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The Relationship Between Social Network Usage and Mental Health Among Youths in Klang Valley, Malaysia

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ABSTRACT

The usage of social media among young people has alarmingly increased over the past 20 years, accompanied by an increase in mental health issues. This study aimed to identify the association between social network usage and mental health among Klang Valley, Malaysia youths. A total of 288 respondents aged 18 to 30 years old were recruited using snowball sampling. The response rate was 88.62%. The Social Network Usage Questionnaire (SNUQ) was used to measure social network usage, and the Depression, Anxiety and Stress Scale-21 Items (DASS-21) was used to assess depression, anxiety, and stress levels. The prevalence of depression, anxiety and stress among the respondents was 35.2%, 44.8% and 30.6%, respectively. The median duration of social network usage was 5 (Q1, Q3: 4,8) hours a day. Respondents' anxiety levels were positively correlated with monthly individual income (r=0.133, p=0.025) and level of constraint in using social media (r=0.239, p<0.001), while depression (r=0.257, p<0.001) and stress (r=0.260, p<0.001) levels showed a positive correlation with the level of constraint in using social media. The anxiety mean score was higher among respondents who used TikTok, 2.35 (SD = 1.57), compared to respondents who never used TikTok, 1.97 (SD = 1.36; p=0.033). Higher monthly individual income, higher constraints in using social media and TikTok usage were the factors associated with anxiety among youths. None of the social media usage influenced depression and stress levels. More studies are needed to establish an association between social media usage and the mental health of youths in Malaysia.

Keywords: Anxiety, depression, mental health, social network, stress, TikTok, youths

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INTRODUCTION

Mental health is a state of mental well-being that enables people to cope with the stresses of life, realise their abilities, learn well and work well, and contribute to their community (World Health Organization, 2022). Mental health is more than the absence of mental disorders. It exists on a complex continuum, which is experienced differently from one person to the next, with varying degrees of difficulty and distress and potentially very different social and clinical outcomes.

Social media has increasingly become a platform where individuals with mental illnesses seek solace and community. These platforms offer a form of digital therapeutic alliance where users can share personal experiences, obtain information on mental health, and, most importantly, find support from others who are experiencing similar challenges. The ability to connect with others who understand their struggles helps users feel less isolated and more understood. This phenomenon is supported by research indicating that many individuals with mental health issues turn to social media to escape reality and find comfort. These platforms provide a unique space for individuals to openly discuss their experiences, receive peer support, and access information that might not be readily available offline (Montag & Markett, 2023).

Social media is a widely used platform via web or mobile applications which allows quick, efficient, and broad communication between individuals through certain networks such as Facebook, Twitter, Instagram, Snapchat, TikTok, and Telegram. In recent years, the widespread adoption of social media has brought about a paradigm shift in how people communicate and interact (Hatamleh et al., 2023). Modern technology, particularly social networks, enables the sharing, exchange, and co-creation of various forms of digital content, including information, messages, photos, and videos. This functionality allows users to communicate and collaborate in previously impossible ways. Social networks provide the infrastructure for these interactions, making it easy for people to connect and engage with content from anywhere in the world (Nie et al., 2023).

Currently, social media is a very common lifestyle that we are so used to, as it provides much positivity, where efficiency is acquired. Still, there are always some limitations, such as individuals tending to be lazy and have an easygoing lifestyle. With an estimated three billion users globally, social media has been incorporated into everyday life. Youth and adolescents are among the most frequent users of social media, with many studies highlighting this demographic's extensive engagement with platforms like Instagram, Snapchat, and TikTok. A desire for social connection, self-expression, and entertainment often drives social media usage among young people. Additionally, the developmental stage of adolescence, characterised by identity formation and peer influence, makes social media particularly appealing to this age group (Anderson et al., 2023).

Social media usage among youth is pervasive worldwide, with substantial

variation across regions. Globally, social media platforms like TikTok, Instagram, and WhatsApp have seen massive growth, particularly among younger demographics. TikTok is especially popular among Gen Z and young adults, with engagement levels skyrocketing in regions such as Southeast Asia. In Western countries, platforms like Snapchat and TikTok are dominant among the younger audience, whereas in regions like Latin America, Facebook and Instagram remain more prevalent among youth. In Malaysia, social media is deeply ingrained in the daily lives of the youth. As of 2024, TikTok has emerged as the most popular platform among Malaysian youth, with about 50.3% of users aged 18–24 years old and a total advertisement reach of approximately 83.1% of the population. Other platforms such as Instagram and Facebook also maintain strong user bases, particularly among users aged 18–34 years old, who make up most social media users in the country. Moreover, WhatsApp leads in overall social media usage in Malaysia, favoured for communication by 90.7% of users. While Facebook and Instagram are still widely used, TikTok's rapid rise, especially among the youth, marks a significant shift in the social media landscape. The general trend in Malaysia reflects a growing reliance on digital platforms for both social interaction and content consumption (Kemp, 2024). Overall, the social media environment in Malaysia mirrors global trends, but particular platforms are seeing more prominence due to regional preferences and cultural nuances.

Meanwhile, there has been a relationship between social media usage and mental health, and the relationship is often complex and multifaceted, with both positive and negative aspects. An increased risk of depression, anxiety, stress, obsessive-compulsive disorder (OCD), attention-deficit/hyperactivity disorder (ADHD), and the tendency for binge drinking have all been linked to problematic social networking sites (SNS) usage. According to a meta-analysis, the amount of time spent using social media and the frequency of usage has a weak correlation with depression symptoms (Weinstein, 2023). In addition, people increasingly experience information overload on social media, which influences psychological distress. It has also been shown to trigger negative social comparisons, promoting anxiety symptoms and interfering with their daily activities (Xu et al., 2022).

The Impact of Social Network Usage on Depression, Anxiety and Stress

Excessive exposure to social networking sites will intensify depression (Yoon et al., 2019). Higher levels of depression were associated with greater time spent on social networking sites and a higher rate of checking frequency. Besides, the greater the general or upward social comparisons, the higher the levels of depression. The effect on depression from both social comparisons on social networking sites is stronger compared to the time spent on them (Yoon et al., 2019). A narrative review concluded that social media use contributes to depression and anxiety among youth (Prasad et al., 2023).

