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Research Article

Mobile Communication Intensity and Social Anxiety among Generation Z in Bekasi

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Abstract

The development of mobile communication technology has changed social interaction patterns, especially among Generation Z, who grew up as digital natives. Smartphones are not only a means of communication, but also the main space for building social relationships. However, the intensity of mobile communication use is thought to affect psychological conditions, one of which is social anxiety. This study aims to analyze the effect of mobile communication on social anxiety levels among Generation Z in Bekasi. The method used in this study is a quantitative method (N=343) with a survey data collection technique. Based on the results of simple regression analysis, the results of the study showed that the intensity of mobile communication use influenced social anxiety by 56.9%, while the rest was influenced by other factors. The results of this study can expand the application of modern communication theories, such as Computer Mediated Communication (CMC) and Social Presence Theory, by showing how smartphone-based communication patterns (chatting, social media, video calls) affect feelings of security, self-confidence, and anxiety in face-to-face social interactions

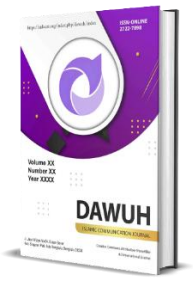
Keywords: Generation Z; Mobile Communication; Social Anxiety.

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INTRODUCTION

According to the Asosiasi Penyelenggara Jasa Internet Indonesia (APJII) survey on Indonesia's internet penetration rate, in 2026 the number of internet users reached 235,261,078 out of a total population of 287,886,782. Among all provinces, West Java recorded the largest national share of internet users, accounting for 18.95%, making it the leading contributor in terms of internet penetration by island and province. Furthermore, the survey indicates that Generation Z represents the generational cohort with the highest internet penetration rate (89.02%) and the largest contribution (39.83%) to the country's internet user population compared with all other generational groups (APJII, 2026).

This shows that Generation Z is the largest user of social media. Based on research conducted by Hastini, et al. (2020) in one day, Generation Z spends around 9 hours using smartphones. This shows Generation Z's very high dependence on technology. These findings suggest that Generation Z, particularly those living in highly connected regions such as West Java, experiences extensive exposure to digital communication technologies. As one of the major urban areas in West Java, Bekasi provides a relevant setting for examining how frequent smartphone-mediated communication has become embedded in the daily lives of young people.

APJII data shows that internet and social media usage in Indonesia is not only limited to generation Alpha or generation Z, but also to generation X and generation Y (Rainer, 2023). BPS data shows that 58.63% of internet users are Indonesian residents aged 25 years and over. This figure shows consistency since 2020, always above 50%. Furthermore, as many as 14.69% of users are aged 19-24 years. The 13-15 age group enters the next position, which is 6.77 percent accessing the internet. Finally, in the 5-12 age group, 12.43 percent of children have accessed the internet (Finaka, 2023).

The Internet and social media are forms of mobile communication that continue to evolve, shifting from verbal to multimedia formats. The digital transformation that has taken place across successive generations of mobile communication over the past three decades has introduced new uses and technical capabilities, while also enhancing the functionality of previous generations of mobile communication. Thus, it can be said that technology is the primary driver of mobile communication. Communication, which began in analog form and transitioned to digital, has shaped and transformed communication patterns. In the 1990s, the digitization of second-generation mobile communication led to the emergence of Short Message Service (SMS) as a form of mobile communication (Scolari, Aguado, & Feijóo, 2012; Yrjölä, Matinmikko-Blue, & Ahokangas, 2024). In its current form, mobile communication not only allows us to send text messages but also enables us to make voice calls, video calls, and, most popular today, communicate and interact through social media.

