RESEARCH ARTICLE

Does Different Social Media Platforms Lead to Depression, Anxiety, Stress and Bipolar Disorder? A Cross-Sectional Analysis on Private University Undergraduates

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ARTICLE INFO	ABSTRACT
	The widespread use of social media platforms among undergraduate students in Malaysia has raised concerns about its impacts on mental health. Social media expose students to a variety of potential risks, such as cyberbullying and privacy concerns. This study addresses the pressing issue of whether the use of social media influences the mental well-being of undergraduates. The objective is to identify the specific effects of platforms such as YouTube, Facebook, Instagram, and TikTok on student mental health. Using a questionnaire-based convenient sampling methodology, we collected a study sample of 182 students studying at a private university to investigate the correlation between social media use and mental health issues, including stress, anxiety, depression, and bipolar disorder. SPSS is used to conduct Cronbach Alpha for reliability test, and Pearson Correlation for testing the conceptual framework. The results show that Facebook and YouTube significantly affect depression, anxiety, stress and bipolar disorder. TikTok also shows significant impacts on mental health except for stress. Meanwhile, Instagram only significantly affects anxiety. This result is a strong proof that excessive use of social media is correlated with anxiety especially related to physical social life. Facebook, YouTube and TikTok seem to bring more impacts on mental health compared to Instagram. The implication of this study is to provide insights on the factors that influence mental health issues among university students and emphasizes the future need for targeted interventions to mitigate possible harm.

INTRODUCTION

The 21st century has witnessed exponential growth of online social networking sites (SNS), with Facebook emerging as the most important platform in terms of the number of users (Kumari, 2020; Yamin, 2019). Facebook plays a variety of roles in society, including as a communication tool, a source of information, and a social connector (Montag et al., 2019). However, this ubiquitous presence has also raised concerns about its mental health effects, especially among college students (Lim et al., 2021; Ting et al., 2023). Numerous studies have highlighted the detrimental effects of excessive Facebook use on the mental health of college students. Nazzal et al. (2022) found that long-term

Facebook use increased the risk of depression, anxiety, and stress disorders in this population (Nazzal et al., 2020). The constant connection and comparison with others can lead to feelings of inadequateness, loneliness, and low self-esteem (T. Smith, 2023). Socially anxious college students may prefer online communication on Facebook to face-to-face interactions, leading to increased time spent on the platform (Chabrol et al., 2016). Furthermore, the impact of Facebook on sleep patterns and academic performance cannot be ignored. Studies have shown that excessive use of social media, including Facebook, is associated with sleep disruption and sleep deprivation, which can further exacerbate mental health problems (Alonzo et al., 2021). Al-Menayes (2015) also noted that the addictive nature of Facebook can interfere with academic performance, as students may prioritize engaging in social media over studying or fulfilling academic responsibilities (Al-Menayes, 2015). Despite these negative effects, several studies have also highlighted the potential benefits of Facebook use on the mental health of college students. Billah et al. (2023) argued that Facebook can serve as a mechanism for students to cope with stress, anxiety, depression, and loneliness by providing a sense of social support and connection (Billah et al., 2023). This duality of Facebook highlights the complexity of its impact and emphasizes the need for further research, particularly with the Malaysian undergraduate student population.

Transitioning to Instagram, the platform has rapidly gained popularity among young people, with over 59% of users aged between 18 and 29 years (Ponnusamy et al., 2020). However, the relationship between Instagram use and college students' mental health is complex. Research has shown that Instagram addiction is associated with high levels of depression and anxiety (Lancy D'Souza & Hemamalini, 2018). Social comparison is a common behavior on Instagram and is associated with feelings of inadequacy and low self-esteem, especially in individuals with lower levels of mental health (Ponnusamy et al., 2020). Additionally, Instagram addiction has been linked to colorism issues, compounding its impact on mental health (Sharma et al., 2022). Despite these negative associations, Instagram also offers some benefits for mental health. Naslund et al. (2020) found that Instagram can provide a platform for self-expression and self-disclosure, which can lead to increased self-esteem and social connection among young people (Naslund et al., 2020). However, it is not yet clear to what extent these positive aspects have a negative impact on mental health, and further research is necessary, particularly with undergraduate students in the developing country, Malaysia.