However, there is research showing contradicting results that greater time spent on social media leads to higher levels of depression. Social comparisons with unrealistic standards for happiness and perfection can negatively affect the life satisfaction and mental health of younger users (Bottaro & Faraci, 2022). Indeed, excessive use of new technologies may increase psychological distress in terms of loneliness, depression, anxiety, and insomnia (Nowland et al., 2018). The consequences of overusing mobile phone technologies are anxiety symptoms, insomnia, and addiction (Daraj et al., 2023).

Based on the research by Kelly et al. (2018), the percentage of adolescent males with clinically relevant symptoms slightly dropped from 7.4% to 6.8%, from zero hours of social networking site usage to 3 to 5 hours. The percentage only surged dramatically from 6.8% to 11.4% for the subsequent more than 5 hours of usage of social networking sites. This might suggest that appropriate and non-excessive usage of social networking sites may benefit users by relieving their emotional negativity. In contrast, among girls, greater duration spent corresponded to an increase in depressive symptom scores, similar to the result suggested by previous research (Yoon et al., 2019).

According to the research by Blasco et al. (2020), anxiety symptoms appear during the withdrawal syndrome of social network usage. Similar to chemical addiction, addictive users may feel emotional distress such as irritability, insomnia, dysphoric mood and psychomotor agitation while going through withdrawal (Lerner & Klein, 2019). Thus, anxiety symptoms may be presented when social networks are not accessible as one of the presentations of social network addiction withdrawal syndrome.

Social networking sites nowadays promote fast and short information to their users so that they can perceive many messages in a very short period. However, with the continuous attention needed for the overwhelming volume of social demands from social media platforms, the users' energy will be consumed and cause fatigue. In further extension, social demands will be a stressor for individuals who need to cope with them (Lee et al., 2016). Information overload is a problem that is being exacerbated by the ongoing digitalisation of the world of work and the growing use of information and communication technologies (Arnold et al., 2023). Three dimensions of overload were identified: communication overload, system feature overload, and information overload.

For several reasons, studying the association between social network usage and mental health is important. It helps identify patterns in how social media usage affects mental health, such as trends in anxiety, depression, and other issues linked to online behaviour. It also provides insights into how different types of interactions, content, and platforms impact mental health, informing better practices and interventions. The study findings can guide the development of interventions and tools designed to help users manage their

social media usage and mitigate negative impacts. Moreover, the study can inform policymakers about the need for regulations or guidelines to promote healthier social media practices and protect users from harm. Studying these effects helps raise awareness among users about potential risks and benefits, encouraging more mindful and responsible social media usage. It also provides valuable information on how individuals can adjust their social media habits to support their mental well-being. Insights from the study can help mental health professionals understand the specific impacts of social media on their clients and tailor therapeutic approaches accordingly. It aids in developing educational programs for clients to manage their social media usage and address related issues proactively.

Figure 1 shows the conceptual framework for this study on social network usage and its association with mental health. The components of mental health were depression, anxiety, and stress. There are modifiable and non-modifiable risk factors that influence mental health. Age, gender, race, educational level, occupation, and income are the non-modifiable risk factors in this study, while social networking is the modifiable risk factor.

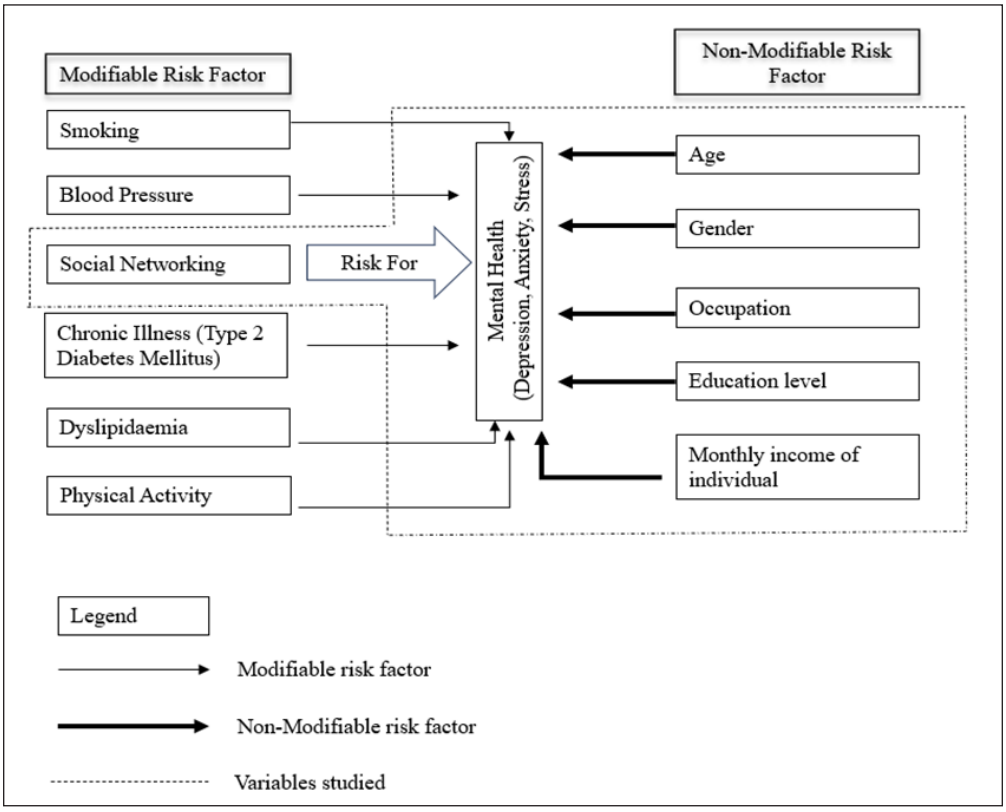

Figure 1. Conceptual framework

There were a few studies looking at the influence of social network usage on mental health among youths in Malaysia. However, these studies only focused on social network addiction (Khaw, 2024; Tan & Fauzi, 2024; Zulkifli & Abidin, 2023). It remains unclear if a relationship exists between the type of social network usage and depression, anxiety, and stress among youths in Malaysia. The recent status of social network usage among youths has not been explored. Different social media platforms have distinct features and usage patterns that may have different mental health impacts. Research often lumps them together, but examining how specific platforms (e.g., Instagram vs. Twitter) impact mental health differently could provide more nuanced insights. Therefore, the main aim of this study was to determine the association between social network usage and the mental health of youths in urban settings in Malaysia.

