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The role of FOMO on psychological well-being with nomophobia as a mediator among college students

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Abstract

The advancement of technology has significantly influenced student behavior, with increased dependency on devices like mobile phones contributing to phenomena such as Fear of Missing Out (FoMO) and Nomophobia (No Mobile Phone Phobia), both of which can affect psychological well-being. This study investigates the impact of FoMO on psychological well-being among students, with Nomophobia as a potential mediator. Utilizing a quantitative, multivariate correlational design, data were collected from 279 students, who completed the Fear of Missing Out Scale (FoMOs), the Nomophobia Questionnaire (NMP-Q), and the Psychological Well-Being Scale. Based on path analysis result revealed that (a) Nomophobia partially mediated the relationship between FoMO and psychological well-being; (b) FoMO positively influenced Nomophobia levels among students; (c) FoMO had a direct significant negative effect on psychological well-being; and (d) Nomophobia also had a direct significant negative effect on psychological well-being. These findings underscore the complex interactions between technology-related anxieties and student well-being.

Keywords FoMO · Students · Nomophobia · Psychological well-being

Introduction

The rapid advancement of information and communication technology has profoundly transformed the way people interact, communicate, and access information. In Indonesia, the number of internet users continues to rise, reaching 215 million people in 2022 (APJII, 2022). Among these users, 49.5% are individuals aged 18–36 years, the productive age group, which includes university students. The proliferation of internet-enabled devices such as computers, laptops, and smartphones offer significant benefits for students, including facilitating academic tasks, enhancing communication and collaboration, and fostering creativity, motivation, and curiosity for learning (Randler et al., 2016; Liang et al., 2023; Wang et al., 2023; Zaťková et al., 2024). However, the presence of internet technology presents a double-edged phenomenon, delivering positive impacts while potentially triggering negative consequences, such as diminished psychological well-being (Tuan et al., 2024).

Psychological well-being is a critical aspect of student life, particularly in university settings characterized by academic pressures, social changes, and emotional challenges (Young et al., 2020; Nogueira & Sequeira, 2024; Ramos-Galarza et al., 2024). Research underscores the importance of psychological well-being in supporting academic achievement and resilience, enabling students to adapt to transitions and navigate everyday challenges effectively (Brooker & Vu, 2020; Ruiz-Ortega et al., 2024). Students with high levels of psychological well-being exhibit better academic performance, stronger stress resilience, and greater life satisfaction (Cobo-Rendón et al., 2020; Antaramian, 2015). Moreover, positive well-being contributes to self-confidence and enhances the overall campus experience (Skoglund et al., 2021).

Psychological well-being, as conceptualized by Ryff (1989), refers to an individual's ability to experience fulfillment and harmony in life. It encompasses six dimensions: self-acceptance, positive relationships, autonomy, environmental mastery, purpose in life, and personal growth. Individuals with optimal psychological well-being are not

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only free from mental health disorders but also demonstrate productivity, happiness, and life satisfaction (Arfianto et al., 2020). Despite its importance, psychological well-being can be compromised by modern digital behaviors, including the fear of missing out (FoMO) and nomophobia, which have become increasingly prevalent among university students.

FoMO and psychological well-being

FoMO, or the Fear of Missing Out, is characterized by the anxiety of missing important information, experiences, or connections, often driven by social media use (Przybylski et al., 2013). Individuals experiencing FoMO may struggle to control their environment, encounter difficulties in forming healthy relationships, and exhibit low self-acceptance (Beyens et al., 2016; Ainiyah & Palupi, 2022). FoMO often leads to compulsive phone use, driven by the fear of falling behind on social interactions or updates, which can result in fatigue, anxiety, and reduced psychological well-being (Reer et al., 2019; Rizal & Widiantoro, 2022). Young people, particularly students, are more susceptible to FoMO, which is associated with decreased mood, life satisfaction, and increased stress (Savitri, 2019; Komala & Rafiyah, 2022).