The YouTube platform has become a cornerstone of online video consumption, with over 23.9 million users in the early of 2023 (Kemp, 2023) and over 258 million unique viewers in 2024 (Ceci, 2024). YouTube's popularity among adolescents and young adults has made it an important platform for understanding its impact on mental health. Santini et al. (2015) noted that while many college and university students view social networks, including YouTube, as a means of social support, it can also have a detrimental effect on mental health, especially for those with already elevated levels of anxiety and depression (Santini et al., 2015). Research has shown that YouTube use is strongly associated with depression, anxiety, and stress among college students (Iwamoto & Chun, 2020). However, certain YouTube content can also have a positive impact on mental health. Balcombe & De Leo (2023) argue that YouTube is a valuable platform for information sharing and mental health support, providing a variety of content that can improve mental health (Balcombe & De Leo, 2023). Furthermore, peer support on platforms such as YouTube can be effective in promoting behavioral change and improving health (Choi et al., 2021). Despite these findings, there are still gaps in our understanding of how specific types of content on YouTube can positively or negatively impact mental health. More research is necessary to identify the protective factors and potential mechanisms at play in this dynamic, with a particular focus on Malaysia, which sees the growth of 300 thousand users from 2022 to 2023 (Kemp, 2023).

There is also growing concern about the impact of TikTok on the mental health of college students. The unique short-form video format has made it popular among millennial and Gen Z users, raising concerns about social media addiction (Shutsko, 2020; T. Smith, 2023). Research has shown that

TikTok users frequently make social comparisons, resulting in feelings of self-depreciation and anxiety. Additionally, TikTok's addictive nature and potential misinformation can further exacerbate mental health issues among college students (Fan, 2023). Despite these concerns, TikTok also offers avenues for early intervention and raising awareness of mental health among college students. Provides educational content as well as opportunities for creative expression and community support, highlighting its potential as a platform for positive mental health practices (Gajo et al., 2022; Lim et al., 2021; Regasa & Lemmi Ettisa, 2023; Tan et al., 2024a, 2024b). However, more research is needed to fully understand and address the impact of TikTok on the mental health of university students, especially Malaysian students with 19.30 million users aged 18 and over in 2023 (Kemp, 2023).

In conclusion, while social media platforms such as Facebook, Instagram, YouTube, and TikTok offer potential benefits in terms of social connection and support, their overuse poses potential risks to young adults such as students, including cyberbullying, privacy concerns, and exposure to unrealistic or idealized portrayals, even though it can also give them a sense of community, support, and self-expression. Policy and regulatory gaps may also arise from a lack of knowledge on how social media affect mental health. Governments and oversight organizations might neglect to put user protection policies or hold social media companies responsible for actions that exacerbate mental health problems. The complex relationship between social media use and mental health highlights the need for targeted interventions and further research, especially for young adults in the developing country - Malaysian university student. Understanding these dynamics is critical to promoting positive mental health among today's students. This research contributes to digital psychology model which investigates the human behavioral changes due to digital culture (Khan et al., 2024).

2.0 LITERATURE REVIEW

2.1 Impacts of Facebook on Mental Health

A study by Nazzal et al. (2022) found that excessive use of Facebook among undergraduate students has a significant impact on their mental health, particularly increasing the risk of depression, anxiety, and stress (Nazzal et al., 2020). Furthermore, depression and anxiety are the key impacts of Facebook. There is a study that found that Facebook plays a significant role in the diagnosis of bipolar disorder (do Nascimento et al., 2016). In fact, a study has shown that prolonged exposure to social media platforms such as Facebook can exacerbate feelings of loneliness and self-esteem, contributing to poor mental well-being (T. Smith, 2023). Socially anxious university students prefer online communication rather than face-to-face interactions; therefore, they spend more time on Facebook to communicate with others (Chabrol et al., 2016). Furthermore, other findings indicate that sleep disruption and deprivation are associated with excessive use of social networks and negative mental health outcomes (Alonzo et al., 2021). Similarly, Al-Menayes (2015) concluded that the addictive nature of social networks such as Facebook can interfere with academic performance. However, according to Billah et al. (2023), the use of Facebook use can also serve as a coping mechanism for stress, anxiety, depression, and loneliness among students, providing a sense of social support and social connection (Billah et al., 2023).