METHODOLOGY

Study Design

This is a cross-sectional study conducted among youths aged 18 to 30 years old who lived in the Klang Valley area of Malaysia. This study was conducted at Klang Valley because the location is highly urbanised and densely populated, with a diverse and tech-savvy population. This environment provides a rich context for studying social network usage patterns, digital behaviours, and their impact on mental health in a modern, urban setting. The region also has high internet and social media penetration rates, making it an ideal location to study social networks and mental health.

Participants and Sampling

The inclusion criteria for this study were youths between the ages of 18 and 30 years old and Malaysian citizens, while the exclusion criteria were living outside Malaysia during the period of data collection and diagnosed with mental health problems (a column box has been provided in the questionnaire asking the respondent if they were diagnosed with any mental health illness). The study focused on youths because young people are often among the most active users of social networks. Their frequent and intensive engagement with these platforms makes them a key demographic for studying the effects of social network usage on mental health and behaviour.

The respondents of this study were recruited via a snowball sampling method, whereby the Google form questionnaire was distributed using a link or a QR code. The respondents then pressed the link or scanned the QR code and responded to the questionnaire, which was then submitted to the researchers. Snowball sampling is effective for studying specific groups of populations that are difficult to capture. For studies focusing on networks or relationships (e.g., social networks), snowball sampling aligns well with the research objectives, as it directly leverages the participants' networks to gather relevant information. Snowball sampling is often most appropriate in exploratory research, particularly when

studying hard-to-reach populations, rather than when aiming to produce generalisable findings. However, it also has several limitations. Snowball sampling can lead to sampling bias because the initial participants often recruit individuals who are similar to themselves. This can result in a homogeneous sample that is not representative of the broader population. Due to the potential homogeneity of the sample, findings from studies using snowball sampling may not be generalisable to the larger population. This limits the external validity of the research. If the initial respondents are part of a specific network, reaching individuals outside that network, especially those from diverse or marginalised groups, may be challenging. The effectiveness of snowball sampling depends heavily on the willingness and ability of participants to refer others. If participants have limited social networks or are reluctant to share, the sample size may be small and not sufficiently diverse.

The sample size for this cross-sectional study was calculated using the Kish (1965) formula for prevalence study and the Fleiss (1981) formula for comparative cross-sectional study. For the sample size calculated using the Kish (1965) formula, the previous data provided by the Institute for Public Health (2020) in the National Health and Morbidity Survey (NHMS; 2019) showed that the largest sample size required based on the prevalence of depression, anxiety and stress was 295. Therefore, considering the sample size calculated by Fleiss's (1981) formula of 136 samples and Kish's (1965) formula of 295 samples and taking into consideration a 10% possible non-response rate, the final sample size required for this study was 325.

Instruments

This study was conducted using a validated questionnaire. The questionnaire comprises three parts: the sociodemographic, Social Network Usage Questionnaire (SNUQ), and the Depression, Anxiety, and Stress Scale (DASS-21). The original SNUQ questionnaire was in English; however, it underwent forward and backward translation into the Malay language, in which it was forward translated by two high school teachers who are fluent in both languages, whereas the DASS-21 questionnaire has already been validated in both languages. A pilot test was then carried out among 43 Malaysian youths, whereby Cronbach's alpha was used to measure the internal consistency reliability among the items. Cronbach's alpha value of more than 0.8 indicates good reliability, whereas this study shows 0.805 for SNUQ and 0.945 for DASS-21. The Kaiser-Meyer-Olkin Measure test was also done using the pilot test data, which shows the KMO values of 0.606 for the SNUQ questionnaire and 0.769 for the DASS-21 questionnaire. The KMO values are larger than 0.6, indicating that the sampling is adequate and the data is suitable for factor analysis.

Procedure

The questionnaire consists of three sections. The first section focused on the respondents' sociodemographic characteristics (five

items); the second section focused on social media usage using the Social Network Usage Questionnaire (23 items); and the third section focused on mental health status using the DASS-21 (21 items).

For the SNUQ questionnaire, types of social media usage, total hours of usage in a day, and purpose of social media usage were asked. For the types of social media usage, respondents answered "yes" or "no" from the list of social media provided, which includes Facebook, Twitter, TikTok, Snapchat, WhatsApp, Instagram, YouTube, and Telegram. For the total hours of usage in a day, respondents were required to label the type of social media used and how many hours they spent on it in a day. For social media usage, the items used a 5-point Likert scale ranging from 1 to 5, where it was further subdivided into academic (six items), socialisation (six items), entertainment (three items), informativeness (two items), and constraint (four items). Each of the 5-point Likert scale was indicated as never (1), rarely (2), sometimes (3), often (4), and always (5). Therefore, the higher the score, the more the addiction of respondents to social media. In the descriptive analysis, the purpose of using social networks was reported as either for entertainment, informativeness, academic, or socialisation. The constraint of using social media was also highlighted.

For the DASS-21 questionnaire, each domain of depression, anxiety and stress used a 4-point Likert scale ranging from 0 to 3. Each of the domains (depression, anxiety, and stress) has a total of 7 questions, summing up to 21 questions. The answer "0" indicates that the question does not apply to the respondent at all; the answer '1" indicates that the question is applied to the respondent to a certain degree; the answer "2" indicates that the question is applied to the respondent to a considerable degree, and the answer "3" indicates that the question is applied to the respondent completely. Therefore, the higher the score, the higher the probability that the respondents have depression, anxiety, and stress, and it can be interpreted as mild, moderate, severe, or extremely severe.

Data Analysis

Data collected in this study were analysed using the Statistical Package for Social Sciences (SPSS) version 20. Descriptive analysis was done to analyse the frequency and percentages, as well as the central tendency values. A normality test was carried out to determine whether the data was normally distributed or not. If the data was skewed, the median and interquartile range were used for the result, and if the data was normally distributed, the mean and standard deviation were used. The bivariate analysis was carried out using the Pearson correlation analysis and independent t-test to identify the association between the independent variables (sociodemographic and social network usage) and the dependent variable (mental health). For the multivariate analysis, multiple linear regression was carried out to identify the determinants of mental health. To ensure the credibility of the data in an online survey, we used

a validated questionnaire, calculated the sample size to ensure adequate samples, and used unique identifiers to prevent respondents from taking the survey multiple times. In the data cleaning process, we identified and removed the outliers to avoid errors or deliberate manipulation.