FoMO (Fear of Missing Out) is strongly linked to increased levels of anxiety and depression, serving as a mediator between social media engagement and psychological well-being (Fitzgerald et al., 2023; Srivastava et al., 2024). Higher levels of FoMO contribute to greater anxiety, which negatively affects mental health (Fabris et al., 2020). This anxiety often manifests as emotional symptoms, such as stress and heightened sensitivity to social neglect, further exacerbating mental health challenges. Moreover, individuals with FoMO frequently report lower self-esteem and life satisfaction, as the inability to fulfill basic psychological needs undermines their overall well-being (Groenestein et al., 2024). Self-esteem plays an intermediary role, mediating the relationship between life satisfaction, loneliness, and FoMO, reflecting the complex interactions among these factors (Uram & Skalski, 2022; Groenestein et al., 2024).

FoMO is also a significant predictor of social media addiction, where the compulsive need to stay connected leads to problematic usage patterns and deteriorates psychological well-being (Rozgonjuk et al., 2020). This addiction disrupts daily life, reducing productivity and increasing stress, perpetuating a cycle of poor mental health (Metin-Orta, 2020). Additionally, FoMO contributes to sleep deprivation and diminished focus, as the constant urge to check social media interferes with sleep and productivity, leading to long-term negative effects on physical and mental health (Xie et al., 2018; Hayran & Anik, 2021). Despite high online connectivity, individuals with FoMO often feel lonelier and more socially isolated due to the superficial nature of online interactions (Alutaybi et al., 2020; Fitzgerald et al., 2023). Addressing FoMO requires strategies such as enhancing social support, fulfilling basic psychological needs, and fostering healthy social media habits to mitigate its pervasive impact on psychological well-being (Dou et al., 2023).

Nomophobia and psychological well-being

Nomophobia, or "no mobile phone phobia," refers to the fear or anxiety arising from being away from or unable to use one's smartphone (Yildirim & Correia, 2015). This phenomenon is marked by discomfort or panic when communication devices are inaccessible, disrupting communication, connectedness, and access to information (King et al., 2013; Vagka et al., 2023). Nomophobia has been shown to negatively affect psychological well-being by inducing anxiety, loneliness, and physical symptoms such as trembling or sweating (Bragazzi & Del Puente, 2014). Among students, nomophobia can impair academic performance, increase stress, and exacerbate mental health challenges (Yanqing & Wenjie, 2019; Aarthi et al., 2020).

Research indicates a strong relationship between FoMO and nomophobia, with individuals experiencing higher levels of FoMO being more prone to nomophobia (Gezgin, 2017). Moreover, nomophobia mediates the relationship between excessive phone use and psychological stress, amplifying the negative impact of FoMO on psychological well-being (Xie & Luo, 2024). Students with high levels of nomophobia often exhibit diminished autonomy, weaker social relationships, and poor environmental mastery, further compromising their psychological well-being (King et al., 2013).

Nomophobia was chosen as a mediator because previous evidence suggests that nomophobia plays a key role in mediating the relationship between excessive technology dependence and psychological well-being (Xie & Luo, 2024). While FoMO has a direct impact on well-being, it tends to increase dependence on technological devices, which in turn triggers nomophobia.

Research gap and objectives

Although prior research has examined the impact of FoMO and Nomophobia on psychological well-being (Salameh, 2023; Li & Chan, 2021; Fantaw, 2020), few studies have investigated Nomophobia as a mediator in this relationship. This study uniquely explores the mediating role of Nomophobia in the relationship between Fear of Missing Out (FoMO) and psychological well-being, addressing a critical gap in the literature. Unlike our previous works (Safaria et al., 2023a, b, 2024a, b, c) which focused on direct relationships between these variables, this research employs a

more advanced path analysis approach and utilizes a more targeted sample of university students in Indonesia. This gap is particularly relevant given that university students are highly exposed to digital technology and are therefore more susceptible to the negative effects of these behaviors. By addressing this research gap, the study provides a deeper understanding of how digital behaviors influence mental health outcomes and offers valuable insights for developing targeted interventions within educational and psychological frameworks.

Research hypotheses

Based on the issues discussed earlier, this study proposes the following hypotheses:

- Nomophobia mediates the relationship between FoMO and psychological well-being.
- FoMO has a positive relationship with nomophobia among college students, meaning higher FoMO is associated with higher levels of nomophobia.
- Nomophobia has a negative relationship with psychological well-being among college students, meaning higher levels of nomophobia are associated with lower psychological well-being.
- FoMO has a negative relationship with psychological well-being among college students, meaning higher FoMO is associated with lower psychological well-being.