However, research on the impact of Facebook on mental health is extensive, yet there is a lack of detailed analysis on how the duration and timing of Facebook use influence mental health among Malaysian undergraduates. Most studies do not differentiate between short-term versus long-term effects of Facebook engagement, nor do they consider the time of day when usage occurs, which could be crucial in understanding its psychological impacts.

2.2 Impacts of Instagram on Mental Health

Over the past two decades, Internet addiction has become a popular topic for researchers in the field of behavioral addictions (Kircaburun & Griffiths, 2018). Instagram is among the rapidly expanding

social networks, particularly preferred by young adults, with more than 59% of its users falling between the ages of 18 and 29 (Ponnusamy et al., 2020). To begin with, let's explore the relationship between Instagram and mental health. According to the study by Lancy D'Souza & Hemamalini (2018), Instagram addiction was found to crucially impact high levels of depression and anxiety among undergraduate students (Lancy D'Souza & Hemamalini, 2018). Additionally, an analysis found that of the 196 Instagram posts that are 70.4% shared by individuals suffering from bipolar disorder (Patel et al., 2023). Furthermore, a study has shown that addiction to social media platforms such as Instagram can lead to heightened feelings of social comparison and exacerbate colorism issues (Sharma et al., 2022). A finding by Ponnusamy et al. (2020) indicated that people with lower levels of psychological well-being may be prone to experiencing addiction to Instagram as they try to fulfill their social needs. On the contrary, numerous advantages of social media were mentioned in a study of 43 studies involving young people, including better self-esteem and opportunities for self-disclosure (Naslund et al., 2020).

2.3 Impacts of YouTube on Mental Health

In 2020, YouTube boasted a staggering user base exceeding 2.1 billion, with daily video consumption exceeding one billion hours, while content creators contributed over 500 hours of video every minute. YouTube stands as the second most popular global website and serves as a common choice for hosting content by both traditional media and other social media outlets (Ceci, 2024; Osman et al., 2022). YouTube and Twitter are prominent social media platforms favored by adolescents and young adults, given their widespread popularity (Khasawneh et al., 2020). Many college and university students perceive social networks as a means of social support; however, it can negatively impact their mental well-being, particularly among those already experiencing elevated levels of anxiety and depression (Santini et al., 2015). For example, a study involving 90 hospitalized adolescents with a background of non-suicidal self-injury (NSSI) revealed that most of the participants had encountered NSSI through conventional or online social media platforms before engaging in self-harming acts (Khasawneh et al., 2020). It has been observed that there exists a correlation between YouTube usage and the mental health (depression, anxiety, and stress) of undergraduates (Iwamoto & Chun, 2020). However, it is important to acknowledge that certain YouTube content can positively impact the mental well-being of undergraduates. In fact, YouTube serves as an invaluable platform not only for information sharing, but also for offering mental health support (Balcombe & De Leo, 2023). Furthermore, researchers have explored how peer support on platforms such as community forums and YouTube, where people share personal experiences and provide emotional support, can effectively foster behavior change and enhance health outcomes (Choi et al., 2021).

2.4 Impact of TikTok on Undergraduate Mental Health

Short videos, particularly those under 60 seconds, have surged in popularity due to their ease of sharing on social networks and compatibility with mobile devices. TikTok has played an important role in this trend, quickly gaining popularity among consumers of all ages, particularly millennials in China (Lee et al., 2020). However, the platform's unique features, such as the ability to record moments and create short films, have raised concerns about social media addiction (Smith, 2020), an area that has been more extensively studied in relation to Facebook and Instagram. The impact of TikTok on undergraduate mental health, particularly regarding stress and anxiety, is a growing concern, with research indicating that undergraduates often engage in social comparisons on the platform, leading to self-disaffection and anxiety. Higher levels of online social comparison, especially appearance-specific comparisons, have been linked to depressive symptoms and an increased risk of disordered eating and body image concerns in this demographic (Carter et al., 2016; Fardouly et al., 2018). Furthermore, excessive TikTok usage has been associated with elevated stress levels among undergraduates (Ismail et al., 2022). Concerns also arise regarding misinformation due to the format

of short videos, potentially impacting viewers' understanding of various subjects (Fan, 2023). However, TikTok offers avenues for early intervention and increased awareness of mental health among undergraduates, as well as educational content and opportunities for creative expression and community support. Users must exercise caution and moderation to avoid the negative effects of excessive use, and further research is needed to fully understand and address TikTok's impact on undergraduate mental health (Gajo et al., 2022; Regasa & Lemmi Ettisa, 2023). Table 1 concludes previous studies with the detailed variables involved in the investigation.