Ethical Considerations

The Universiti Kebangsaan Malaysia Research and Ethics Committee approved the study. Participants' informed consent was obtained, and the confidentiality of information was secured. All respondents were invited to participate in the study through a link sent via social media, which includes WhatsApp and Instagram. The link provided by the researcher was further distributed to other participants within their own connections and networks. Before answering the questions in the questionnaire, the respondents first encountered the consent and nature of the study page, where the purpose was explained in detail, and consent was obtained. If they agree, they are able to proceed to answer all the questions. If consent was not provided, they were allowed to exit the page and not recruited as respondents.

RESULTS

Table 1 shows the demographic data of the respondents. A total of 288 youths were recruited for this research. Meanwhile, for the total hours of media usage, the data gathered was from 287 respondents, while for the monthly individual income, the data gathered was from 286 respondents. The respondents' mean (SD) age was 23.24 (1.78) years old. The median total hours of media usage were 5.00 hours, with 25th and 75th percentile of 4.00 and 8.00 hours, respectively. The median individual income was RM 0, with 25th and 75th percentile of RM 0 and RM 100, respectively.

Type of Social Media Usage

Most of the respondents in this study used multiple social networking sites (SNS) concurrently. The total number of Facebook users was 146 (50.7%), Twitter users were 170 (53.5%), Snapchat users were 81 (28.1%), Instagram users were 270 (93.8%), Telegram users were 183 (63.5%), YouTube users were 260 (90.3%), and WhatsApp users were 277 (96.2%).

Purpose of Social Media Usage and Constraints in Using Social Network

Table 2 shows that the respondents' highest percentage of SNS usage purpose was for entertainment (95.1%), followed by informativeness (89.2%), academic (87.5%), and socialisation (85.8%). Most respondents (41.0%) sometimes experienced constraints in using social media networks. A significant percentage of the respondents were identified to have a severe and extremely severe form of depression (15.3%), anxiety (22.5%), and stress (10.1%). The mean levels of depression, anxiety, and stress were 1.86 (SD=1.33), 2.19 (SD=1.49), and 1.65 (SD=1.13), respectively. According to Lovibond and Lovibond (1995), these mean scores are interpreted as a mild level of depression, anxiety and stress.

Table 1
Demographic data of respondents

Variables	Frequency (N=288)	Percentage (%)	Mean	Standard deviation	Median	Percentile	
						25th	75th
Age (years old)							
18–21	35	12.1	23.24	1.78			
22–24	216	75.0					
25–27	25	8.7					
28–30	12	4.2					
Gender							
Female	189	65.6					
Male	99	34.4					
Race							
Malay	158	54.8					
Indian	65	22.6					
Chinese	55	19.1					
Others	10	3.5					
Occupation							
Student	225	78.1					
Private Sector	47	16.3					
Unemployed	7	2.4					
Self-employed	5	1.7					
Government Sector	4	1.5					
Educational Level							
Degree	236	81.9					
Diploma	24	8.3					
High School	20	6.9					
Master or PhD	8	2.9					
Monthly Individual Income (RM)					0	0	1,000.00
Total Hours of Social Media Usage (All Types) in a Day					5.00	4.00	8.00

Table 2
Level of social network usage, constraints in using social networks and mental health status among the respondents

Purpose of SNS Usage	Social network usage (SNS) Frequency (%) (N=288)					Frequency scores	
	Never	Rarely	Sometimes	Often	Always	Mean	Standard deviation
Academic	6 (2.1)	30 (10.4)	108 (37.5)	107 (37.2)	37 (12.8)	3.82	0.81
Socialisation	7 (2.4)	34 (11.8)	122 (42.4)	96 (33.3)	29 (10.1)	3.73	0.77
Entertainment	2 (0.7)	12 (4.2)	78 (27.1)	128 (44.4)	68 (23.6)	3.80	0.81
Informativeness	2 (0.7)	29 (10.1)	111 (38.5)	101 (35.1)	45 (15.6)	4.14	0.75
Constraints in using SNS	20 (7.0)	75 (26.0)	118 (41.0)	55 (19.1)	20 (6.9)	3.23	0.92
Psychological Distress Symptoms	**Normal**	**Mild**	**Moderate**	**Severe**	**Extremely severe**	**Mean**	**Standard deviation**
Depression	185 (64.2)	25 (8.7)	34 (11.8)	20 (7.0)	24 (8.3)	1.86	1.33
Anxiety	159 (55.2)	16 (5.6)	48 (16.7)	28 (9.7)	37 (12.8)	2.19	1.49
Stress	200 (69.4)	29 (10.1)	30 (10.4)	18 (6.3)	11 (3.8)	1.65	1.13

Social Media Usage and Mental Health

Table 3 shows the association between social networking site usage and the mental health of the respondents. The findings showed that TikTok usage was significantly associated with the level of anxiety (p = 0.033). The respondents who used TikTok showed a higher anxiety level (mean = 2.30, SD = 1.7) compared to respondents who did not use TikTok (mean = 1.97, SD = 1.36; $p < 0.001$). Otherwise, there was no significant association between other social media usage and other psychological distress symptoms.

Table 3
Social networking site usage and its association with mental health

Social networking sites	Mental health status (N=288)				
	Usage	Frequency	Mean	Standard deviation	*p*-value
TikTok					
Level of anxiety	No	118	1.97	1.36	0.033*
	Yes	170	2.35	1.57	
Level of depression	No	118	1.81	1.34	0.530
	Yes	170	1.91	1.33	
Level of stress	No	118	1.51	1.02	0.070
	Yes	170	1.75	1.19	

Table 3 *(continue)*

Social networking sites	Mental health status (N=288)				
	Usage	Frequency	Mean	Standard deviation	*p*-value
Facebook					
Level of anxiety	No	142	2.27	1.52	0.370
	Yes	146	2.11	1.47	
Level of depression	No	142	2.01	1.42	0.610
	Yes	146	1.72	1.22	
Level of stress	No	142	1.70	1.19	0.708
	Yes	146	1.60	1.07	
Twitter					
Level of anxiety	No	134	2.13	1.48	0.525
	Yes	154	2.25	1.51	
Level of depression	No	134	1.87	1.39	0.990
	Yes	154	1.86	1.29	
Level of stress	No	134	1.60	1.14	0.465
	Yes	154	1.69	1.13	
Snapchat					
Level of anxiety	No	207	2.14	1.41	0.407
	Yes	81	2.32	1.69	
Level of depression	No	207	1.84	1.31	0.636
	Yes	81	1.93	1.39	
Level of stress	No	207	1.63	1.09	0.629
	Yes	81	1.70	1.23	
WhatsApp					
Level of anxiety	No	11	2.00	1.34	0.635
	Yes	277	2.20	1.50	
Level of depression	No	11	2.09	1.45	0.606
	Yes	277	1.86	1.33	
Level of stress	No	11	1.27	0.90	0.191
	Yes	277	1.66	1.14	
Instagram					
Level of anxiety	No	18	2.00	1.53	0.584
	Yes	270	2.21	1.49	
Level of depression	No	18	2.28	1.56	0.258
	Yes	270	1.84	1.31	
Level of stress	No	18	1.89	1.32	0.434
	Yes	270	1.63	1.12	
YouTube					
Level of anxiety	No	28	2.43	1.57	0.411
	Yes	260	2.17	1.49	

