



Exploring loneliness and social media addiction: Key drivers of phubbing behaviour

*Siti Mazmi Niza Ahmad Zawawi
Universiti Putra Malaysia, Malaysia
Multimedia University, Malaysia
gs59693@student.upm.edu.my

Jusang Bolong
Universiti Putra Malaysia, Malaysia

Nor Azura Adzharuddin
Universiti Putra Malaysia, Malaysia

Elillarasi Kuppusamy
Multimedia University, Malaysia

ABSTRACT

In an age where digital communication dominates, smartphones have transformed human interaction, blurring the lines between personal and professional lives and creating a paradox; while technology fosters connectivity, it may also diminish authentic human interactions. This has contributed to the rise of phubbing (phone snubbing), a problematic behaviour with adverse psychological and social consequences. This research explores the relationships between loneliness, social media addiction, and phubbing behaviour among young adults in Malaysia, utilising the Compensatory Internet Use Theory. A quantitative approach was employed, using an online survey questionnaire to gather data from 80 Malaysian respondents aged 18 to 40 with active social media accounts. Data analysis using SmartPLS 4 reveals significant negative relationships between both loneliness (path coefficient = -0.35 , $p = 0.007$) and social media addiction (path coefficient = -0.313 , $p = 0.003$) and phubbing. These findings suggest that higher levels of loneliness and social media addiction are associated with lower levels of phubbing, potentially due to lonely individuals prioritising direct social interactions and those with social media addiction withdrawing from social settings. The research offers insights into these complex relationships and emphasises the need for further investigation to inform interventions aimed at promoting healthier digital habits.

Keywords: ***Phubbing, loneliness, social media addiction, digital communication, online interaction***

INTRODUCTION

In an age where our thumbs do more talking than we do, the digital world has irrevocably transformed the way humans connect with one another. The omnipresence of smartphones has blurred the lines between personal and professional lives, creating a paradoxical reality; while fostering unprecedented connectivity, technology has also contributed to a decline in authentic human interactions. As of January 2025, Malaysia recorded a smartphone penetration rate of 99.3%, with over 25.1 million active social media users. This figure is equivalent to 70.2% of Malaysia's total population at the start of 2025 (Kemp, 2025). The widespread smartphone usage has facilitated seamless connectivity but has also contributed to the rise of problematic behaviours such as phone snubbing or phubbing—the act of ignoring someone in favour of using a smartphone. Phubbing has been linked to adverse psychological and social consequences, including reduced relationship satisfaction, diminished mental well-being, and increased social isolation (Garrido et al., 2024).

Phubbing is increasingly recognised as a breach of social etiquette, leading to negative perceptions of disrespect and emotional detachment. It disrupts expectations of interpersonal trust, empathy, and meaningful social engagement (Afdal et al., 2019). Furthermore, research suggests that phubbing not only affects the ignored individual but also has psychological repercussions for the phubber, fostering a cycle of social disconnection and dissatisfaction (Chotpitayasunondh & Douglas, 2016).

Research indicates that the effects of phubbing are influenced by an individual's unpleasant feelings (Garrido et al., 2024). As a result of such feelings, it prompts them to seek escape strategies. Smartphones and social media platforms offer an accessible means of distraction, making them an ideal avenue for such escape, resulting in phubbing. Among the psychological drivers of phubbing behaviour, loneliness and social media addiction have emerged as particularly salient factors. Hence, this research explores the intricate relationship between these independent variables—loneliness and social media addiction—and phubbing behaviour. Given social media's widespread reach (Mohamad Yusuf, et al., 2022), and the high engagement of digital generations (Jun & Firdaus, 2023), the focus on youth in this research is particularly relevant, as they are the most active users of these platforms.

The selection of these two variables is grounded in both theoretical and empirical justification. Loneliness has been extensively studied in relation to digital dependency, with findings suggesting that individuals experiencing loneliness seek refuge in online interactions as a means of social compensation (Cacioppo & Cacioppo, 2018). This aligns with the Compensatory Internet Use Theory, which posits that individuals turn to digital platforms to cope with unmet emotional and social needs (Kardefelt-Winther, 2014). Social media addiction, on the other hand, reflects a compulsive need for digital engagement, often at the expense of real-world interactions. Research has consistently linked excessive social media use to increased phubbing behaviour, reinforcing the idea that digital addiction is a significant contributor to social withdrawal (Jun & Firdaus, 2023; Karadağ et al., 2015).