Table 1: Covariates of undergraduate mental health based on previous studies

Covariate	Detail Variables	Previous Studies
Depression	Mental Health; Facebook Use; University students Internet; Facebook; Behavior; mental health; coping strategies; social support; resiliency; students; Instagram Addiction; Depression;College Students social media;instagram; mental health social media ; mental health ; risks Instagram use;Depression; Mental health disorder social media;depression;higher education depression;Youtube;social media;Youth mental health; social media; cyberbullying mental health; social media; cyberbullying Social media use; Tiktok; students	Nazzal et al. (2022) do Nascimento et al. (2016) Billah et al. (2023) Lancy D'Souza & Hemamalini (2018) Sharma et al. (2022) Naslund et al. (2020) Adeyanju et al. (2021) Iwamoto & Chun. (2020) Gaus et al. (2021) Fardouly &Vartanian (2016) Carter et al. (2016) Gorgon (2012)
Anxiety	Mental Health; Facebook Use; University students Internet; Facebook; Behavior; Social Media; Internet; Borderline personality disorder mental health; coping strategies; social support; resiliency; students Instagram Addiction; Depression;College Students Youtube;Youtuber;social anxiety social media ; mental health ; risks Mental Health;short video; education;students Tiktok; mental health mental health; social media; cyberbullying mental health; social media; cyberbullying	Nazzal et al. (2022) do Nascimento et al. (2016) Chabrol et al. (2017) Billah et al. (2023) Lancy D'Souza & Hemamalini, M.J. (2018) de Bérail et al. (2019) Naslund et al. (2020) Fan (2023) Ismail (2022) Fardouly & Vartanian, (2016) Carter et al. (2016)
Stress	Mental Health; Facebook Use; University students mental health; coping strategies; social support; resiliency; students Mental health problem; TikTok application;	Nazzal et al. (2022) Billah et al. (2023) Gajo et al.(2022)

	college students Mental Health;short video; education;students Tiktok; mental health	Fan. (2023) Ismail (2022)
Bipolar Disorder	Internet; Facebook; Behavior; use of social media use; bipolar disorder Bipolar disorder	do Nascimento et al. (2016) Patel et al. (2023) Iwamoto & Chun. (2020)

Based on the study conducted in the previous sections, this study constructed a conceptual framework as shown in Figure 1. The associated hypotheses are as follows.

H1: There is a positive relationship between Facebook and depression.

H2: There is a positive relationship between Facebook and anxiety.

H3: There is a positive relationship between Facebook and stress.

H4: There is a positive relationship between Facebook and bipolar disorder.

H5: There is a positive relationship between Instagram and depression.

H6: There is a positive relationship between Instagram and anxiety.

H7: There is a negative relationship between Instagram and stress.

H8: There is a negative relationship between Instagram and bipolar disorder.

H9: There is a positive relationship between YouTube and depression.

H10: There is a positive relationship between YouTube and anxiety.

H11: There is a positive relationship between YouTube and stress.

H12: There is a positive relationship between YouTube and bipolar disorder.

H13: There is a positive relationship between Tiktok and depression.

H14: There is a negative relationship between TikTok and anxiety.

H15: There is a positive relationship between TikTok and stress.

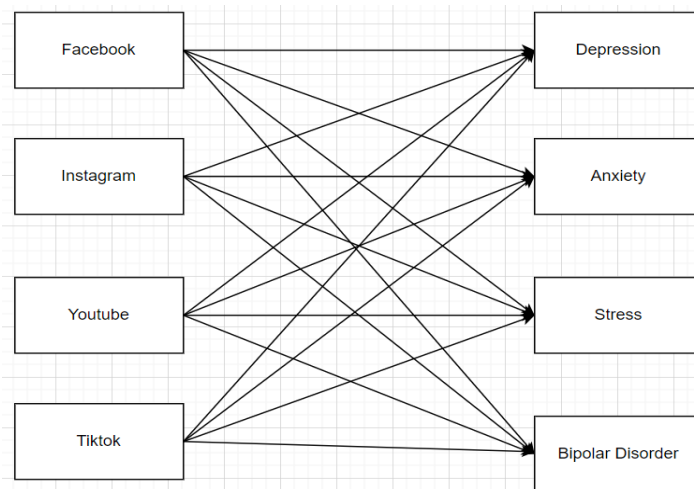H16: There is a negative relationship between TikTok and bipolar disorder.