Method

Design

This study uses a quantitative approach with path analysis method. The purpose of this research is to examine the relationship between FoMO (Fear of Missing Out) as the independent variable and psychological well-being as the dependent variable, mediated by nomophobia.

Participants

The population used in this study consists of 914 undergraduate students from the 2021–2023 cohorts (based on the faculty's undergraduate records, 2023) residing in Yogyakarta, aged 18–24 years. The study focuses on undergraduate students, as they are in early adulthood, ranging from 18 to 24 years (Hulukati & Djibran, 2018). According to Przybylski et al. (2013), FoMO most commonly occurs in young adults between the ages of 18–24. Additionally, research by Vijnanamaya and Ambarini (2023) indicates that both men and women have the potential to experience nomophobia within this age range. Azka et al. (2018) argue that students aged 18–24 are more susceptible to mobile dependency as they transition from late adolescence to early adulthood, undergoing various psychological dynamics.

The sample for this study was obtained using purposive sampling, a sampling method based on specific considerations and objectives that meet the desired standards (Creswell, 2018). This study utilized a sample of students from a private university in Yogyakarta, from the 2019–2023 cohorts, aged 18–24 years, who used mobile phones for more than 6 h per day. Based on Slovin's formula, with a 5% margin of error and a total population of 914, the obtained sample size was 269.

Research ethics

This study follows research ethics guidelines to facilitate a smooth research process. The researcher used informed consent to ensure participants' willingness to participate, respect their rights and obligations, and maintain the confidentiality of participants' identities. In this study, informed consent was distributed together with the questionnaire scale, which was directly handed out by the researcher. Completing the scale required participants to agree to informed consent prior to participating in the study. The research procedure began by requesting permission from the undergraduate program head. Once permission was granted, the researcher contacted the lecturers in charge of classes in the 2nd, 4th, and 6th semesters, selecting those responsible for compulsory courses in these semesters. After obtaining permission from the class lecturers, the researcher distributed the research questionnaires to students in class.

Measurements

This study used a quantitative survey as the data collection method by directly administering the research scale to the research subjects. The survey method involved directly providing the research scale to the subjects. Prior to conducting the research, the researcher conducted a trial of the research scale. The trial was conducted with 100 students from the Faculty of Psychology, class of 2019–2020, whose data were processed to obtain a valid and reliable scale.

For hypothesis testing, the study was conducted at a private university in Yogyakarta with 269 s, fourth, and sixth-semester students as subjects. Before participating, students were given informed consent as an expression of their willingness to complete the research scale, which was filled out directly in the classroom and monitored by the researcher. In this study, data collection was conducted using a psychological scale. Three measurement tools were used: the

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Psychological Well-Being scale, the FoMO scale, and the Nomophobia scale.

The scale format referred to a summated rating scale with favorable responses having four answer choices: Strongly Disagree scored (1), Disagree scored (2), Agree scored (3), Strongly Agree scored (4). For unfavorable responses, Strongly Disagree scored (4), Disagree scored (3), Agree scored (2), and Strongly Agree scored (1).

Psychological well-being scale

Based on the results of the trial data analysis and item selection for the psychological well-being scale, the content validity results using Aiken's V showed a V value of 0.95, with no items discarded. The construct validity results using CFA (Confirmatory Factor Analysis) showed CFI = 0.956 > 0.90 (Fit), TLI = 0.939 > 0.90 (Fit), and RMSEA = 0.0530 < 0.80 (Fit), indicating that the model was fit. Sample items included "I feel concerned about what others think of me," "I am able to manage my life well," and "I do not see differences in myself between the past and now." Nine items were discarded (items 2, 3, 4, 5, 6, 13, 14, 16, and 18), leaving 15 out of 24 items, with factor loadings ranging from 0.413 to 0.795. Reliability analysis yielded a coefficient of 0.885 > 0.70.