Although loneliness and social media addiction are well-documented factors influencing phubbing, existing research has yet to comprehensively examine their

combined effects, particularly within the Malaysian context. By addressing this gap, the present research aims to contribute to the growing body of literature on digital dependency and interpersonal communication.

THEORETICAL BACKGROUND

Compensatory internet use theory

The relationship between loneliness, social media addiction, and phubbing can be effectively explained using the Compensatory Internet Use Theory (CIUT). CIUT posits that individuals turn to online activities, including social media, to cope with negative emotions or unmet needs, such as loneliness. Loneliness drives people to seek solace in social media, which can lead to compulsive use (addiction) and phubbing behaviours as they prioritise online connections over face-to-face interactions. This creates a cycle where phubbing exacerbates loneliness, reinforcing the need for compensatory online engagement.

Kardefelt-Winther (2014), who highlighted how problematic internet use serves as a response to offline difficulties underscores how loneliness drives social media addiction and phubbing to compensate for real-world disconnection. Loneliness can stem from various factors, including social isolation, lack of meaningful relationships, or negative life events. To alleviate these feelings of isolation, individuals may turn to the internet as a means of social connection and emotional escape. In essence, loneliness can trigger compensatory internet use, leading to social media addiction and phubbing behaviour.

LITERATURE REVIEW

Relationship between loneliness, social media addiction and phubbing

Recent studies highlight the complex relationship between loneliness, social media addiction, and phubbing, emphasising how these factors are interconnected through psychological mechanisms. Xu et al. (2022) demonstrated that loneliness plays a mediating role between peer phubbing and mobile social media addiction among adolescents. The research found that loneliness partially explains why peer phubbing contributes to increased social media addiction, with gender differences influencing the intensity of these effects, particularly among girls.

Another research by Karaman and Arslan (2024) examined how social media addiction is a key driver of phubbing behaviour, linking unmet psychological needs like belongingness and loneliness to increased phubbing tendencies. It found significant positive correlations between social media addiction and phubbing, emphasising the role of digital engagement in coping with emotional discomfort. The psychological implications of social media addiction are profound. Studies have shown that individuals who are addicted to social media often exhibit symptoms like those of substance abuse disorders, including withdrawal symptoms when not using social media (Kuss & Griffiths, 2011). This addiction can create a cycle of dependency, where individuals prioritise online interactions over meaningful face-to-face connections, ultimately leading to feelings of loneliness and isolation (Primack et al., 2017).

Together, these studies suggest that loneliness can intensify reliance on social media, which in turn fosters phubbing behaviours as a form of escapism, aligning with the Compensatory Internet Use Theory (Kardefelt-Winther, 2014).

Relationship between loneliness and phubbing

The relationship between loneliness and phubbing has attracted growing interest, particularly in the context of increasing smartphone dependence. Additionally, other researchers have examined the relationship between phubbing and psychological factors. For instance, research by Błachnio et al. (2021) suggests that phubbing may be a way of coping with feelings of loneliness, worry, and anxiety, indicating that individuals might turn to their smartphones as a form of social compensation. While smartphones provide instant connectivity, they may also contribute to a paradoxical effect—heightening feelings of loneliness by replacing meaningful face-to-face interactions with superficial digital engagement (Yang et al., 2022).

Recent studies emphasise the bidirectional relationship between loneliness and phubbing, suggesting that individuals who experience loneliness are more likely to engage in phubbing, which in turn exacerbates their sense of isolation. For instance, Wang et al. (2023) found that individuals with high levels of loneliness were more prone to phubbing behaviours, often using their phones as an escape from social discomfort. However, this tendency to prioritise virtual interactions over real-life connections can create a reinforcing cycle where phubbing further alienates friends and family, intensifying feelings of loneliness (Lai et al., 2025).