Figure 1: Conceptual framework derived from the literature review.

3.0 RESEARCH METHODOLOGY

A survey was conducted among undergraduate students at Tunku Abdul Rahman University of Management and Technology (TAR UMT) in the Wilayah Persekutuan Kuala Lumpur, Malaysia, through WhatsApp, Facebook, Instagram and email address. The survey uses Google Forms to assess the use of social media and self-reported mental well-being using validated scales. This survey includes questionnaire items and scales from Ting et al. (2023), Tandoc et al. (2015), Islam et al. (2021), Pate et al. (2023), Moldt et al. (2022), Caballo et al. (2012), Jones et al. (2013), and Hirschfeld (2002). Table 2 shows the questionnaire items that were used in data collection. In our research, our aim is to examine the links between social media use (Facebook, Instagram, YouTube, TikTok) and mental health issues (depression, stress, anxiety, bipolar disorder) using SPSS for Pearson Correlation statistical analysis. Employing the Pearson correlation coefficient in a bivariate approach allows us to assess the strength and direction of the relationships between social media platforms and specific mental health conditions.

Table 2: Detail of the questionnaire items and resources

Questionnaire Item	Options	Scale	Resource
Section A: Social Media Usage Q1. What is your favorite social media platform?	Facebook Instagram Youtube TikTok	First Choice Second choice Third choice Fourth choice	Sohane et al. (2023)
Q2. What is the average time you spend on social media every day?		None <1 hours 1-2 hours >2 hours	
Q3. How often do you find yourself using social media without a specific purpose?		Almost never Almost always	
Q4. I use social media to shop online. Q5. I use social media to watch movies/shows. Q3. I use social media to listen to music. Q4. I use social networks to play online games. Q5. I use social media to watch video clips about celebrities. Q6. I use social media to download music / videos. Q7. I use social media to post photos/update my status. Q8. I use social networks to communicate with teachers/classmates (for educational purposes). Q9. I use social media to read important announcements from colleges and/or industries. Q10. I use social media to submit an article (e.g., blog). Q11. I use social media to get the latest news. Q12. I use social media to watch humorous/funny video clips. Q13. I use social media to discuss assignment(s)		Almost Usually not Occasionally Usually Almost always.	Ting et al. (2023)
Section B: Depression Q15. Trouble concentrating on things Q16. You thought your life had been a failure?		Almost never Almost	Tandoc et al. (2015)

Q17. You felt that people disliked you. Q18. I often like to cry Q19. The people were not friendly. Q20. Trouble falling or staying asleep, or sleeping too much Q21. You were bothered by things that usually do not bother you. Q22. Little interest or pleasure in doing things. Q23. Feeling tired or have little energy Q24. Poor appetite or overeating Q25. Thoughts that you would be better off dead or hurting yourself in some way		always.	Islam et al. (2021)
Section C: Stress Q26. You feel like you were inadequate. Q27. You feel like things kept piling up. Q28. You feel like you were carrying a heavy load. Q29. You feel like you were rushed. Q30. You feel like the odds were against you. Q31. You feel like you are in a hurry Q32. You feel like nothing was going right. Q33. You feel like there was no escape. Q34. You feel that too many demands are being made on you. Q35. You are lighthearted. Q36. You have too many things to do. Q37. You feel under pressure from deadlines		Almost never Almost always	Pate et al. (2023) Moldt et al. (2022)
Section D: Anxiety Q38.You feel nervous, anxious, or on edge Q39.You feel unable to stop or control worrying Q40.You feel like you are worried too much about different things. Q41.You have difficulty relaxing. Q42.You feel afraid that something awful might happen. Q43.You get easily annoyed or irritable. Q44.You feel refusing when asked to do something that you don't like doing. Q45.You feel watched by people of the opposite sex Q46.You feel nervous about speaking in class. Q47.You feel anxiety when talking to people you don't know at school. Q48.You make a mistake in front of other people. Q49.You attend a social event where only know one person		Almost never Almost always	Caballo et al. (2012)
Section E: Bipolar disorder Q50. You have little control over my mood. Q51. You are unhappy with the person you have become. Q52. You feel like you are in control of the things that happen in your life. Q53. You are productive in the things in life that you have engaged in. Q54. You play a central role in maintaining your own well-being.		Almost never Almost always	Jones et al. (2013)