Table 1 Descriptive demographic data

Variables	Frequency	%
Gender		
Male	33	12,27%
Female	236	87,73%
Groups		
2023	101	37,55%
2022	86	31,97%
2021	82	30,48%
Age		
18–20 years	211	78,43%
21–24 years	58	21,56%
Screen Time		
More than 6 h/day	269	100%
Social media used		
Instagram	90	33,46%
Tiktok	57	21,19%
Whatsapp	65	24,16%
Twitter/X	40	14,87%
Telegram	10	3,72%
Facebook	7	2,60%
Tools carried		
More than one smartphone	28	10,41%
Always carrying a phone charger	192	71,38%
Always carrying a power bank	49	18,22%

FoMO scale

Based on the results of the trial data analysis and item selection for the FoMO scale, the content validity results using Aiken's V showed a V value of 0.93, with no items discarded. The construct validity results using CFA showed CFI = 0.972 > 0.90 (Fit), TLI = 0.958 > 0.90 (Fit), and RMSEA = 0.0530 < 0.80 (Fit), indicating that the model was fit. Sample items included "I feel sad when I find out my friends are having fun without me," "I feel anxious when I miss my friends' activity stories on my phone," and "I feel annoyed when I see friends going on trips and posting photos together on social media without inviting me." Five items were discarded (items 1, 5, 9, 10, and 12), with factor loadings ranging from 0.507 to 0.908, leaving 9 out of 14 items eligible for use. Reliability analysis yielded a coefficient of 0.781 > 0.70.

Nomophobia scale

Based on the results of the trial data analysis and item selection for the Nomophobia scale, the content validity results using Aiken's V showed a V value of 0.95, with no items discarded. The construct validity results using CFA showed CFI = 0.974 > 0.90 (Fit), TLI = 0.949 > 0.90 (Fit), and RMSEA = 0.076 < 0.80 (Fit), indicating that the model was fit. Sample items included "I feel anxious if I run out of credit or internet data," "If there is no data signal or I cannot connect to Wi-Fi, I feel anxious because I cannot find a Wi-Fi network," and "If I do not carry my phone, I feel anxious because I cannot communicate with family and/or friends immediately." Two items were discarded (items 7 and 3), with factor loadings ranging from 0.623 to 0.918, leaving 8 out of 10 items eligible for use. Reliability analysis yielded a coefficient of 0.856 > 0.70.

Data analysis

A structural equation model with path analysis was used to analyze the research data. The bootstrapping method was applied to test the mediation role in the proposed model. Data analysis was conducted using Jamovi software version 2.3.28.

Result

The Table 1 presents descriptive demographic data of the 269 university students who participated in the study. The majority of the participants were female (87.73%), with males making up only 12.27% of the sample. Most participants were aged 18–20 years (78.43%), while the remaining

Table 2 The contribution of FoMO (R square) to Psychological Wellbeing and Nomophobia

Variables	95% Confidence Intervals					
	R^2	Lower	Upper	Wald X^2	df	p
Psychological Wellbeing	0.7650	0.711	0.810	1170.4	2	<.001
Nomophobia	0.0521	0.012	0.115	15.0	1	<.001

Table 3 The Result of Psychological Wellbeing Model

				95% Confidence Intervals				
Dep	Pred	Estimate	SE	Lower	Upper	β	z	p
PWB	FoMO	-.292	.0140	-.319	-.264	-.662	-20.86	<.001
PWB	Nomo	-.167	.0110	-.188	-.146	-.439	-15.26	<.001
Nomo	FoMO	.264	.0682	.122	.395	.228	3.87	<.001
FoMO⇒Nomo⇒PWB		-.044	.012	.070	-.020	-.100	-3.618	<.001

were 21–24 years old (21.56%). The sample was fairly evenly distributed across academic cohorts, with 37.55% from the 2023 group, 31.97% from the 2022 group, and 30.48% from the 2021 group. Notably, all participants reported using their mobile phones for more than six hours per day, reflecting a high level of screen time.

In terms of digital habits, Instagram emerged as the most frequently used social media platform (33.46%), followed by WhatsApp (24.16%) and TikTok (21.19%). Fewer participants used Twitter (14.87%), Telegram (3.72%), and Facebook (2.60%). Regarding tools carried, a significant majority of participants always carried a phone charger (71.38%), while fewer carried a power bank (18.22%) or more than one smartphone (10.41%). These findings suggest a young, tech-savvy demographic heavily reliant on mobile devices and social media, with habits and behaviors indicating a strong dependence on maintaining device functionality and connectivity.