The increasing use of social media and the internet across various generations, particularly Generation Z, has shifted communication from face-to-face interactions to mobile communication. Mobile communication refers to interpersonal communication conducted via smartphones and other mobile devices, enabling individuals to exchange messages, make voice or video calls, and interact through various communication apps without being constrained by time or location. For Generation Z, mobile communication has become an essential part of daily life, facilitating the exchange of information, social interaction, and the maintenance of interpersonal relationships. However, the increasing intensity of mobile communication has

also raised concerns regarding its potential psychological consequences. Excessive reliance on interactions mediated by mobile devices can lead to adverse psychosocial effects, including social anxiety and problematic smartphone use (Elhai, Dvorak, Levine, & Hall, 2017; Busch & McCarthy, 2021). These patterns have been linked to increased stress, fear of missing out (FoMO), problematic smartphone use, and symptoms of anxiety, including social anxiety (Elhai, Dvorak, Levine, & Hall, 2017; Przybylski, Murayama, DeHaan, & Gladwell, 2013; Busch & McCarthy, 2021). Individuals who are highly dependent on mobile communication may become increasingly concerned about how others perceive them, experience discomfort during face-to-face interactions, or feel anxious when they cannot access their mobile devices. Thus, excessive or maladaptive use can also contribute to adverse psychological effects. These contrasting effects highlight the importance of investigating the relationship between the intensity of mobile communication and social anxiety, particularly among Generation Z, whose daily communication is largely mediated through mobile technology. Research conducted by the Social Media Victims Law Center in 2023 showed that there is a correlation between excessive use of social media and mental health problems. The results of the study showed that the longer the screen time is directly correlated with higher levels of anxiety (Social Media Victims Law Center, 2023).

This problems occurs when social media affects self-esteem, self-confidence, and mood, leading to self-esteem issues, depression, and stress. This happens because when using social media, we will subconsciously constantly compare ourselves to others who seem to have perfect lives. According to the Anxiety and Depression Association of America (2017), there are several common symptoms of social media anxiety disorder, namely interrupting conversations to check social media accounts, lying to others about how much time is spent on social media and losing interest in other activities. Anxiety related to social media use has various forms. Some people worry that they did not choose the perfect words before posting, some immediately regret the picture they posted because they were worried it would not get enough "likes". Others report general anxiety because without their phones, feeling disconnected from social media and not getting notifications immediately. Many teens feel as if they need to "like" or comment on a friend's post immediately.

The results of several previous studies have consistently shown that digital media use is associated with users' psychological well-being, particularly among adolescents and young adults. However, this relationship is complex and depends on how digital technology is used, not just on the duration of use. For example, excessive screen time has been linked to increased anxiety symptoms and decreased psychological well-being, although the strength of this relationship varies across studies (Odgers & Jensen, 2020). Similarly, research on social media use indicates that active engagement such as communicating with friends and sharing content, can strengthen social bonds. In contrast, passive consumption including simply scrolling through others' posts without interaction, is more consistently linked to negative emotional effects through increased social comparison and reduced self-esteem (Verduyn, Ybarra, Resibois, Jonides, & Kross, 2017).

In addition, several psychosocial mechanisms have been identified to explain the association between digital communication and anxiety. Social comparison on social networking platforms may reinforce unrealistic social expectations and increase concerns about social evaluation (Vogel, Rose, Roberts, & Eckles, 2014). Fear of Missing Out (FoMO) has

also been recognized as an important factor that refers to the worry that one's online content and interactions with others are not being seen or responded to in a timely manner. Consequently, this can lead to anxiety, sleep disturbances, lack of concentration, and dependence on social media for satisfaction. As a result, people with FoMO typically stare at their phone screens constantly and check for new notifications on their phones (Przybylski, Murayama, DeHaan, & Gladwell, 2013; Alutaybi, Al-Thani, McAlaney, & Ali, 2020). Furthermore, cyberbullying has emerged as another important risk factor, with repeated exposure to online harassment being associated with elevated levels of anxiety, depression, and psychological distress among adolescents and young adults (Kowalski, Giumetti, Schroeder, & Lattanner, 2014). In addition to these risk factors, excessive use of mobile communication can also lead to various psychological stresses, such as creating the expectation that a person must always be available, increasing an excessive communication burden, and reducing opportunities for offline interactions that can help restore energy (Hall & Baym, 2011; Busch & McCarthy, 2021).

Although there have been several previous studies examining the relationship between digital communication and mental health, there are several factors that make this study important. Most previous studies have focused on social media use in general, such as screen time and problematic smartphone use, while attention to the intensity of mobile communication has been relatively limited. Furthermore, most previous studies were conducted in North America, Europe, and other high-income countries. Meanwhile, there is still very little research examining this relationship in the context of Southeast Asia, particularly Indonesia. In fact, Indonesia undoubtedly has distinct patterns of mobile communication, cultural norms surrounding social interaction, and levels of digital engagement within its sociocultural context. Therefore, the researchers sought to examine the relationship between the intensity of mobile communication and social anxiety among Generation Z in Bekasi, a generation identified by APJII (2026) as the most digitally connected.