Supporting this perspective, Joel and Vijayalakshmi (2020) highlighted that individuals with social anxiety may prefer indirect communication methods such as texting, while those experiencing loneliness are more likely to engage in solitary smartphone activities like browsing the internet or gaming. These behaviours, often linked to phubbing, contribute to further social withdrawal and emotional distress. Similarly, a research by Bajwa et al. (2023) examined the relationship between smartphone addiction and phubbing behaviour among university students. The findings indicate that smartphone addiction is positively linked to phubbing behaviour, with loneliness acting as a moderator in this relationship. This suggests that individuals experiencing loneliness may be more susceptible to smartphone addiction, which in turn can lead to increased phubbing behaviour, potentially reducing social satisfaction.

Relationship between social media addiction and phubbing

Social media has significantly reshaped interpersonal communication, offering both benefits and drawbacks. One concerning consequence is social media addiction, which is characterised by excessive engagement with social networking sites to the extent that it disrupts daily functioning and interpersonal relationships (Banyai et al., 2017). Defined as a behavioural addiction, social media addiction manifests through compulsive platform use, an inability to regulate screen time, and withdrawal symptoms when access is restricted (Kircaburun et al., 2020). This overreliance on social media has been linked to anxiety, depression, and low self-esteem, contributing to maladaptive social behaviours, including phubbing (Yang et al., 2022).

The compulsive urge to stay connected online often comes at the expense of face-to-face interactions, reinforcing phubbing tendencies. Recent studies indicate that individuals

with high social media addiction scores are more likely to prioritise digital engagement over in-person communication, leading to neglect of social relationships (Wang et al., 2023). As individuals become increasingly preoccupied with online interactions, they are more likely to engage in phubbing, further diminishing the quality of their real-world relationships (Lai et al., 2025). This aligns with previous findings by Karadag et al. (2016), who identified excessive and unregulated social media use as a major driver of phubbing behaviours.

Recent research has also highlighted personality traits that mediate the link between social media addiction and phubbing. Studies suggest that individuals high in neuroticism and impulsivity are particularly vulnerable to developing addictive social media habits, which in turn increase their likelihood of phubbing others (Yang et al., 2023). Furthermore, social media platforms' design—featuring endless scrolling, push notifications, and algorithm-driven engagement—reinforces compulsive usage patterns that contribute to phubbing.

Understanding these dynamics is crucial for developing interventions aimed at reducing phubbing behaviours among socially addicted individuals. Digital literacy programs, self-regulation strategies, and smartphone usage policies could help mitigate the negative effects of social media addiction on social interactions (Fioravanti et al., 2021).

Based on these reviews of past studies, this research formulated the following hypotheses.

H1 There is a significant relationship between loneliness and phubbing.

H2 There is a significant relationship between social media addiction and phubbing.

Figure 1 shows the framework of this research.

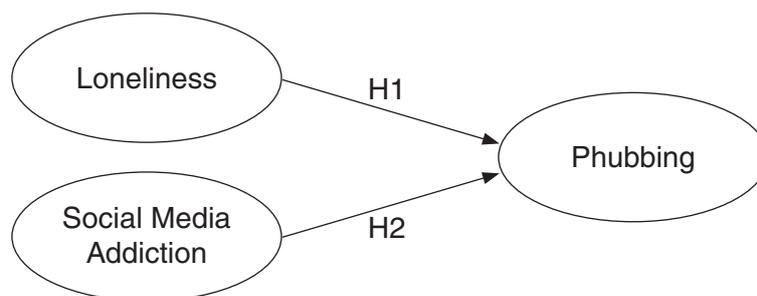


Figure 1. Research framework

Conceptualising loneliness

Loneliness has been described by Russell et al. (1980) as thoughts and feelings associated with isolation and disconnection from others. It is a complex emotional state characterised by a perceived lack of social connections. It can lead to various negative outcomes, including mental health issues such as depression and anxiety (Cacioppo & Cacioppo, 2018). The rise of digital communication has paradoxically increased feelings of loneliness, as individuals may feel more disconnected despite being constantly connected online (Twenge et al., 2019).

Conceptualising social media addiction

Turel and Serenko (2020) stated that social media addiction can be loosely conceptualised as a psychological dependency on the use of social media that can affect other more imperative events (Leong et al., 2019). More precisely, it is referred as “being overly concerned about social media, driven by an uncontrollable motivation to log on to or use social media, and devoting so much time and effort to social media that it impairs other important life areas” (Andreassen et al., 2016).