Model fit

From the model fit indices, it appears that various indicators, such as RMSEA (Root Mean Square Error of Approximation), SRMR (Standardized Root Mean Square Residual), CFI (Comparative Fit Index), TLI (Tucker-Lewis Index), RNI (Relative Noncentrality Index), and GFI (Goodness of Fit Index), all show ideal values. The RMSEA is 0.000, with a very narrow 95% confidence interval (0.000–0.000), and a p-value for RMSEA, indicating that the model fits the data without significant measurement errors. The SRMR value also reaches 0.000, indicating the model's accuracy in reflecting the actual data.

The CFI, TLI, RNI, GFI, and adj. GFI values are all at 1.000, which is the maximum value, indicating that the model has perfect fit. These indices suggest that the model is well-aligned with the data, with no signs of poor fit or significant deviations from the expected theoretical model. Based on these results, the path analysis model can be interpreted as having an excellent fit, showing that the structural relationships in the model can be considered accurate in representing the relationships between the analyzed variables.

Table 2 indicates that fear of missing out (FoMO) has a substantial contribution to psychological wellbeing (PWB), with an R^2 value of 0.7650. This suggests that 76.5% of the variability in PWB can be explained by FoMO, demonstrating a strong relationship between the two variables. The 95% confidence interval (0.711–0.810) suggests a relatively stable estimate, and the Wald test $X^2 = 1170.4$, $p<0.001$ confirms that this effect is highly statistically significant. In other words, individuals with higher levels of FoMO are more likely to experience a decline in psychological wellbeing

In contrast, FoMO has only a minor influence on Nomophobia, with an R^2 value of 0.0521, meaning that only 5.2% of the variability in Nomophobia can be explained by FoMO. The 95% confidence interval ranges from 0.012 to 0.115, indicating greater uncertainty in this estimate compared to PWB. While the Wald test $X^2 = 15.0$, $p<0.001$ confirms that the relationship remains statistically significant, the contribution is substantially smaller. This finding suggests that although FoMO plays a role in Nomophobia, other factors may be more dominant in explaining an individual's tendency to experience Nomophobia.

Table 3 presents the mediation results of psychological wellbeing model. In the path parameter analysis, the effect of FoMO on psychological well-being shows a negative estimate of −0.292 with $p<0.001$. The beta coefficient (β) of −0.662 indicates a strong negative relationship, meaning that the higher the FoMO, the lower the psychological well-being. Similarly, the effect of nomophobia on psychological well-being is also negative, with an estimate of −0.167 ($p<0.001$) and a beta coefficient of −0.439, indicating that an increase in nomophobia correlates with a decrease in psychological well-being. Both are statistically significant, indicating that FoMO and nomophobia have a substantial impact in reducing psychological well-being.

Meanwhile, the relationship between FoMO and nomophobia shows a positive estimate of 0.264, with a beta

