescents' digital behaviors and their potential implications for public health (Khalaf, 2023).

In the context of existing literature, these findings correspond with previously conducted studies, emphasizing the pervasive nature of social media in contemporary society and its potential ramifications for public health (Baglari *et al.*, 2020). Other studies have consistently documented associations between excessive social media use and adverse mental health outcomes, including increased levels of stress, anxiety, and depression (Beyari, 2023). By recognizing the prevalence

of daily usage and understanding its potential impact on adolescent health, policymakers and practitioners can develop targeted interventions aimed at mitigating the negative effects of excessive social media use while harnessing its potential benefits for promoting adolescent health and well-being (Kruzan *et al*., 2022).

1.3 Prevalence of Mental Health Challenges/Outcomes

The findings revealed that 88.67% (254) of adolescents reported experiencing low levels of depression, while 15.33% (46) acknowledged high depression episodes. A similar study confirmed the prevalence of depression. In that study, it was reported that adolescents spending a lot of time on social media correlates with higher incidence of depression, low self-esteem and self-harming in this group, especially in females (Barthorpe *et al*., 2020).

Additionally, a study highlighted that understanding one's own perception is crucial for adolescents experiencing depression due to their frequent reports of internal insecurity, perceptions of inadequate coping abilities, low self-efficacy, and poor self-image (Rikard-Bell et al., 2022). Clearly, social media takes precedence in our lives. Existing research indicates that frequent social media use correlates with poorer mental health outcomes. Thereby suggesting that excessive social media usage could negatively impact mental well-being. However, it's important to consider that the relationship could be bidirectional. That is, struggling with mental health issues might lead individuals to spend more time on social media as well (Thygesen *et al*., 2022).

1.4 Mental Health Outcomes

The most common mental health scores among adolescents fell within the range of 10 to 17, with a notable number of scores clustered around 14 and 16. Some scores, such as 14 and 16, were reported quite consistently across different frequency categories, indicating a stable level of mental well-being among adolescents in those ranges. On the other hand, scores like 20 and 22 showed more variability, suggesting fluctuations in mental health experiences within those ranges.

These findings show that adolescents experience a diverse range of mental health states, with some being more common than others. It is vital to note that mental health is dynamic and can change over time, accordingly, understanding these patterns can help inform and support policy makers, teachers, counselors, students, healthcare care professionals, parents and the country as a whole.

1.5 Association between Mental Health Outcomes and Social Media Use

Using the Pearson Chi Squared Test(x^2), the association between social media use and mental health outcomes (anxiety, depression and stress) were each assessed. Comparing these results to other works of literature, low levels of mental health was linked to more time spent on social media each day (Thygesen *et al*., 2022). Similarly, the bivariate analysis of stress level among the adolescents indicated statistically significant associations between gender (p < 0.001) and school (p = 0.029) However, age group (p = 0.508) and grade level (p = 0.259) did not demonstrate significant associations with stress levels. Another study (Nazari *et al*., 2023) revealed high social media use is associated with high levels of mental health challenges. Contrary, this study's findings revealed that high frequency of social media use is not associated with an increase in mental health scores.

CHAPTER 6

6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 Conclusions

In conclusion, this study emphasizes the profound impact social media has on adolescents within selected private schools. The study delved into various aspects, including the association between social media usage and mental health outcomes, the relationship between the frequency and duration of social media use, and the prevalence of depression, stress and anxiety among adolescents considering gender, age group, school and grade level.

The findings shed light on the pervasive influence of smartphones and tablets in children's daily lives, emphasizing the need for nuanced approaches to technology integration. Majority (80%) of adolescents were not adversely impacted by the extensive use of social media. Nonetheless, it is a topical issue to the extent that lawmakers in the United States of America (U.S.A) are talking about it (Kowalski, 2024)

By fostering a deeper understanding of responsible technology integration and its implications for holistic child and adolescent development, this study contributes to the discourse on promoting adolescent mental health and well-being in an increasingly digital world. Given that females are more prone to experiencing stress and depression than males, continued collaboration between researchers, educators, and policymakers is paramount in addressing the multifaceted challenges and opportunities presented by technology in the lives of adolescents.