Conceptualising phubbing

The term phubbing is derived from the words phone and snubbing and refers to individuals accessing their smartphone amid a real-life interaction with someone else and escaping from interpersonal contact (Karadag et al., 2015). It was first introduced by Roberts and David (2016) in their research on the impact of mobile phone use on interpersonal relationships. They defined phubbing as the act of ignoring someone in favour of a mobile device, which can lead to feelings of neglect and resentment among those being snubbed. It may be called an insensitive act towards others and can impair real-life social ties with others (Balta et al., 2020). Subsequent research has shown that phubbing is prevalent in various social settings, including family gatherings, romantic relationships, and friendships (Kardaras, 2016).

METHODOLOGY

Research design

This research employed a quantitative approach using a survey questionnaire as the primary research method. The survey was chosen for its cost-effectiveness and efficiency in collecting responses from the target population within a limited timeframe (Chan et al., 2020; de Leeuw, 2008). To examine the relationships among the variables, a correlational research design was utilised. This approach aims to identify and analyse relationships between variables, providing insights into how current data trends might predict future patterns. Specifically, this research seeks to measure the correlations between loneliness, social media addiction, and phubbing, exploring how these factors interrelate within the population studied.

Population and sampling procedures

A non-probability sampling technique was employed to determine the sample size for this research, a common approach in online surveys (Cornesse & Blom, 2023). The respondents were selected through a combination of purposive sampling and snowball sampling. This integrated approach ensures that the respondents accurately represent the target population for the research. Purposive sampling, also known as judgmental or selective sampling, involves the deliberate selection of respondents based on the researcher’s judgment. It allows researchers to focus on specific individuals that are chosen purposefully rather than randomly, ensuring alignment with the research’s goals.

Snowball sampling, by contrast, is a chain-referral technique often used in sociology and statistical research to reach hidden or hard-to-access populations (Sharma, 2017). In this approach, current respondents help recruit additional respondents from their

social networks. This creates a “snowball” effect, gradually expanding the sample size until sufficient data is collected for analysis. The combination of these methods facilitates robust data collection while targeting a precise and representative sample.

In brief, purposive sampling refers to respondents with specified characteristics that meet the need to represent the population, whereas the snowballing procedure is utilised in the purposive sampling to achieve the research objectives. Screener questions were set to ensure that the respondents were Malaysian youths aged between 18 and 40, a smartphone user and have at least one active social media account during the period of the survey.

A sample size of 80 respondents was selected as part of a pilot test for the larger research. The pilot test was crucial in refining survey items and ensuring the reliability of the measurement scales before proceeding with a larger, more representative sample. Hence, with 80 valid responses, the current sample was deemed suitable for statistical analysis. This aligns with Sekaran and Bougie’s (2016) recommendation that a sample size between 30 and 500 is appropriate for social science research (Chan et al., 2021).

Research instruments and measurements

Due to its bias-reducing nature, since there are no verbal and visual clues to influence the respondents, an online survey questionnaire was employed as the research instrument. It was divided into four sections. Questions in Section A were designed to collect the demographic profile of respondents such as gender, age, marital status, race, religion, education and occupation as well as their personal social media involvement. Apart from it, one item of an open-ended question was also included to comprehend the purpose of respondents’ usage of social media. Section B, on the other hand, measured the first independent variable, namely loneliness. Items from the De Jong Gierveld’s 11-item Loneliness Scale (Gierveld & Tilburg, 1999) were used to assess loneliness.

Meanwhile, Section C measured the second independent variable, namely social media addiction. Adapted from Young’s Internet Addiction Test (2009), this section measured the extent of social media addiction. The final component, Section D, consisted of questions about phubbing behaviour. Items from the Partner Phubbing Scale (David & Roberts, 2020) were utilised to evaluate phubbing tendencies. The survey questions were bilingual, namely in Bahasa Melayu and English. It was measured using a 7-point Likert-type scale. In Sections B and D, the scale ranged from 1 (Strongly Disagree), 2 (Disagree), 3 (Slightly Disagree), 4 (Neither Agree nor Disagree), 5 (Slightly Agree), 6 (Agree) and 7 (Strongly Agree). Meanwhile for Section C, the values ranged from 1 (Never), 2 (Rarely), 3 (Occasionally), 4 (Sometimes), 5 (Frequently), 6 (Usually) and 7 (Everytime). This design ensured comprehensive data collection across multiple dimensions.