Table 3 *(continue)*

Social networking sites	Mental health status (N=288)				
	Usage	Frequency	Mean	Standard deviation	*p*-value
Level of depression	No	28	2.21	1.60	0.224
	Yes	260	1.83	1.30	
Level of stress	No	28	1.64	1.28	0.978
	Yes	260	1.65	1.11	
Telegram					
Level of anxiety	No	105	2.31	1.51	0.307
	Yes	183	2.13	1.48	
Level of depression	No	105	1.95	1.38	0.405
	Yes	183	1.81	1.31	
Level of stress	No	105	1.69	1.12	0.678
	Yes	183	1.63	1.14	

Note. *Significant at p<0.05

Purpose of Social Network Usage and Mental Health

Table 4 shows a correlation analysis between the purpose of social network usage and mental health. The respondents' levels of depression (r=0.239, p<0.001), anxiety (r=0.257, p<0.001) and stress (r=0.260, p<0.001) were positively correlated with the level of constraint in using social networks.

Table 4
Correlation between the purpose of social network usage and mental health

Purpose of Social Network Usage	Statistical value	Mental health status (N=288)		
		Level of anxiety	Level of depression	Level of stress
Academic	Pearson correlation coefficient (r)	0.033	-0.073	0.041
	p-value (2-tailed)	0.576	0.219	0.493
Socialisation	Pearson correlation coefficient (r)	-0.014	-0.029	-0.024
	p-value (2-tailed)	0.816	0.622	0.684
Entertainment	Pearson correlation coefficient (r)	-0.013	-0.037	-0.022
	p-value (2-tailed)	0.824	0.532	0.715
Informativeness	Pearson correlation coefficient (r)	0.020	-0.030	-0.004
	p-value (2-tailed)	0.735	0.612	0.944
Constraint	Pearson correlation coefficient (r)	0.239	0.257	0.260
	p-value (2-tailed)	<0.001*	<0.001*	<0.001*

Note. *Correlation is significant at p-value <0.05 (2-tailed)

Determinants of Mental Health

Table 5 shows the multiple linear regression analyses to identify the determinants of mental health status among Malaysian youths in Klang Valley.

A multiple linear regression analysis to predict the level of anxiety identified that the constraint in using social networks, TikTok usage, and monthly individual income (RM) were the significant predictors of anxiety level among the respondents, with an adjusted R square of 0.78. The equation to predict the level of anxiety is as follows:

Level of Anxiety =
0.604 + (0.384 × Constraint in using social network) + (0.377 × TikTok usage) + (0.0001 × Monthly individual income)

The equation can be interpreted as an increase in 1 unit of constraint in using social networks and an increase in RM 1 of monthly individual income will increase 0.384 unit and 0.0001 unit of anxiety level, respectively, among the respondents.

A multiple linear regression analysis to predict the level of depression identified that the constraint in using social networks was the only significant predictor of depression level among the respondents, with an adjusted R square of 0.63. The equation to predict the level of depression is as follows:

Level of Depression =
0.650 + (0.374 × Constraint in using a social network)

Table 5
Multiple linear regression analysis to identify the determinants of anxiety, depression, and stress among the respondents

Model	Unstandardised coefficients		Standardised coefficients	*t*-value	*p*-value	95% confidence interval	
	B	Std. Error	Beta			Lower	Upper
Determinants of anxiety							
Constant	0.604						
Constraints in using social network	0.384	0.093	0.235	4.140	<0.001*	0.202	0.567
TikTok usage	0.377	0.173	0.124	2.186	0.030*	0.038	0.717
Monthly individual income (RM)	<0.001	<0.001	0.136	2.399	0.017*	<0.001	<0.001
Determinants of depression							
Constant	0.650						
Constraints in using social network	0.374	0.083	0.257	4.496	<0.001*	0.210	0.537
Determinants of stress							
Constant	0.610						
Constraints in using social network	0.320	0.070	0.260	4.545	<0.001*	0.181	0.458

Note. *Significant at *p*-value <0.05 (2-tailed)

The equation can be interpreted as an increase of 1 unit of constraint in using a social network, increasing the depression level among the respondents by 0.374 units.

A multiple linear regression analysis to predict the level of stress identified that the constraint in using social networks was the only significant predictor of stress level among the respondents, with an adjusted R square of 0.67. The equation to predict the level of stress is as follows:

Level of Stress=
0.610 + (0.320 × Constraint in using a social network)

The equation can be interpreted as an increase of 1 unit of constraint in using the social networks will increase 0.320 units of stress level among the respondents.

DISCUSSION

The surge in social network usage and mental health issues among youths in Klang Valley was the basis of this study. The Social Network Usage Questionnaire (SNUQ) was used to measure the status of social network usage, and the Depression, Anxiety and Stress Scale-21 Items (DASS-21) was used to assess the depression, anxiety, and stress levels of the respondents. The prevalence of depression, anxiety and stress among the respondents was 35.2%, 44.8% and 30.6%, respectively, with 15.3% (depression), 22.5% (anxiety), and 10.1% (stress) showing a severe and extremely severe form. The prevalence of mental health issues in this study was lower compared to some previous studies. The study by Wong et al. (2023) showed that the prevalence of moderate to severe depression, anxiety and stress was 53.9%, 66.2% and 44.6%, respectively, among university students in Selangor. However, the trend of our findings showed that the highest prevalence of mental health issues among Malaysian youths was anxiety, followed by depression and stress. Several previous studies also showed the same pattern in which a study by Fuad et al. (2015) reported that the prevalence of depression, anxiety, and stress among medical students at a private medical university in Malaysia was 60.0%, 76.0% and 47.0%, respectively. Data analysis by Shamsuddin et al. (2023) showed that among all 506 respondents, 27.5% had moderate depression, 9.7% had severe or extremely severe depression, 34.0% had moderate anxiety, and 29.0% had severe or extremely severe stress.