Given the consistency in previous studies, the researcher asked the following research questions:

Q1 : Is there an influence of the intensity of mobile communication on Generation Z social anxiety in Bekasi City, West Java?

The System Dependency Theory assumes that the more a person relies on the media to meet their needs, the more important the role of the media becomes in that person's life, and thus the greater the media's influence on that person. First introduced by Sandra Ball-Rokeach and Melvin DeFleur in 1976, this theory focuses on the structural conditions of a society that govern the likelihood of mass media effects. According to Media Dependency Theory, individuals become increasingly dependent on communication media when those media are viewed as essential for achieving daily goals, maintaining interpersonal relationships, and accessing information (Rafiq, 2012).

Dependency theory, also known as media system dependency, considers the mass media system to be an information system that controls valuable and limited information resources. So in this theory it is described that the media is aware of its ability to create a

relationship of dependency with the public and uses that ability to achieve its goals (Hasrullah & Rahmadani, 2024).

This theory states that there are three components of media dependency, namely the relationship between the social system and the media which is dependent on the media in the social system, both in the fields of politics, economics, and cultural systems. The second component is the relationship between the media and the audience (individual) who sees how individuals use mass media. The more the need for information is seen, the stronger the motivation to seek information mediation and dependence on the media will be, so that the media's opportunities to influence the audience are greater. The last component is the relationship between the social system and the audience, allowing the social system to influence individuals regarding the needs and concepts of media use, embedding values and norms to the law.

The results of this relationship show the assumption of dependency theory, the existence of levels of dependency on the media, both at the macro level or the relationship between media-social systems and micro or the relationship between media-audiences or individuals. At the micro level, it focuses on how the media plays a role in the lives of individuals and examines how individuals depend on the media to meet their needs. While the macro level is in a broader realm, namely how the media system influences and is influenced by the social system in a region and country. There are two basic factors that influence media dependency according to this theory. First, control over sources and channels of information, namely the media has greater power when they control sources and channels of information that are important to public life. Second, social stability, namely in unstable social conditions or when a crisis occurs, individuals are more likely to rely on the media for guidance and information which increases the potential for media influence (Hasrullah & Rahmadani, 2024).

The effects of social media on its users are oftentimes based on the user's intent to start using a certain platform as well as the user's interpretation of the activities that social media promotes. While social media has been identified as having certain benefits to one's mental wellbeing, other findings suggest it has an adverse effect on an individual's mental and physical health and is associated with low self esteem, chronic depression, negative social comparisons, bad relationships and an increase in feelings of loneliness around others. However, there are several studies that have found no significant association between one's social media usage and psychological well-being.

In the context of mobile communication, dependency is reflected in the extent to which individuals rely on smartphones and mobile communication applications to maintain interpersonal relationships, obtain information, and participate in everyday social interactions. However, in this study, the intensity of mobile communication use is treated as an independent variable rather than a direct indicator of media dependence. Intensity is used to assess the extent of an individual's mobile communication use based on the frequency and duration of their use of social networking sites and other communication activities via mobile devices. Thus, this study focuses on observable usage patterns rather than on individuals' psychological dependence on mobile media.

The studies, which demonstrate the effects social media has on social anxiety and depression, also tend to indicate the positive effects social media can have on a certain group of people. The effects were stated to be minimal. In the most recent study, Seabrook, Kern, and

Rickard (2016) examined the effects of anxiety and depression on social media interaction, positive interactions in forms of social support and an urge to feel socially connected with others were found to have a reverse effect to anxiety as depression was found to be triggered by negative social interactions including comparisons with other people. Seabrook et al. (2016) also concluded that social media use was associated with less loneliness and greater self-esteem and life satisfaction, but they suggested that this pattern of results may be related to how individuals engage with social media, which was not explored in depth in the original studies in their review.