Data collection procedure

Data was collected through an online survey administered via Google Forms over four weeks in August 2024. The questionnaire link was distributed through WhatsApp groups and social media platforms such as Instagram and Facebook. The questionnaire was distributed until the targeted sample was achieved. Respondents participated voluntarily, and informed consent was obtained before proceeding with the survey. Ethical considerations included confidentiality and anonymity.

Reliability and validity test

The reliability and validity of the measurement scales for loneliness (LN), phubbing (PB), and social media addiction (SM) were assessed using SmartPLS 4. The results, summarised in Table 1, include Cronbach's alpha, composite reliability (rho_a and rho_c), and average variance extracted (AVE).

Table 1. Reliability and validity test results

| Construct | Cronbach's alpha | Composite reliability (rho_a) | Composite reliability (rho_c) | Average variance extracted (AVE) |
|-----------|------------------|-------------------------------|-------------------------------|----------------------------------|
| LN | 0.673 | 0.851 | 0.736 | 0.447 |
| PB | 0.855 | 0.868 | 0.891 | 0.542 |
| SM | 0.573 | 0.654 | 0.756 | 0.515 |

Based on Table 1, phubbing demonstrated strong reliability (Cronbach's alpha = 0.855, composite reliability > 0.8) and acceptable convergent validity (AVE = 0.542). Loneliness showed acceptable reliability (composite reliability > 0.7) but marginal Cronbach's alpha (0.673) and low AVE (0.447), suggesting potential validity issues. Social media addiction presented reliability concerns with low Cronbach's alpha (0.573) and mixed composite reliability, though its AVE (0.515) was acceptable. While the phubbing scale is robust, the loneliness and social media addiction scales need refinement. Researchers should review item clarity, assess factor loadings, and consider revisions to improve reliability and validity.

FINDINGS

Table 2 presents the sample characteristics of this research. The sample primarily consisted of young adult females (81.2%), indicating that women are more active users of social media platforms. The majority of respondents fell within the 31–40 age group (48.8%), a demographic known for its heavy reliance on technology. While the sample is predominantly Malay (96.3%) and single (52.5%), it is important to note the diversity in educational attainment, ranging from SPM/STPM (10%) to Master/PhD (25%). WhatsApp (97.5%), Instagram (93.8%), and TikTok (83.8%) emerged as the most popular platforms among the respondents. This preference aligns with the trends observed globally, where these platforms have gained significant traction, especially among younger generations. The dominance of these platforms suggests a strong inclination towards visual and interactive content.

The primary purpose of social media use among the respondents is communication with others (22.5%), followed by information/news seeking (15%) as well as for work/business purposes (10%). This finding highlights the multifaceted nature of social media, which serves as a tool for both personal and professional use. Additionally, a significant proportion of respondents utilised social media for leisure (10%) and entertainment (9%), indicating its role in relaxation and stress relief.

Table 2. Sample characteristics (n = 80)

| Socio-demographic details | | n | % |
|-------------------------------|---------------------------|----|------|
| Gender | Male | 15 | 18.8 |
| | Female | 65 | 81.2 |
| Age | 18 – 20 years old | 5 | 6.2 |
| | 21 – 30 years old | 36 | 45.0 |
| | 31 – 40 years old | 39 | 48.8 |
| Marital status | Single | 42 | 52.5 |
| | Married | 38 | 47.5 |
| Race | Malay | 77 | 96.3 |
| | Indian | 3 | 3.7 |
| Education | SPM / STPM | 8 | 10.0 |
| | Diploma/Degree | 51 | 63.8 |
| | Master/PhD | 20 | 25.0 |
| | Others | 1 | 1.2 |
| Social media platform use | WhatsApp | 78 | 97.5 |
| | Instagram | 75 | 93.8 |
| | TikTok | 67 | 83.8 |
| | Telegram | 62 | 77.5 |
| | Facebook | 60 | 75.0 |
| | Twitter / X | 10 | 12.5 |
| | YouTube | 2 | 2.5 |
| | LinkedIn | 2 | 2.5 |
| | Pinterest | 2 | 2.5 |
| | Thread | 1 | 1.3 |
| | Tumblr | 1 | 1.3 |
| | Weverse | 1 | 1.3 |
| Purpose of using social media | Communication with others | 18 | 22.5 |
| | Information / Knowledge | 15 | 18.7 |
| | News / Trends | 15 | 18.7 |
| | Work / Business purpose | 10 | 12.5 |
| | Leisure / Stress release | 10 | 12.5 |
| | Entertainment | 9 | 11.3 |
| | Sharing update | 2 | 2.5 |
| | Shopping | 1 | 1.3 |