A study by Seedat et al. (2009) showed that women had more anxiety-mood disorders than men, and men had more externalising-substance disorders than women in all cohorts and countries. This contradicted our study in which the ratio of female to male was roughly 2:1. Despite that, the relationship between gender and the three constructs of mental health problems, namely depression (p = 0.30), anxiety (p = 0.54) and stress (p = 0.554) was not significant. In a previous study by Viertiö et al. (2021), it was reported that women were more distressed than men, with most of the other variables exhibiting a statistically significant gender difference. However, the study found no gender difference for

the variables living alone, having school-age children, or being active in societies and hobby groups. This could justify our findings, where most respondents were undergraduate students and unemployed. The finding could be biased as it does not reflect the mental health of those youths who are working and married.

Our analysis found that the median hour of social network usage among the respondents was 5 hours a day (Q1, Q3: 4, 8). The most popular purpose of social network usage among the respondents was for entertainment (95.1%), followed by informativeness (89.2%), academic (87.5%), and socialisation (85.8%). This finding is comparable to the study by Tariq et al. (2012), which also revealed that among the respondents, entertainment accounted for the highest purpose of social network usage (91.9%), followed by informational purpose (84.2%), academic purpose (78.1%), and social purpose (77.9%; Al-Dwaikat et al., 2020).

Our study showed that the duration we spent on social networks does not influence the mental health among Malaysian youths, which includes depression (p = 0.978), anxiety (p = 0.840) and stress (p = 0.246). In a previous study, it was found that neither the quantity of "selfies" or online friends posted on social media nor the amount of time spent on it were linked to depression (Marwick & Boyd, 2014). Similarly, Neira and Barber (2014) found that there was no association between the frequency of social media usage and sad mood, even though a rise in social media investment (such as active social media usage) predicted depressive symptoms in teenagers.

Individual income plays a significant role in the level of anxiety among youths (p = 0.025). Most of the respondents in our study showed an income of less than RM 2,500, with most of them being 23 years old or younger. The level of income reported in our study is logical since the respondents are still studying in higher education, and most were undergraduate students (81.9%). There was no consistent evidence that individual income is significantly associated with mental health. However, Thomson et al. (2022) indicated that income likely plays a role in influencing mental health and overall well-being despite the limitations in the available evidence. Furthermore, this connection appears to be more pronounced among individuals experiencing poverty or residing in low- and middle-income countries. Policymakers should create income and welfare strategies to ensure sufficient financial support for those facing socioeconomic challenges and promote mental health.

Levels of mental health in all categories, which are depression, anxiety, and stress, were shown to be affected by individuals who were having constraints when using social networks. However, there was no significant association between mental health and social media usage for academics, entertainment, information, and socialisation. Thus, the incidence of depression, anxiety, and stress among Malaysian youths was higher among those who feel constrained when using social networks. A study demonstrated an

inverse correlation between increased usage of electronic media beyond a few hours per week and self-reported happiness, life satisfaction, and self-esteem in adolescents (Abi-Jaoude et al., 2020). On the contrary, there was a positive correlation when engaging in offline activities such as in-person social interactions, sports, print media, homework, religious services, and paid work exhibited psychological well-being. In another study, there was a high suicide and depression rate among adolescent girls associated with spending more than 2 hours daily on social networking platforms and personal electronic devices (Abi-Jaoude et al., 2020). Therefore, comparing both studies with our study, it is shown that one of the reasons why mental health has been on the negative side of social media influence is because individuals feel constrained when using it.

Based on our analysis, it was shown that anxiety, depression, and stress mean scores were higher among respondents who used TikTok (2.35 (SD=1.57), 1.91 (SD=1.33), 1.75 (SD=1.19), respectively), as compared to respondents who did not use TikTok (1.97 (SD=1.36), 1.81 (SD=1.34), 1.51 (SD = 1.02), respectively). In addition, anxiety level was significantly higher among TikTok users compared to non-TikTok users (p=0.033). Based on Prasad et al. (2023), usage patterns, whether passive (such as watching content, appearance-based activities, night-time media consumption) or active (such as cyberbullying and sexting), as well as emotional investment and problematic social media usage (PSMU), could predict poor mental health outcomes.

Increased usage of social network filters that alter facial features and retouch body parts may contribute to poor mental health outcomes. Additionally, influencers and social network users used lighting hacks and photo and video editing before posting their content. This leads to an altered image of the work and reality, influencing people to have picture-perfect bodies and flawless features (Prasad et al., 2023). Hawes et al. (2020) suggested that appearance-based activities can lead to psychological distress due to judging one's physique, body dissatisfaction, eating disorders, depression, and anxiety disorders. Youths may face difficulty accepting their flaws in reality and constantly be anxious because they are worried and concerned about having a perfect body image as the influencers in social networks (Hosseini & Padhy, 2023). This can push individuals to develop anxiety and body dysmorphia, which eventually lead to depression and self-harm.

Cyberbullying in social media usage can contribute to anxiety and other mental health issues. Hellfeldt et al. (2019) suggested that depression and anxiety symptoms were significantly high in both the victims of cyberbullying (cyber-victims) and in people who are bullied whilst bullying others at the same time (cyber-bully victims). Cyberbullying is widespread in social networks such as TikTok. Cyberbullying can be in the form of verbal abusage under the comment section or direct posting of videos to discriminate against someone on social media platforms (Hellfeldt et al., 2019). Apart from all the negative effects

of TikTok on mental health, a randomised clinical trial done on TikTok browsing and preoperative anxiety relief showed that browsing TikTok reduced participants' blood pressure and anxiety significantly (Gu et al., 2021). Therefore, there could be a possibility that using TikTok can relieve anxiety by watching the video's contents.

In our study, the level of anxiety among youths plays the most impactful role in mental health compared to depression and stress since the majority of the determinants of mental health are due to youths' usage of a specific social media, namely TikTok, their monthly individual income, as well as feeling constraint in using social media. In another similar study by Kelly et al. (2018), the researchers were able to concurrently examine four proposed mechanisms: online harassment, sleep duration and quality, self-esteem, and body perception. These are suggested to be links between social media usage and the mental well-being of young individuals. The research was able to comprehensively explore multiple potential pathways in this manner. Even though the conclusions were predominantly drawn from cross-sectional data, the usage of path modelling allowed for explicit testing of presumed causal pathways, bolstering the results. However, in addition to the inherent cross-sectional nature of the study, there are specific limitations due to data availability that prevented it from considering certain factors hypothesised to be along the pathway connecting social media usage and adverse mental health.