Another finding from a recent review by Verduyn et al. (2017) suggests that active use is associated with greater psychological well-being and passive use is associated with poorer psychological well-being. More active social media users probably feel happier, more supported, and more connected to others, which may ward off increased anxiety and depression. On the other hand, as passive use mostly consists of scanning and scrolling through other people's lives, it could lead to social comparison and jealousy, which could raise a person's risk of anxiety and depression (O'Day & Heimberg, 2021).

A number of studies have shown that social media use can induce social anxiety in individuals (Lai, Wang, Zhang, Shan, & Chen, 2023). A study conducted in Kolkata indicated that social networking sites (SNS) and dependence on them had a strong association with anxiety and depression among medical students (Barman, Mukhopadhyay, & Bandyopadhyay, 2018). Additionally, a study conducted in Hong Kong, China, found that students who used social networking sites more frequently experienced more severe anxiety and despair (Yu & Du, 2022). According to another study, cargo sailors who use social media every day for more than two hours are more likely to experience anxiety and sadness (Zamora, Regencia, Crisostomo, & Hal, 2021).

Negative comparison may be the root cause of social media-related anxiety or despair. Teenagers that use social media constantly compare themselves to their peers, which has a detrimental psychological impact on them (Caner, Efe, & Başdaş, 2022). Teenagers are also encouraged to compare themselves to their classmates in terms of abilities, life experiences, and physical image when they see posts on social media that meet specific criteria. Adolescents are under more social pressure in this situation, and psychological distress may result from the discrepancy between their ego and the standards set by society (Oswald, Rumbold, Kedzior, & Moore, 2020). Additionally, peer feedback on social media is quicker and more frequent than in-person interactions. These negative comparisons and feedback from peers may underlie the possible relationship between social media and anxiety and depression (Alsunni & Latif, 2021).

Cyberbullying, negative feedback from others, increased awareness of stressful events in other people's lives, and the pressure to update social networks frequently can all cause physiological stress reactions in social media users (Mauri, Cipresso, Balgera, & Villamira, 2011). Due to the constant barrage of messages from various electronic channels, social media use can also result in general communication overload, which is linked to psychological distress (Chen & Lee, 2013).

Based on the various ways that people use social networking sites, researchers have divided social media use into two categories: passive social media use is primarily when people browse social media sites without interacting with others, like when they view friends' news without leaving comments. Active social media use is when people actively communicate with

others by uploading news, leaving comments on friends' posts, and engaging in other information-generating behaviors. Little research has been done to date to distinguish between different social media usage patterns, but a recent study indicates that there may be differences in the effects of various social media usage on people's mental health (Lai, Wang, Zhang, Shan, & Chen, 2023).

Among Gen Z, mobile communication has become an indispensable form of communication as a means of social interaction, entertainment, and even self-expression. Gen Z's heavy reliance on mobile communication can lead to psychological vulnerability caused by disruptions in digital connectivity or a lack of response from others, which can then be perceived as a threat to their social relationships and sense of belonging. Therefore, this study proposes the following hypothesis:

H1: Mobile communication intensity has a positive and significant effect on social anxiety among Generation Z in Bekasi City, West Java.

METHODS

This study uses a positivist paradigm with an explanatory quantitative research method to explain the causal relationship between two variables by taking the research location in Bekasi City, West Java. There are two variables used in this study. The independent variable (X) was the intensity of mobile communication use, and the dependent variable (Y) was social anxiety.

The measurement scale of the research instrument used in this study is the Likert scale. The Likert scale is a scale used to measure a person's attitudes, opinions, and perceptions regarding a specific object or phenomenon. This scale uses five rating points, namely: (1) Strongly Disagree, (2) Disagree, (3) Neutral, (4) Agree, (5) Strongly Agree. Using the Likert scale, the measured variables are broken down into dimensions; from dimensions into indicators; and from indicators into measurable sub-indicators.

The population in this study included Gen Z with an infinite population type because the number of individuals is not known with certainty. Owing to limited resources and time owned by the researcher, the researcher took only a portion of the population elements to be used as research objects or data sources.

In determining the sample, this study does not provide an equal opportunity for each member of the population to be selected as a sample member, namely, using the nonprobability sampling sample technique; in this case, the type of purposive sampling, where each individual used as a sample is selected deliberately on the basis of certain considerations.