All respondents met the criterion of maintaining at least one active social media account, ensuring their relevance to the research topic. The data were analysed using SmartPLS 4 to uncover pattern and relationship between variables.

This research sought to examine the intricate relationships between loneliness, social media addiction, and phubbing among Malaysian youths. The findings offer valuable insights into how these variables are interrelated within a demographic increasingly dependent on digital communication and online platforms. By analysing the correlations between these behaviours and emotional states, the study aims to enhance the understanding of their dynamics within the context of modern social interactions.

Regression analysis (path coefficients)

This section presents the results of the regression analysis conducted using SmartPLS 4 to examine the relationships between loneliness (LN), phubbing (PB), and social media addiction (SM). The results, summarised in Table 3, include the path coefficients (mean),

standard deviations, t-statistics, p-values, and the decision regarding the support of the hypothesised relationships.

Table 3. Regression analysis result

| Construct | Mean | Standard deviation (STDEV) | t | p | Decision |
|-----------|--------|----------------------------|-------|-------|-----------|
| LN → PB | -0.35 | 0.13 | 2.444 | 0.007 | Supported |
| SM → PB | -0.313 | 0.108 | 2.703 | 0.003 | Supported |

The analysis revealed statistically significant negative relationships between both loneliness and social media addiction and phubbing. The path coefficient for LN → PB was -0.35 ($p = 0.007$), indicating that higher levels of loneliness are associated with lower levels of phubbing. This relationship was statistically significant, suggesting that loneliness is a significant negative predictor of phubbing. Recent research has shown that individuals experiencing loneliness might prioritise face-to-face interactions when available, potentially reducing phubbing behaviour (Choi & Lee, 2021).

The path coefficient for SM → PB was -0.313 ($p = 0.003$), demonstrating that higher levels of social media addiction is also associated with lower levels of phubbing. This relationship was also statistically significant, indicating that social media addiction is a significant negative predictor of phubbing. This is somewhat counterintuitive, as social media addiction is often linked to increased phone usage and potential detachment from physical surroundings. However, it might also suggest that individuals addicted to social media prioritise their online interactions over immediate, physical social interactions, thus reducing phubbing behaviour (Lin et al., 2022).

DISCUSSION

The regression analysis revealed a counterintuitive finding: both loneliness and social media addiction were significant negative predictors of phubbing. This suggests a complex interplay between these variables, warranting further investigation to elucidate the underlying mechanisms.

Compensatory internet use theory (CIUT)

The compensatory internet use theory (CIUT) proposes that individuals use the internet, including social media, to compensate for deficits in their offline lives, such as social isolation or loneliness. In this context, the negative relationship between loneliness and phubbing could be explained through CIUT. Individuals experiencing loneliness might intensely seek online social interactions, prioritising digital connections over immediate physical surroundings. This behaviour would lead to reduced instances of phubbing in face-to-face interactions because those interactions would be deemed as less important than the digital interactions they pursue. In line with CIUT, they might use social media not merely as a passive escape but as an active tool to fulfil unmet social needs, thereby reducing the need for phubbing.

CIUT also supports the idea that individuals with a strong social media addiction may withdraw from real-world interactions to immerse themselves in online environments, thereby compensating for perceived social deficiencies. This withdrawal could manifest

as avoidance of social situations where phubbing occurs, aligning with the negative association found.