By synthesizing diverse findings and adopting more precise measurement techniques, we can enhance our understanding of the effects of social media on young people's mental health and well-

being, ultimately guiding the development of evidence-based interventions to support adolescent health in the digital age.

The study highlights the impact of social media use on adolescent mental health and well-being, underscoring the need for adolescents to set out to strike a delicate balance with the strengths and the temptations that stem from social media use. Even though social media networks provide a window into people's lives, ultimately, it creates this false feeling that there is some sort of strong relation without reaching beyond the surface. The connections are created based on curated content, but this is a distorted reality. There is always more than what meets the eye on social media. To fully understand the complexities involved transcends beyond the surface level, delving into the depths of adolescents' holistic wellness; i.e., physical, mental, emotions, intricacies and experiences. Therefore, it is necessary for further research to be conducted.

While there may be some negative implications, it is not always so. Like anything else, it's what you make it. As the timeless proverb goes, 'Where your attention goes, energy flows and where energy flows, whatever you're focusing on grows.' The adage serves as a reminder that control is given to what you focus on.

Although this study has insightful details, there are a few limitations to be mindful of. The study's cross-sectional design restricts the capacity to demonstrate causal correlations between variables. Also, the study was conducted in specific private schools in the Greater Accra Region of Ghana, which may limit the generalizability of the findings to other settings.

6.2 Recommendations

The following recommendations are being put forward:

1. The Ministry of Education and accreditation bodies should work together to offer digital literacy programs and educational campaigns addressed to students, parents and educators. Such initiatives should strive to promote appropriate Social Media utilization, and raise awareness about the potential risks.

2. Community Based Organizations such as Churches and Non-Governmental Organizations (NGO's) should liaise with healthcare professionals to incorporate discussions about social media use and its impact on mental health into routine clinical assessments and counseling sessions, acknowledging gender as a significant factor affecting stress and depression levels.

3. Technology companies should prioritize user safety and well-being in platform design and algorithm development (gender-specific) including measures to mitigate cyberbullying, online harassment, and harmful content. New, responsible safety standards are required by said companies, taking into consideration the unique challenges faced by individuals of different genders.

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APPENDICES

Appendix 1: Informed Consent

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Part II: Volunteer Informed Consent Form

I, ~~[Full Name]~~ DR. KRISTINE MARBELL-PIERRE, of Ghana International School, as the authorized representative hereby confirm that I have full authority to provide consent on behalf of each participant involved in the study entitled

"Impact of Social Media Use on Adolescent Mental Health and Well-being at Selected Private Schools in Greater Accra Region, Ghana".

Signatory or thumbprint _____Pierre_____   Date _28/1/24_

Investigator's signature   _____   Date _____

I confirm that the participant was given an opportunity to ask questions about the study, and all the questions asked by the participant have been answered correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.

A copy of this Informed Consent Form has been provided for records.
Print Name of Researcher/person taking the consent_____

Signature of Researcher /person taking the consent_____

Date _____   Day/month/year

[Informed Consent Form for students who are invited to participate in the research, "Impact of Social Media Use on Adolescent Mental Health and Well-being at Selected Private Schools in Greater Accra Region of Ghana"]

RESEARCHER

FEODORA OFOSU OFFEI

Master of Public Health Candidate

Ensign Global College

Kpong, Eastern Region

feodora.offei@st.ensign.edu.gh

This Informed Consent Form has two parts:

- **Information Sheet (to share information about the study with you)**
- **Certificate of Consent (for signatures if you choose to participate)**

You will be given a copy of the full Informed Consent Form

Part I: Information Sheet

Introduction

I am Feodora Offei, a Master of Public Health Candidate at Ensign Global College. I am conducting research on the impact of social media use on adolescent mental health and well-being at selected private schools in Greater Accra, Ghana.

I will share information about this research and invite you to participate. You do not have to make a decision about participating today. Kindly note that before making your decision, you may speak with anyone you feel comfortable with about the research. If you come across any words in this consent form that you do not understand, please let me know and I will be happy to help at any time!