The sample size was determined using G*Power software with an a priori statistical power test for linear regressions. A two-tailed test is used because the hypothesis is two-sided or does not specify a direction. Meanwhile, the α value (significance level) used is 0.05 (or 5%). The power (1 - β) used is 0.80 (or 80%). On the basis of these guidelines, 343 respondents were included in this study.

Respondents were recruited by disseminating information about the study on various social media platforms (Instagram and WhatsApp). Participation was voluntary, and no incentives were provided. Therefore, this study involved 343 respondents who met the inclusion criteria.

Inclusion criteria included: individuals belonging to the Generation Z group, specifically those born between 1997 and 2012; residing in Bekasi City at the time the study was conducted; using a smartphone for daily communication; having used a smartphone and mobile communication apps regularly for at least the past six months; and willing to participate as respondents on a voluntary basis. Exclusion criteria included: respondents who, at the time of data collection, were no longer residing in Bekasi City; respondents who did not use a smartphone for daily communication activities or who used a smartphone only to a very limited extent and therefore lacked sufficient experience with mobile communication; and respondents who withdrew their consent to participate before the data collection process was completed.

Data collection was conducted using an online questionnaire created via Google Forms. The first page of the questionnaire presented a research information sheet explaining the study's objectives, benefits, data confidentiality, participants' right to withdraw at any time without consequences, and the researcher's contact information. Respondents could only proceed with the questionnaire after providing consent.

Since this study used nonprobability purposive sampling, the sample was not selected at random; therefore, not every member of the population had an equal chance of becoming a respondent. Consequently, the results of this study cannot be generalized to the entire Generation Z population in Bekasi City but rather describe only the characteristics of respondents who met the study criteria. The research findings still provide relevant empirical information regarding the relationships between variables within the studied group of respondents; however, the interpretation of the results must take these limitations into account. In addition, the fact that the study sample consisted predominantly of 19-year-old females is another limitation of this study. Consequently, future research should aim to better balance the distribution of respondents by gender and age group to obtain more representative results. A longitudinal study could also be conducted to determine whether the relationship between mobile communication intensity and social anxiety varies across different developmental stages.

Furthermore, the data collection technique was carried out by distributing questionnaires to 343 respondents as primary data. Participants were given a thorough explanation that their participation in this study was voluntary and that they could withdraw at any time, as well as an explanation of the study's purpose and significance. They were also told that their privacy would be protected and that their participation in the survey would remain anonymous.

Furthermore, secondary data was obtained through literature and literature reviews. Then the data was analyzed by inventorying into the form of frequency tabulation calculations through statistical tests and regression analysis as a method to interpret the level of influence between the duration of Instagram use as an independent variable and the level of social anxiety as a dependent variable.

In conducting data analysis, the researcher conducted a simple linear regression analysis. This analysis is conducted to determine whether the independent and dependent variables in the study have a positive or negative relationship direction so that it can predict the value of the dependent variable when the value of the independent variable increases or decreases.

The instrument in this study used an instrument compiled by Omar A'mir, Mohannad Alzughailat, Osama Abdel Fattah, Ayed Zureigat, Mahmoud Azab, Maha Jarrd. (2024) with the research title Analytical study of social networking sites usage and social anxiety among physical education students. The questionnaire statements were then modified to suit conditions in Indonesia. After making adjustments to the statements in the questionnaire, the researchers then conducted preliminary test.

The results of the pretest were used to evaluate the item validity and reliability of the instrument. Item validity was analyzed using item-total correlations, while internal reliability was measured using Cronbach's alpha. All items with item-total correlation values above the established minimum threshold were retained in the research instrument.

Prior to the main data collection, a pretest was conducted involving 30 respondents with characteristics similar to those of the study population. The table value of r at a significance level of 0.05 is 0.3610. Since all items scored above 0.3610, they are considered valid. Meanwhile, the Cronbach's alpha values for each variable are above 0.8, so they are considered reliable.