Loneliness and phubbing

Contrary to prior research suggesting that loneliness is linked to increased phone use, including phubbing (Chotpitayasunondh & Douglas, 2016), this research found a negative relationship between loneliness and phubbing. This suggests that lonelier individuals may engage in less phubbing, possibly due to reduced social interactions (Wang et al., 2023). An alternative explanation is that lonely individuals may prefer asynchronous digital communication, such as social media or texting, rather than engaging in real-time phubbing behaviours (Balta et al., 2020). Additionally, some research indicates that lonely individuals might seek social connections through their phones but still prioritise face-to-face interactions when available to alleviate their loneliness (Kim & Park, 2020). Future research should explore whether loneliness is associated with passive phone use, such as scrolling or consuming content, rather than active phubbing.

It is also important to consider the bidirectional nature of the loneliness-phubbing relationship. Frequent phubbing may contribute to increased feelings of loneliness by diminishing meaningful social interactions and reinforcing social isolation. This highlights the need for interventions that reduce phubbing behaviours, as they may help mitigate loneliness and enhance overall well-being (Darcin et al., 2016). Further studies should examine the long-term effects of phubbing on loneliness, considering contextual factors such as social settings and individual coping mechanisms.

Social media addiction and phubbing

Surprisingly, social media addiction was negatively associated with phubbing, contradicting prior research that has consistently linked excessive social media use with increased phubbing behaviour (Davey et al., 2018). A potential explanation for this unexpected finding is that individuals highly addicted to social media may prioritise online interactions over in-person communication, leading them to withdraw from face-to-face social settings rather than engage in direct phubbing. Instead of splitting their attention between real-life conversations and their devices, they may entirely disengage from physical interactions in favour of immersive online engagement.

Another possible reason for this negative relationship is that individuals with high social media addiction might exhibit avoidance behaviours, preferring to isolate themselves to engage deeply with digital platforms, rather than participate in social settings where phubbing typically occurs. This aligns with research suggesting that social media addiction can contribute to social withdrawal, where individuals reduce real-world interactions and instead dedicate their time to virtual connections (Wang et al., 2019). In such cases, rather than exhibiting phubbing behaviours by ignoring conversational partners, they may avoid these situations altogether, thereby reducing opportunities for phubbing.

Additionally, the specific context of this research and the way phubbing was measured may have influenced these findings. Prior research has explored how problematic smartphone use impacts social interactions in different settings, with some studies indicating that the effects of excessive phone use vary depending on the environment and the individual's motivations (Garcia & Rodriguez, 2023). It is possible that respondents in this research engaged with social media in ways that did not involve direct phubbing

behaviours, such as consuming content in private or interacting primarily in solitary settings.

Furthermore, this result aligns with studies suggesting that social media addiction does not always translate to increased smartphone use during social interactions (Elhai et al., 2017). Some individuals addicted to social media might use their devices primarily when alone rather than in social environments where phubbing is typically observed. This behaviour contrasts with the assumption that high social media usage necessarily leads to higher rates of social neglect during in-person conversations. Future research should explore the nuances of social media addiction and its impact on different types of digital engagement, considering how individuals navigate their online and offline interactions.

Limitations and future directions

This research provides valuable insights into the relationship between loneliness, social media addiction, and phubbing. However, several limitations should be considered, and future research should address these gaps to enhance our understanding of these complex behaviours.

The relatively small sample size of 80 respondents may limit the statistical power of the findings, potentially reducing the ability to detect small but meaningful effects. Additionally, the research was conducted within a specific population, which may not be fully representative of broader demographic or cultural groups. The influence of cultural norms, social expectations, and smartphone usage patterns may differ across contexts, warranting further research using larger and more diverse samples to improve generalisability.

Measurement challenges may also have influenced the findings, particularly the unexpected negative relationships observed in the regression analysis. It is possible that respondents interpreted phubbing differently or that the survey items did not fully capture the complexities of their behaviours. Additionally, social media addiction and phubbing are conceptually intertwined, which may have led to some overlap in measurement. Future research should refine the scales used in such studies by incorporating qualitative insights, validating measurement tools across different populations, and distinguishing between passive and active forms of smartphone engagement.