CONCLUSION

The prevalence of depression, anxiety, and stress among youths in Klang Valley were 35.2%, 44.8% and 30.6%, respectively, where a significant percentage of them showed a severe and extremely severe form of depression (15.3%), anxiety (22.5%), and stress (10.1%). Among the demographic factors, the monthly income of an individual has a significant association with anxiety. Levels of constraints in using social networks were associated with depression, anxiety, and stress. Among the social networks, TikTok users showed a higher anxiety score, while depression and stress have no association with social networks.

The conclusions drawn in this study are based on a non-random sample of participants who were selected through snowball sampling. Due to the non-random sampling method, the results may not be generalisable to the broader population. The findings are specific to the respondents studied. While the results provide valuable insights into mental health status and its association with social network usage, they should be interpreted with caution due to the limited scope of the respondents. Future research using random sampling methods is needed to confirm these findings and to determine their applicability to a wider population. Given that the sample was drawn from snowball sampling, the findings are particularly relevant to this context and may not reflect experiences in other settings.

In summary, depression, anxiety, and stress are quite prevalent among youths in

this study. Social networking may not be the leading cause of mental health problems, but it can make a substantial contribution to virtually every health concern, such as aggression, sex, drugs, obesity, self-image and eating disorders, depression and suicide, and even learning disorders and academic achievement. Most respondents were students (78.1%); hence, deterioration of mental health is a serious concern because they are still young. This can affect their studies and bring their performance down in tertiary education, and this could affect their future career as well.

Limitations and Recommendations for Future Research

One of the limitations of this study is that the study findings cannot be generalised to youths in other areas and may not be representative of the broader population. This is because the respondents were recruited via snowball sampling, a non-probability sampling. In snowball sampling, the recruitment of respondents depends on the personal networks and preferences of the initial contacts. Snowball sampling often leads to a more homogenous sample than the general population. Since respondents tend to recruit people similar to themselves, they may lack diversity in terms of demographic or behavioural characteristics. Since our study used online surveys (Google form), it is only accessible to individuals with internet access. This may exclude certain demographics, such as low-income individuals and non-users.

Following the findings of this study, it is recommended that the individuals affected by severe and extremely severe forms of depression, anxiety and stress should be identified and need to be advised personally on seeking professional help such as from the counsellor, psychologist, or psychiatric clinic. Future studies should focus on exploring cost-effective intervention methods to alleviate mental health problems among young people. It is important to help these individuals to make sure there is no significant deterioration in their occupational, social, and other important areas of functioning. Taking good care of our mental health is as vital as keeping our physical health. Both mental and physical health are important to maintain a good quality of life.

In order to prevent mental health issues, mental health education should be integrated into school curriculum and workplace training to increase awareness and reduce stigma. Media and community outreach can be used to educate the public about mental health, promote early help-seeking behaviours, and challenge misconceptions. Training in stress management, emotional regulation, and problem-solving skills can be provided. Training programmes can be offered in schools, workplaces, and community centres. Mindfulness, meditation, and relaxation techniques can be taught to help individuals manage stress and build resilience. Community activities, support groups, and social programs could encourage strong social connections. Family-based programs can be offered to teach communication skills, conflict resolution, and supportive parenting techniques. Regular physical activity can

be promoted, which has been shown to have positive effects on mental health. The importance of a balanced diet and adequate sleep for mental well-being can be taught. Mental health resources, such as counselling services and crisis hotlines, need to be readily accessible to those in need. Mental health apps and online resources that offer support and guidance need to be developed and promoted. Regular mental health screenings in schools, workplaces, and healthcare settings should be implemented to identify at-risk individuals early. Groups at higher risk, such as adolescents, individuals with a family history of mental illness, and those experiencing significant life stressors, should be given more attention.

In addition, early access to counselling and therapeutic interventions for individuals showing early signs of mental health issues should be provided. Cognitive-Behavioural Therapy (CBT) and other evidence-based therapies that have been proven effective in addressing early symptoms and preventing the escalation of mental health problems can be utilised. Specialised teams trained to handle mental health crises and emergencies, as well as personalised treatment plans based on the individual's specific needs and circumstances, can be developed. We should regularly assess the effectiveness of interventions and adjust treatment plans as needed. We also should involve family members in the treatment process to provide a supportive environment and address family dynamics that may contribute to mental health issues. Training can be offered for parents to help them recognise signs of mental health problems and provide appropriate support. Mental health services should be affordable and accessible to all individuals, regardless of socioeconomic status. We must maintain confidentiality and protect the privacy of individuals seeking help to encourage early intervention and reduce stigma. By implementing these preventive strategies and early interventions, we can effectively address mental health issues before they escalate, improve overall well-being, and reduce the burden on individuals and society.

For future research, it would be beneficial to explore the type of content that the respondents engage with on social media. Content ranging from positive messages to cyberbullying or harmful content can have varying effects on mental well-being. In addition, examining how social media usage compares to offline interactions in terms of its impact on mental health could provide a more nuanced perspective. Understanding whether social media exacerbates existing mental health issues or serves as a coping mechanism is important to explore. It is also useful to conduct a longitudinal study to track changes in social media usage and mental health outcomes over time. This could establish a more robust cause-and-effect relationship. This would also help to determine whether changes in social media habits lead to changes in mental health status. It is interesting to explore other age groups and occupations and observe how mental health issues manifest across various demographics.

Implication for Theory and Practice

The relationship between social networks and mental health has significant implications for both theory and practice.

For the theory implication, the association between social network usage and mental health is complex and influenced by various theories. The two most relevant theories are Social Learning Theory (Bandura & Walters, 1977) and Social Support Theory (Sarason, 2013). In Social Learning Theory, Bandura and Walters (1977) posit that people learn behaviours through observing others. Social networks provide a platform for observing and imitating behaviours and attitudes, which can impact mental health positively or negatively depending on what is modelled. In Social Support Theory, social networks can offer emotional support, practical help, and social interaction. High levels of perceived social support from online networks can enhance well-being, but superficial or low-quality interactions may not provide the same benefits. Another relevant theory is Social Comparison Theory (Festinger, 1954), in which individuals determine their own social and personal worth based on how they compare themselves to others. This process of comparison helps individuals understand where they stand in relation to their peers in terms of abilities, attitudes, and characteristics.