Table 1. Operationalization of Variables

Variable	Questions	Source	Scale
The Intensity of Mobile Communication Use (X)	How many social networking sites do you have accounts with?	Omar A'mir, Mohannad Alzughailat, Osama Abdel Fattah, Ayed Zureigat, Mahmoud Azab, Maha Jarrd. (2024). Analytical study of social networking sites usage and social anxiety among physical education students. International Journal of Public Health Science (IJPHS), 13 (1), 385-394.	Interval
	How many times a day do you look at social networking sites?		
	How much time do you spend on mobile communication per day?		
	Have social networking sites affected a relationship with friends/family/romantic?		
	Do you consider yourself addicted to social networking sites?		
Social Anxiety (Y)	Spent much time preparing what to say or how to act in social situations		Interval
	Needed help to cope with social situations (e.g., alcohol or medications, superstitious objects)		
	It distracted me from avoiding thinking about social situations avoided, or did not approach or enter social situations		

	Left social situations early or participated only minimally (e.g., said little, avoided eye contact)		
	Felt a racing heart, sweaty, trouble breathing, faint, or shaky in social situations		
	Felt tense muscles, felt on edge or restless, or had trouble relaxing in social situations		
	Had thoughts of being rejected, humiliated, embarrassed, ridiculed, or offending others		
	Felt anxious, worried, or nervous about social situations		

RESULTS AND DISCUSSION

Descriptive statistics of participant responses to questionnaire items from Gen Z in Bekasi are presented in Table 2 which contains data on sex and age of respondents. Respondents in this study were mostly female, namely 241 respondents (70.3%) and the remaining 102 respondents (29.7%) were male. The age of respondents in the study was mostly 19 years old, namely 172 respondents (50.1%), followed by respondents aged 21 years old as many as 82 respondents (23.9%), 20 years old as many as 54 respondents (15.7%), 22 years old as many as 21 respondents (6.2%) and 18 years old as many as 14 respondents (4.1%).

Table 2. Respondent Characteristics

Respondent Characteristics	Number	Percentage (%)
Sex		
Male	102	29.7
Female	241	70.3
Age		
18	14	4.1
19	172	50.1
20	54	15.7
21	82	23.9
22	21	6.2

The results of the relationship test between the two variables can be seen in Table 3. The calculation results show that the mean (average) value of the overall intensity of Mobile Communication use is 3.7883 while the mean value of social anxiety is 3.8426. The significance value is 0.000 <0.05 which means there is a correlation between the two variables.

The Pearson Correlation value is 0.754 so that between the variables there is a strong correlation between the variables of intensity of Mobile Communication use and social anxiety.

Before conducting the regression analysis, the researcher tested the assumptions of linearity and normality of the residuals. The results of the normality test using the One-Sample Kolmogorov-Smirnov Test yielded an Asymp. Sig. (2-tailed) value of 0.95. Since the Asymp. Sig. (2-tailed) value is greater than 0.05, this indicates that the data follow a normal distribution.

Meanwhile, the results of the linearity test showed that the Linearity value was 0.000, while the Deviation from Linearity value was 0.64. The significance value for Deviation from Linearity of 0.64 (> 0.05) indicates that there is no significant deviation from a linear relationship between variables intensity of Mobile Communication use and social anxiety. Therefore, it can be concluded that the assumption of linearity is met and the relationship between the two variables can be analyzed using linear regression.

Next, the researchers conducted the simple linear regression analysis indicate that the regression model is suitable for explaining the relationship between the independent and dependent variables, as indicated by an F-value of 450.645. The unstandardized regression coefficient of B = 0.699 indicates that a one-unit increase in the independent variable will increase the dependent variable by 0.699 units. Meanwhile, the β value of 0.754 indicates a strong positive relationship between the two variables.

Table 3. Correlation Test Results

Variable	Mean	Pearson Correlation	Sig. (2-tailed)	F	Unstandardized B	Standardized Coefficients Beta	Conclusion
The Intensity of Mobile Communication Use	3.7883	0.754	0.000	450.645	0.699	0.754	strong correlation
Social Anxiety	3.8426	0.754	0.000				

Next, the researcher carried out a simple regression test with the results in Table 4. The regression analysis test was carried out to determine whether the variables used in this research were significant. In the research, a regression test was carried out to see the regression of intensity of mobile communication use on social anxiety. The R square (R^2) value is 0.569 so it can be said that the mobile communication intensity variable influences social anxiety by 56.9%. Thus there are around 43.1% that social anxiety is influenced by other factors.