Another limitation lies where this research did not account for potential mediating or moderating variables that may influence the relationship between loneliness, social media addiction, and phubbing. Factors such as social anxiety, self-esteem, and personality traits could play a role in shaping these behaviours. Incorporating these variables in future research could provide a more comprehensive model explaining phubbing tendencies.

Next, the cross-sectional nature of this research limited the ability to determine causality. While the findings establish associations between loneliness, social media addiction, and phubbing, it remains unclear whether loneliness leads to increased phubbing or whether frequent phubbing contributes to heightened feelings of loneliness. Longitudinal studies that track respondents over time would provide a clearer understanding of how these behaviours evolve. Experimental research could further strengthen causal claims by manipulating key variables and assessing their direct effects on phubbing tendencies.

Beyond individual behaviours, the role of social media platform design in reinforcing phubbing tendencies deserves attention. Features such as push notifications,

infinite scrolling, and algorithm-driven content engagement may contribute to compulsive smartphone use, making it difficult for individuals to disengage from their devices during social interactions. Future research should explore how specific platform mechanics influence phubbing and whether digital interventions—such as customisable notification settings and digital well-being tools—can help mitigate excessive engagement.

As technology continues to evolve, new digital trends may further shape phubbing behaviours. The increasing integration of augmented reality (AR), artificial intelligence (AI), and metaverse-based social interactions may redefine how individuals balance online and offline communication. Future research should examine how these emerging technologies influence social connectivity and whether they exacerbate or alleviate phubbing behaviours.

Despite these limitations, this research offers a valuable foundation for understanding the interplay between loneliness, social media addiction, and phubbing. Addressing these challenges through improved measurement, diverse sampling, longitudinal analyses, and intervention-focused research will contribute to a more comprehensive understanding of phubbing behaviour and inform strategies to foster healthier social interactions in an increasingly digital world.

CONCLUSION

In conclusion, this research investigated the intricate relationships between loneliness, social media addiction, and phubbing behaviour among young adults, a demographic heavily engaged with digital platforms. The findings reveal significant negative associations between both loneliness and social media addiction and phubbing, challenging previous research that often posits a positive link. The research's results suggest that higher levels of loneliness may prompt individuals to prioritise direct social interactions (either face-to-face or online), potentially reducing phubbing behaviour. Additionally, individuals with social media addiction might exhibit social withdrawal or prioritise immersive online engagement over in-person interactions, leading to decreased phubbing in physical settings. These interpretations highlight the complex interplay between these variables and underscore the need for further research to clarify the underlying mechanisms.

To build upon these findings, future research should adopt longitudinal designs to explore causality and the temporal dynamics between loneliness, social media addiction, and phubbing. Employing mixed methods approaches, including qualitative inquiry, could provide a more nuanced understanding of individual experiences and contextual factors influencing these behaviours. Furthermore, interventions aimed at fostering healthier digital habits and promoting meaningful social interactions should be developed and evaluated, drawing upon the insights gained from this research.

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Siti Mazmi Niza Ahmad Zawawi

is a PhD student in human communication at the Faculty of Modern Languages and Communication, Universiti Putra Malaysia, Malaysia and a lecturer at the Faculty of Applied Communication, Multimedia University Cyberjaya, Malaysia. Her research interests include human communication, computer-mediated communication, and development communication. With more than 14 years of experience, she has been actively involved in teaching and is passionate about research in the field of human communication, with a focus on social media communication and behaviour.

Jusang Bolong

is a Teaching Fellow at the Department of Communication, Faculty of Modern Languages and Communication, University Putra Malaysia, Malaysia. With nearly three decades of experience, his research focuses on development communication, human communication, and computer-mediated communication.

Nor Azura Adzharuddin

is Associate Professor at the Department of Communication, Faculty of Modern Languages and Communication, University Putra Malaysia, Malaysia. Her research interests include new media & traditional media advertising; celebrity endorsements in advertising; memory and attitude measures; integrated marketing communication strategies, & corporate communication.

Elillarasi Kuppusamy

is a lecturer at the Faculty of Applied Communication, Multimedia University Cyberjaya, Malaysia. Her research interests include film, media usage and effect, media and AI, and media and communication.