The use of platforms like TikTok plays a role in influencing anxiety levels, as seen in the study. Young users may observe content that amplifies social comparisons, triggering stress and mental health issues. From a social learning perspective, young people may adopt behaviours (like excessive content consumption) or emotional states (such as anxiety) because they observe their peers or influencers engaging heavily with the platform. The high usage of social media (median of 5 hours per day) could also be seen as a learned behaviour that is normalised through social reinforcement, modelling the idea that high engagement with platforms is typical or expected, even if it leads to stress or anxiety. Social Learning Theory emphasises the role of attention and retention, meaning that young users may focus more on content that triggers negative emotions (e.g., unrealistic portrayals of success or beauty), which they then internalise, leading to heightened anxiety or depressive symptoms. The constraint in using social media in this study was strongly correlated with depression and stress. Users who feel restricted or controlled in their online behaviour may be experiencing indirect stress from observing others who have more freedom online. Social Learning Theory suggests that seeing others use social media freely might increase the emotional burden on those who feel constrained, worsening their mental health.

From the perspective of Social Support Theory, the finding that higher constraint in social media usage correlates with depression and stress implies that some individuals may not be receiving the needed emotional support or may feel disconnected from supportive interactions, leading to negative mental health outcomes. The fact that TikTok usage is linked to higher anxiety

levels (mean score of 2.35 vs. 1.97 for non-users) suggests that while these platforms provide exposure to large networks, they might not be fostering the quality of social support needed to buffer against anxiety. Anxiety, which is correlated with higher individual income and constraints in social media usage, could indicate that social media is fostering competition or pressure rather than providing a supportive environment. Instead of emotional reassurance or social validation, users may feel overwhelmed by unrealistic standards or the need to maintain a certain online image. It becomes clear in Social Support Theory that while social media offers the potential for support, it is not functioning effectively as a source of emotional, informational, or instrumental support for many of the youths in this study. Instead, it may be exacerbating issues like anxiety due to the pressure of social comparisons and a lack of meaningful interactions. Addressing the gap in social support, both online and offline, could be key to improving the mental health of these youths.

From the perspective of Social Comparison Theory, the study indicates that anxiety was positively correlated with TikTok usage. This can be understood through upward social comparison. TikTok, a platform known for showcasing curated, idealised lifestyles, might lead users to compare themselves to influencers or peers who appear to have more success, beauty, or wealth. The platform encourages the consumption of short, impactful videos often portraying people's best moments, leading viewers to constantly compare themselves to these seemingly perfect portrayals. This could increase feelings of inadequacy, contributing to heightened anxiety. The study also shows that depression and stress are positively correlated with feelings of constraint in using social media. Social Comparison Theory would suggest that individuals who feel constrained (e.g., unable to fully participate in or access social media platforms) may experience stress from being unable to present themselves in an ideal way or keep up with their peers. This leads to negative emotions as they compare their restricted access with those who seem to freely enjoy and thrive on these platforms. Feeling limited in social media engagement could increase the intensity of upward comparisons, as individuals are not only comparing themselves to those better off but also aware of their limitations in participating in the same social arenas.

The 5 hours of median daily social media use in this study provides ample opportunity for exposure to others' lives, creating frequent opportunities for comparison. Whether users engage in upward or downward comparisons, the sheer volume of exposure can heighten their mental health issues. The study's finding that anxiety is associated with TikTok usage and constraint in social media usage suggests that negative emotions triggered by constant comparison and limitations in self-presentation play a significant role in shaping mental health outcomes among the youths in this study. Through the lens of Social Comparison Theory, the study's

findings suggest that the mental health issues associated with social media use, such as anxiety, depression, and stress, are deeply rooted in the frequent upward and lateral comparisons made by youths on platforms like TikTok. The pressure to measure up to others' curated lives and feelings of constraint in how they can participate online amplifies these negative effects. Addressing these social comparisons through education, support, and awareness is key to mitigating the impact of social media on the mental health of young people in Malaysia.

The study finding shows that only TikTok influenced the anxiety level of the respondents, and none of the social media usage influenced depression and stress levels. This could be due to the unique nature of the platform's content and user interaction patterns, which foster social comparison and engagement. TikTok's format is built around short, engaging videos (often 15-60 seconds long), which allows users to consume large volumes of content in a short time. This fast-paced, continuous scrolling experience can contribute to information overload, where the brain is overwhelmed by the number of stimuli. Information overload tends to lead to anxiety because the brain is constantly trying to process an overwhelming amount of input. This overstimulation can induce a sense of urgency and heightened alertness, which is characteristic of anxiety but might not necessarily trigger feelings of depression or chronic stress, which are generally linked to longer-term emotional exhaustion or hopelessness. TikTok's algorithm curates content based on user engagement, often pushing viral or trending videos that feature idealised lifestyles, physical appearances, or achievements. Young users may experience constant upward social comparison when viewing content from influencers or peers who seem to be more successful, attractive, or popular. These comparisons can lead to anxiety, as users might feel pressure to achieve similar social success or live up to the standards they see on the platform. This constant pressure to "keep up" with what they see can foster fear of missing out (FOMO) or worries about not measuring up, both of which are anxiety-inducing.

For the implications for practice, practitioners should focus on enhancing digital literacy, teaching individuals how to navigate social networks healthily, manage online interactions, and recognise the impact of social media on mental health. Interventions should address both online and offline aspects of mental health. Strategies might include promoting healthy online behaviours, managing screen time, and developing coping mechanisms for dealing with negative online experiences. Effective mental health support systems should integrate online and offline resources. This includes creating spaces for meaningful online support and ensuring that digital tools complement traditional mental health services. Policymakers should consider regulations around social media platforms to protect users' mental health. This may involve guidelines for content moderation, privacy protections, and tools to manage digital well-being. Initiatives can be developed to encourage positive online interactions, such

as promoting supportive online communities and providing tools for users to engage in healthy social comparisons. Given the diverse impacts of social networks, interventions should be tailored to different demographic groups, considering factors such as age, socioeconomic status, and cultural background. Ongoing research is essential to understand the evolving relationship between social networks and mental health. Evaluating the effectiveness of interventions and policies can help refine approaches and improve outcomes.

Addressing these implications can better equip both theoretical and practical frameworks to handle the challenges and opportunities presented by the intersection of social networks and mental health.

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