Q55. You depend on others to maintain your own well-being. Q56. You struggle to make sense of the experiences you have had. Q57. You think differently about some of your experiences now compared to when they first occurred. Q58. You avoid taking on challenges in life that matter to you. Q59. You are more self-confident than usual Q60. You had much more energy than usual		Hirschfeld (2002)

RESULTS AND DISCUSSION

According to Table 3, the reliability of the questionnaire items was evaluated using the Cronbach alpha coefficient, a measure of internal consistency between the elements. The questionnaire covered a total of 99 items across all constructs. Within the Social Media Usage section, participants responded to 53 standardized items aimed at gauging their engagement with social media platforms. The analysis revealed a high level of internal consistency, with a Cronbach alpha coefficient of 0.938, indicating robust reliability in measuring social media usage. For depression, the questionnaire consisted of 11 items that targeted symptoms associated with the condition. Reliability analysis yielded a Cronbach's alpha coefficient of 0.900, suggesting strong internal consistency between items related to depression. Similarly, the Stress section comprised 12 items designed to assess stress-related experiences. The internal consistency among these elements was found to be high, with a Cronbach's alpha coefficient of 0.896. Anxiety symptoms were evaluated using a set of 12 items. Reliability analysis indicated good internal consistency among anxiety-related constructs, with a Cronbach alpha coefficient of 0.811. Lastly, participants responded to 11 items that were intended to assess symptoms associated with bipolar disorder. The internal consistency of the bipolar disorder scale was moderate, with a Cronbach's alpha coefficient of 0.758.

Table 3: Reliability level of questionnaire items

Questionnaire items sections	Cronbach's alpha based on standardized items	Number of items
Social Media Usage Depression Stress Anxiety Bipolar disorder	0.938 0.900 0.896 0.811 0.758	53 11 12 12 11
Overall	0.951	99

Table 4 shows 182 demographic data for the respondents: age, sex, and Ethnicity. The data show that most of the respondents' age is between 21-25, which is 62.1 percent.

Table 4: Demographic information of the participants

Characteristic	Frequency	Percentage
Age		
<18	3	1.6
>25	17	9.3
18-20	49	26.9
21-25	113	62.1
Gender		
Female	52	28.6
Male	130	71.4
Ethnicity		
Bisaya	1	0.5
	160	87.9
Chinese	12	6.6
	9	4.9
Indians		
Malays		
Total	182	100

Based on the results in Table 5, the direct relationship between Facebook use and mental health ($r_{depression}$ = 0.264**, $r_{anxiety}$ = 0.280**, r_{stress} = 0.290** and $r_{bipolar\ disorder}$ = 0.256**) is significantly positive (sig < 0.001). Therefore, H1-4 are accepted. On the other hand, the direct relationship between Youtube use and mental health ($r_{depression}$ = 0.195**, $r_{anxiety}$ = 0.179**, r_{stress} = 0.255**, $r_{bipolar\ disorder}$=0.208**) is significantly positive (sig is < 0.001 , 0.008 , 0.002 , 0.005). Therefore, H9-H12 are accepted. Meanwhile, the direct relationship between Tiktok use and mental health ($r_{depression}$=0.330**, $r_{anxiety}$=0.159**, $r_{bipolar\ disorder}$=0.194**) is significantly positive (sig is < 0.001, 0,032, 0.009). But Tiktok use and mental health (r_{stress} = 0.138**) are significantly negative (sig is 0.064). Therefore, H13, H14, H16 are accepted, but H15 is falling support. The direct relationship between Instagram use and mental health ($r_{depression}$=0.112, r_{stress}=0.140 and $r_{bipolar\ disorder}$=0.098) is significantly negative (sig is 0.131, 0.060, 0.187). However, Instagram use and mental health ($r_{anxiety}$=0.149**) are significantly positive (sig is 0.045). Therefore, H5, H7, H8 are falling support, but H6 is accepted.