Table 4. Regression Test Results

R	R Square	Adjusted R Square	Std. Error of the Estimate
0.754	0.569	0.568	0.35268

Based on the research findings, it was found that 147 of the 343 respondents, or 42.9%, believed that the use of mobile communication had affected their relationships with family and

friends. In addition, 189 of the 343 respondents (55.1%) considered themselves addicted to mobile communication.

In this research, there are 2 variables with 13 indicators. Variable X (intensity of mobile communication use) has 5 indicators, while variable Y (social anxiety) has 8 indicators. In variable intensity of mobile communication use (X), the highest indicator is in the second question, namely how many times a day do you look at social networking sites? with a mean value of 4.0175. This indicates that respondents frequently access social networking sites throughout the day. This high frequency may reflect a pattern of repeated use, in which individuals periodically access information, messages, or other social media activities. Thus, the intensity of mobile communication use among respondents is demonstrated not only by the duration of use but also by how often individuals access mobile communication throughout the day.Thus, the intensity of mobile communication among respondents is not only indicated by the duration of use but also by how often individuals return to social media throughout the day.

Meanwhile, in variable Y, the highest indicator is in the thirteen statement, namely felt anxious, worried, or nervous about social situations with a mean value of 4.4344. The results show that feelings of anxiety, worry, or nervousness when facing social situations were the indicators most strongly felt by the respondents. Thus, it can be said that social anxiety is evident in emotional responses to social situations, manifested as feelings of discomfort or worry during face-to-face social interactions. These findings indicate that the amount of time spent communicating via mobile devices is more strongly associated with an individual's tendency to avoid social interactions that trigger anxiety.

Daily usage duration is the most dominant indicator because it reflects an individual's level of continuous exposure to the digital communication environment. According to Media System Dependency Theory, the greater a person's dependence on media as a source of information, entertainment, and social interaction, the greater the media's influence on their cognitive, affective, and behavioral aspects. For Generation Z, smartphones are no longer merely communication tools but have become the primary medium for obtaining information, building relationships, following trends, and fulfilling daily social needs. Consequently, the longer the duration of mobile communication use, the higher the likelihood that individuals will be exposed to various digital stimuli that affect their psychological state.

High usage duration also increases the risk of information overload, a condition in which an individual receives more information than their cognitive capacity can effectively process (Eppler & Mengis, 2004). Constant notifications, the flow of conversations across various instant messaging apps, social media updates, and the pressure to always be responsive can create psychological stress. Individuals eventually experience mental exhaustion (digital fatigue), difficulty concentrating, and heightened anxiety about the possibility of missing out on information (fear of missing out or FoMO). These conditions can increase social anxiety because individuals feel they must always be present and respond to digital communication to remain accepted within their social circles.

Furthermore, prolonged usage increases the likelihood of individuals engaging in social comparison. Although this study focuses on mobile communication, much of today's communication takes place on social media platforms that allow users to constantly observe others' achievements, lifestyles, and social interactions. According to Social Comparison Theory (Festinger, 1954), individuals tend to evaluate themselves by comparing themselves to

others, especially when information about themselves is perceived as insufficient. The longer individuals spend in digital environments, the more frequently they engage in social comparison, particularly upward comparison which can lead to feelings of inadequacy, low self-esteem, and anxiety regarding social judgment. The accumulation of these processes has the potential to increase anxiety in social situations, both in digital spaces and in face-to-face interactions.

Meanwhile, the most dominant indicator of social anxiety, avoidant or distracting behavior, shows that individuals are more likely to respond to anxiety by avoiding situations they perceive as threatening rather than confronting them directly. In the context of digital communication, this behavior can take the form of delaying replies to messages, avoiding video calls, being reluctant to participate in group discussions, preferring text-based communication over synchronous communication, or diverting attention to other activities when facing stressful social interactions. These strategies provide a sense of security in the short term by reducing discomfort, but in the long term, they actually perpetuate and even intensify social anxiety because individuals do not have the opportunity to build self-confidence in handling social interactions.