Purpose of the research

Hi there! You are being asked to take part in a study. Before diving in, kindly ensure that you grasp the ins and outs of the research and its significance. Please take time to thoroughly read the material below. Please do get in contact with the researcher should you have any questions or need additional details.

Social media impacts mental health and general wellbeing. We want to find out how, and whether it impacts you positively, negatively, or both. We want to assess the influence social media has on your mental health and well-being, identify coping strategies that are used to maintain optimism in the face of social media challenges and any protective variables that reduce risk, and suggest evidence-based solutions for a healthier digital future. Your contribution is deeply appreciated.

Type of Research Intervention

This research will involve your participation by filling an electronic questionnaire.

Participant Selection

We kindly encourage you to participate in this research as we believe that your perspective as a student in a well-resourced setting will substantially improve our comprehension of how social media affects mental health and general well-being among adolescents at selected private schools.

Study Procedures

The questionnaire will take an average of 5 minutes to complete. It will involve some questions about how social media influences, how it impacts your mental health and well-being as well as the coping strategies you employ to mitigate the negative impact of social media on the mental health and well-being.

It is not compulsory to partake in this and you're not obliged to answer any or all of the questions.

Confidentiality

For this research study, your comments will not be anonymous. Every effort will be made by the researcher to preserve your confidentiality including the following:

- Assigning code names/numbers for participants that will be used on all research notes and documents.

- Keeping notes and any other identifying participant information in a locked file cabinet in the personal possession of the researcher.

Participant data will be kept confidential except in cases where the researcher is legally obligated to report specific incidents. These incidents include, but may not be limited to, incidents of abuse and suicide risk. Be assured that your trust and privacy is guaranteed during the handling and processing of data.

Risks

This survey might require you to provide extremely sensitive details about your cognitive and emotional state and general well-being. Kindly bear in mind that you don't have to answer any question if you don't want to and you do not have explain if you refuse to answer any question nor partake if it makes you uncomfortable.

Benefits

Your participation contributes valuable insights for shaping policies and initiatives to enhance adolescent well-being in the digital age. Findings may inform evidence-based strategies supporting optimal internet use for teens both in and out of school.

You play a crucial role in expanding our understanding of the intricate link between social media and mental health, contributing to a vital field of knowledge. It's important to note that there won't be any direct benefits or incentives for your participation. However, the results could influence digital engagement policies, support networks, and instructional practices, potentially improving mental health outcomes for teens in similar circumstances.

Contact Information

If you have questions at any time about this study, you may contact the researcher whose contact information is provided on the first page. If you have questions regarding your rights as a research participant, or if problems arise that you do not feel you can discuss with the Primary Investigator, please contact Dr. Stephen Manortey at *stephen.manortey@ensign.edu.gh*

Voluntary Participation

You voluntarily choose to take part in this study. The choice about whether to partake in this study is totally dependent upon you. In the event that you choose to partake, you would be given a consent form to sign.

You have the opportunity to pull out; Pulling out won't affect your relationship, if any, with the researcher. Assuming you choose to pull out before data collection is done, your information will be either returned or safely obliterated.

With regards to this school-based research, consent can be granted by an approved delegate of the school, similar to the housemistress, head, or a designated person.

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VOLUNTEER INFORMED CONSENT FORM

Do you want to partake in it?   Yes [ ]   No [ ]

I have read and understand the provided information and have had the opportunity to ask questions.

I understand that my participation is voluntary and that I am free to withdraw at any time, without

giving a reason and without cost. I understand that I will be given a copy of this consent form. I

voluntarily agree to take part in this study.

Participant's signature _____   **Date** _____
or   **thumbprint**

Investigator's signature   _____   **Date**   _____

I confirm that the participant was given an opportunity to ask questions about the study, and all

the questions asked by the participant have been answered correctly and to the best of my ability.

I confirm that the individual has not been coerced into giving consent, and the consent has been

given freely and voluntarily.

 A copy of this ICF has been provided to the participant.

Print Name of Researcher/person taking the consent_____

Signature of Researcher /person taking the consent_____

Date _____

        Day/month/year

Appendix 2: Questionnaire

Thank You for Your Willingness to Participate!

These questions may take less than 5 minutes.