Table 5: Pearson correlation of IV and DV

Independent Variable	Dependent variable	Sig(2-tailed)	Pearson's Correlation (r)
Facebook	Depression Anxiety Stress Bipolar Disorder	<0.001	0.246** 0.282** 0.292** 0.296**
Instagram	Depression Anxiety Stress Bipolar Disorder	0.131 0.045 0.060 0.187	0.112 0.149* 0.140 0.098
Youtube	Depression	<0.001	0.295**

	Anxiety	0.008	0.197**
	Stress	0.002	0.225**
	Bipolar Disorder	0.005	0.208**
Tiktok	Depression	<0.001	0.330**
	Anxiety	0.032	0.159**
	Stress	0.064	0.138
	Bipolar Disorder	0.009	0.194**

*Note: ** The correlation is significant at the 0.01 level (2-tailed)*

The research hypotheses related to Facebook usage H1, H2, H3 and H4 were formulated based on the existing literature suggesting potential associations between social media engagement and mental health outcomes. Hypothesis H1 posited a positive correlation between Facebook use and depression, reflecting the premise that excessive exposure to social networks, particularly platforms like Facebook, can contribute to depressive symptoms due to factors such as social comparison and cyberbullying. The link between cyberbullying and depression has grown stronger, and girls and older adolescents are more vulnerable to experiencing depression afterward (Hu et al., 2021). Similarly, hypothesis H2 anticipated a positive correlation between Facebook use and anxiety, considering the role of social media in amplifying feelings of stress and apprehension through constant connectivity and exposure to curated lifestyles. Hypothesis H3 predicted a positive correlation between Facebook use and stress, which is consistent with research suggesting that prolonged engagement with social media platforms may lead to elevated stress levels due to information overload and digital overload. Lastly, Hypothesis H4 proposed a positive correlation between Facebook use and bipolar disorder, acknowledging the potential impact of social networks on mood regulation and emotional stability among individuals with bipolar disorder. Facebook may affect undergraduate mental health because undergraduate students diagnosed with major depressive disorders have been found to dedicate an excessive amount of their leisure time to the use of computers (Zaffar et al., 2015). Furthermore, the pattern was comparable to personality disorders, where the primary predictor of each disorder predominantly revolved around factors related to Facebook usage, except paranoid personality disorder (Rosen et al., 2013).

Hypotheses on Instagram usage H5, H6, H7, and H8 were formulated based on the unique characteristics of the platform and its perceived influence on mental health outcomes. Hypothesis H5 anticipated a nonsignificant correlation between Instagram use and depression, considering the platform's emphasis on visual content. Our study did not find a significant relationship between Instagram use and depression or stress, contrary to some existing literature. Possible factors contributing to this discrepancy include variations in study samples and measurement methods. Hypothesis H6 posited a positive correlation between Instagram use and anxiety, recognizing the role of image-focused platforms in exacerbating anxiety symptoms through comparison and self-presentation concerns. Our research shows that social comparison, prevalent on Instagram, is a precursor to increased anxiety. Instagram induces anxiety among college students by promoting a culture of comparison and exposure to idealized images, both linked to heightened social anxiety. Furthermore, exposure to idealized images contributes to negative emotions and overall poor psychological well-being, further amplifying anxiety levels among undergraduates (Jiang & Ngien, 2020). Hypothesis H7 predicted a non-significant correlation between Instagram use and stress, acknowledging the mixed findings in the existing literature regarding the impact on stress levels. Hypothesis H8 proposed a nonsignificant correlation between Instagram use and bipolar disorder, considering limited research exploring the relationship between Instagram engagement and mood disorders. Initially, there may not appear to be a direct link between Instagram use and bipolar disorder, especially considering activities such as listening to music and reading announcements.

However, after a deeper analysis based on our Table 6, it becomes evident that these activities may be associated with bipolar disorder. This unexpected finding suggests the need for more research on the impact of social media use on mental health, particularly focusing on activities such as listening to music and reading important college announcements.