The prevalence of avoidance behaviors can also be understood as a consequence of high dependence on digital communication. As individuals become increasingly accustomed to interacting through media that allow greater control over response times, message editing, and self-image management, they may feel less comfortable with more spontaneous and unpredictable forms of communication. As a result, individuals prefer to avoid social situations perceived as carrying a risk of negative evaluation. This pattern indicates that intensive use of mobile communication not only increases the frequency of digital interactions but can also alter individuals' strategies for coping with the demands of social interaction.

Thus, the findings of this study indicate that higher intensity of mobile communication use is significantly associated with higher levels of social anxiety among Generation Z. High frequency of social media use emerged as the strongest indicator because it reflects a high level of dependence on media, significant exposure to information flows, increased opportunities for social comparison, and a tendency toward passive media use. At the same time, feelings of anxiety, worry, or nervousness when facing social situations arise because individuals actively and regularly use mobile communication, leaving them unsure of how to behave during face-to-face social interactions.

According to previous research, excessive use of Mobile Communication can result in addiction because of the fear of missing out on things like friend updates, text messages, and social events, which is linked to social isolation, anxiety, and depression. This reduces people's ability to communicate in person in social relationships. According to Jaiswal et al., 12–14% of students have high levels of social anxiety, and students who use social media more frequently experience anxiety, loneliness, and depression issues more than those who use it less frequently (A'mir, et al., 2024).

Since excessive use of social networking sites is linked to emotional deficiencies and mental health issues, researchers found that excessive use of social networking sites was associated with increased social anxiety, which is consistent with previous research. The internet is full of images that people upload and compare, which can cause feelings of inadequacy and jealousy. Additionally, the internet requires better social connections and

identity verification (A'mir, et al., 2024). Therefore, it can be said that an increase in social anxiety is accompanied by a decrease in social skills.

CONCLUSION

According to the research findings, there is a rise in the negative indicators associated with use of Mobile Communication, including the percentage of users who have four or more accounts, the percentage of users who open smartphone frequently, the intensity (length of time) of smartphone opening, the percentage of users who believe that social media sites negatively affect their relationships with friends and family, and the percentage of users who feel addicted to their smartphone. The results of the study indicated that these negative indicators were associated with higher degrees of social anxiety and that there were statistically significant differences in social anxiety depending on these variables.

Future research is expected to address some of the limitations of this study. First, this study could be expanded into a longitudinal study to examine changes in the intensity of mobile communication use and social anxiety over time. Additionally, future research could consider broadening the scope of the study to capture variations in the relationship between mobile communication use and social anxiety across different social and cultural contexts. Furthermore, the study could be expanded by conducting a specific analysis of the social media platforms used. Finally, intervening variables could be considered in future research, by including Fear of Missing Out (FoMO) and social comparison to identify the relationships among these variables. Finally, future research should investigate the potential psychological mechanisms underlying the relationship between the intensity of mobile communication and social anxiety. Specifically, Fear of Missing Out (FoMO) and social comparison could be tested as potential mediating variables. Mediation analysis could help determine whether intensive mobile communication is associated with social anxiety partly through an increased fear of being excluded from social activities or through increased comparison with others. This would expand the scope of this study from merely identifying the relationship between these variables to examining the psychological processes that may help explain the observed relationship.

Despite these limitations, this study offers several practical implications. In the context of digital literacy, these findings highlight the importance of educational programs that not only emphasize technological proficiency but also the ability to manage screen time, understand the impacts of excessive information exposure, and develop more mindful and balanced media consumption habits. In the field of counseling and mental health, these findings can serve as a foundation for developing support programs that help adolescents and young adults recognize patterns of social avoidance, improve interpersonal communication skills, and build more adaptive coping strategies when facing social situations. Meanwhile, in the field of mobile communication, these findings highlight the importance of promoting healthier mobile communication practices by optimizing screen time management features, configuring notifications to avoid excessive stress, balancing digital communication with face-to-face interactions, and encouraging more active use of media to build social connections rather than merely passively consuming content. Although these recommendations cannot yet be considered a direct consequence of this study's results, the findings suggest that developing healthier digital communication habits has the potential to support users' psychological well-being, particularly among Generation Z.

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