Demographic:

A. Age

[   ]

B. Gender

Male   Female

C. School name (Abbreviations are welcome)

[   ]

D. Grade/Current year

E. Do you need approval to access any social media platforms?

○ Yes

○ No

F. Please indicate the particular social media, if applicable

[   ]

Below are statements related to social media usage.

Please select the number that best represents how TRUE each statement is.

Remember that there are no right or wrong answers. Thank you for your time!

If the statement is false (not true), select 0.

If you're uncertain (neutral), select 1.

If the statement is true, select 2.

0	1	2
○	○	○

1. I get upset about little things

2. I find myself overreacting to situations

3. I stress about a lot of things

4. I am easily irritated

5. I find it difficult to relax

6. I cannot stop feeling sad

7. I get annoyed when people interrupt me

Here's a guide to help you with your ratings:

1 Star: Strongly Disagree

2 Stars: Disagree

3 Stars: Neutral

4 Stars: Agree

5 Stars: Strongly Agree

8. You spend a lot of time thinking about social media or planning how to use it

9. You feel an urge to use social media more and more

10. You have tried to cut down on the use of social media without success

11. You become restless or troubled if you are prohibited from using social media

12. How often do you use social media?
○ Barely
○ Yearly
○ Weekly
○ Seasonal
○ Daily
○ Monthly

9. How much time do you spend on social media?

○ 3 to 4 hours a day

○ 30 minutes to 1 hour a day

○ 1 to 2 hours a day 2 to 3 hours

○ a day

○ less than 30 minutes a day

○ More than 4 hours a day

10. In a week, which of these do you visit most frequently? Kindly select the predominant platform only.

○ Whatsapp

○ Facebook

○ Twitter

○ Instagram

○ Youtube

○ Tiktok

○ All of the above

Appendix 3: Ethical Clearance

OUR REF: ENSIGN/1RB/EL/SN-241   January 11, 2024.

 YOUR REF:

INSTITUTIONAL REVIEW BOARD SECRETARIAT

Feodora Ofosu Offei

Ensign Global College

Kpong.

Dear Feodora,

ETHICAL CLEARANCE TO UNDERTAKE POSTGRADUATE RESEARCH

At the General Research Proposals Review Meeting of the INSTITUTIONAL REVIEW BOARD (IRB) of Ensign Global College held on Wednesday, January 10, 2024, your research proposal entitled **"Impact of Social Media Use on Adolescent Mental Health and Well-Being at Selected Private Schools in Greater Accra Region, Ghana"** was considered.

You have been granted Ethical Clearance to collect data for the said research under academic supervision within the IRB's specified frameworks and guidelines.

We wish you all the best.

,sincerely,

Dr. (Mrs.) Rebecca Acquaah-Arhin

IRB Chairperson

SOS-HERMANN GMEINER INTERNATIONAL COLLEGE
A project of SOS-Kinderdorf International

November 30th, 2023

The Institutional Review Board,
Ensign Global College,
Kpong

Dear Sir/Madam,

Approval to Conduct Research at SOS - Hermann Gmeiner International College

We write to express our approval and support for the proposed research presented by Feodora Ofosu Offei on the topic "Impact of Social Media Use on Adolescent Mental Health and Well-being at Selected Private Schools in the Greater Accra Region of Ghana."

We look forward to giving her all the necessary support to complete this academic research work following your ethical approval and clearance at Ensign Global College.

Sincerely,

Adzo Ashie
Vice Principal 2

MAILING ADDRESS: Private Mail Bag, Tema, Ghana – LOCATION: School Road, Community 6, Tema

PHONE: +233 303 204267 / 202907 FAX: +233 303 202916 / 202927
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The Institutional Review Board,
Ensign Global College,
Kpong

15th January 2024

Dear Sir/Madam,

Approval to Conduct Research at Ghana International School

I write to approve conduct of the proposed research presented by Feodora Offei on the topic "The Impact of Social Media Use on Adolescent Mental Health and Wellbeing in Ghana International School."

I look forward to giving her support to complete this academic research work following your ethical approval and clearance at Ensign Global College.

Yours Sincerely,

Dr. Kristine Marbell-Pierre
Head of Counselling, Career Guidance & Community Life