Table 6. Questionnaire causing bipolar disorder

Social media	Questionnaire	Pearson's Correlation (r)
Instagram	I use social media to listen to music. I use social media to read important announcements from colleges and industries.	0.004* 0.005*

Note:*sig<0.05

The investigation of hypotheses about YouTube usage H9, H10, H11, and H12 was guided by the prevalence and its potential influence on mental health outcomes. Hypothesis H9 anticipated a positive correlation between YouTube use and depression, recognizing the platform's role as a source of entertainment and information that may contribute to feelings of isolation and inadequacy among users. Hypothesis H10 posited a positive correlation between YouTube use and anxiety, considering the platform's ability to evoke stress and apprehension through exposure to alarming or sensationalized content. Hypothesis H11 predicted a positive correlation between YouTube use and stress, acknowledging the potential for prolonged screen time and content consumption to exacerbate stress levels among users. Lastly, hypothesis H12 proposed a positive correlation between YouTube use and bipolar disorder, recognizing the need to explore the platform's impact of the platform on mood regulation and emotional well-being among people with bipolar disorder. The findings of this study support social comparison, suggesting that individuals on platforms like YouTube tend to compare themselves with others (Iwamoto & Chun, 2020). Our participants showed that they often place emotional importance on how others interact on these platforms. This comparison process can lead to feelings of inadequacy and anxiety as individuals try to meet perceived standards set by others on YouTube. Based on the previous finding, excessive use of social networks is associated with mental health problems such as emotional distress and poor performance, underscoring its negative impact on well-being (Blasco et al., 2020).

Hypotheses regarding TikTok usage H13, H14, H15, and H16 were formulated considering the rapid rise in popularity and its potential implications for mental health. Hypothesis H13 anticipated a positive correlation between TikTok use and depression, recognizing the platform's immersive and addictive nature of the platform that may contribute to feelings of emptiness and dissatisfaction among users. Hypothesis H14 posited a positive correlation between TikTok use and anxiety, acknowledging the platform's ability to induce stress and anxiety through constant scrolling and exposure to curated content. Hypothesis H15 predicted a non-significant correlation between TikTok use and stress, considering the potential for excessive engagement with short videos. TikTok does not appear to cause stress among undergraduates. TikTok serves as an enjoyable platform for discussing diverse topics with humor, possibly offering stress relief instead of adding to it (Jiotsa et al., 2021). Lastly, Hypothesis H16 proposed a positive correlation between TikTok use and bipolar disorder, recognizing the need to explore the platform's impact of the platform on mood instability and emotional regulation among individuals with bipolar disorder. Based on our research, TikTok's platform can contribute to mental health issues such as depression, anxiety, and bipolar disorder, as users are exposed to criticism and negative feedback. This is supported by the prevalence of depression and anxiety among adolescents and young adults, often discussed in popular social media content among young people (Samuel et al., 2024).

5.0 CONCLUSION

This study explored the relationship between social media use and mental health problems among Malaysian undergraduates, focusing on platforms such as Facebook, Instagram, YouTube, and TikTok. The findings indicate a significant positive correlation between the use of these platforms and various mental health challenges, including depression, anxiety, stress, and bipolar disorder. In particular, excessive use of Facebook and TikTok showed strong associations with increased levels of depression and anxiety. YouTube, while also associated with negative mental health outcomes, provided some benefits related to information and support for mental health, demonstrating a complex interaction between content type and user impact.

The study had several issues that might have limited how far the results could be applied. Because the sample was limited to undergraduates from a single university, it could not accurately reflect the range of experiences between Malaysian undergraduates. Furthermore, the use of self-reported data raises the possibility of bias because individuals may have over-reported or under-reported their use of social media or their state of mental health. The cross-sectional methodology makes it more difficult to determine a causal relationship between social media use and outcomes related to mental health.

To gain a deeper understanding of the causal links between social media consumption and mental health over time, future research should take into account longitudinal approaches. The results would be more generalizable if the demographic scope were expanded to include additional universities and a more varied pool of participants. It would also be helpful to investigate the effects of particular types of social media content, as this could offer a more in-depth understanding of the ways in which various interactions impact mental health. Lastly, tests and implementations of interventions aimed at reducing the negative effects of social networks on mental health could provide the real-world applicability of the research findings.

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