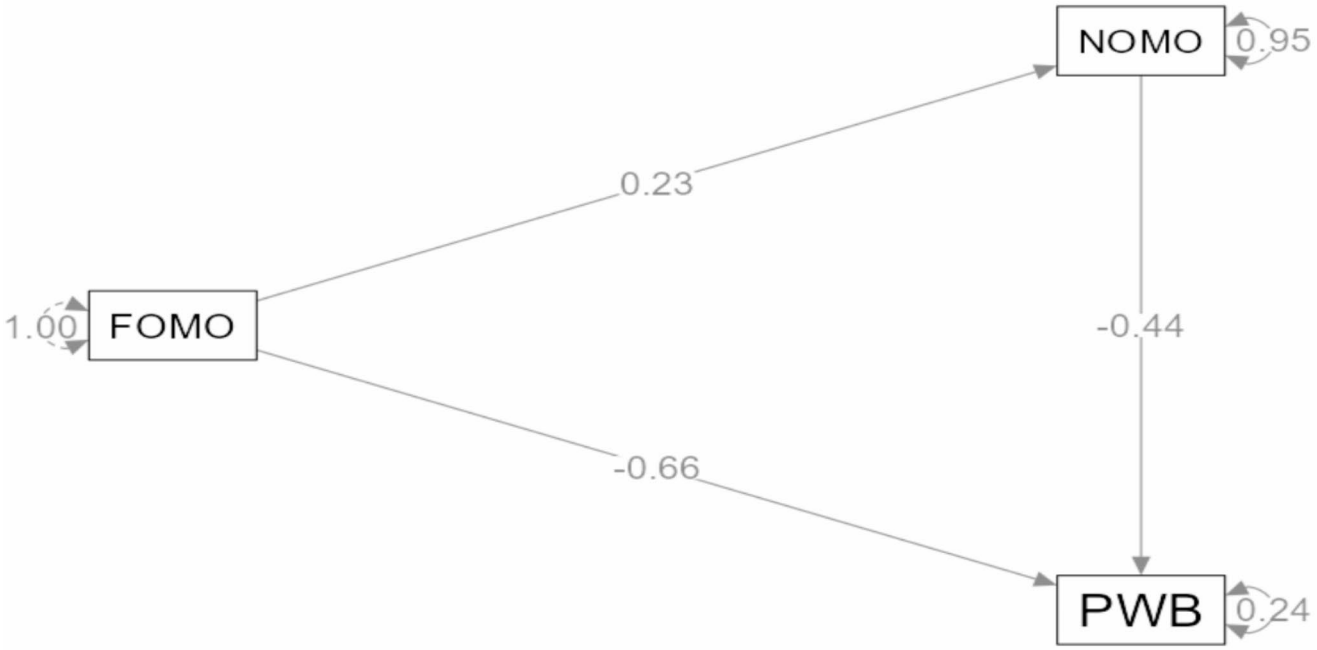

Fig. 1 Path model of Psychological Wellbeing

coefficient of 0.228 and $p<0.001$. This indicates that individuals with high FoMO also tend to have higher levels of nomophobia. In conclusion, this analysis demonstrates that FoMO and nomophobia are interrelated, and both have a significant negative impact on psychological well-being.

The mediation analysis reveals a significant negative indirect effect of FoMO on psychological well-being (PWB) through nomophobia, as indicated by the parameter estimate (−0.044) and a 95% confidence interval (−0.070, −0.020) that does not include zero. This suggests that higher levels of FoMO are associated with increased nomophobia, which in turn negatively impacts psychological wellbeing. The standardized effect size (β = −0.100) indicates a small to moderate mediation effect, while the z-value (−3.618) and p-value (<0.001) confirm the statistical significance of this pathway. These results underscore the critical role of nomophobia as a mediator, demonstrating that the detrimental effects of FoMO on PWB are partly explained by its influence on nomophobia.

Figure 1 illustrates the pathways of the relationships between FoMO, Nomophobia, and Psychological Well-being. The values on the arrows represent the estimated path coefficients, indicating that FoMO has a direct positive effect on Nomophobia (β=0.228) and a direct negative effect on Psychological Well-being (β = −0.662). Nomophobia also has a significant negative effect on Psychological Well-being (β = −0.439). Rounded arrows indicate the factor loadings for each variable, with Nomophobia having a factor loading of 0.95, FoMO (Fear of Missing Out) having a factor loading of 1.00, and Psychological Well-being having a factor loading of 0.24. These values represent the strength of the relationship between each variable and their respective constructs, where Nomophobia and FoMO show high factor loadings, indicating strong associations, while Psychological Well-being has a relatively lower factor loading, suggesting a weaker relationship. Details of the interaction between FoMO, nomophobia, and psychological well-being can be seen in Fig. 1.

Discussion

This study examines Nomophobia as a mediator in the relationship between Fear of Missing Out (FoMO) and Psychological Well-Being. The analysis reveals a satisfactory model fit, with path analysis indicating partial mediation. FoMO has both direct and indirect effects on Psychological Well-Being, with a direct effect magnitude of 10.7% and an indirect effect magnitude of 89.3%. These findings align with previous research, which links Nomophobia and Psychological Well-Being (Bülbüloğlu et al., 2020), and support evidence from Xie and Luo (2024) suggesting that Nomophobia mediates relationships involving excessive mobile phone use, stress, and anxiety.

FoMO reflects anxiety over missing out on social experiences and dissatisfaction with basic psychological needs such as competence, autonomy, and relatedness (Przybylski et al., 2013). This psychological phenomenon drives individuals to stay connected, especially through social media. The current study shows that FoMO's influence on

Psychological Well-Being is largely mediated by Nomophobia. When individuals experience FoMO, they often become dependent on their phones to mitigate their anxiety. This dependency escalates into Nomophobia, which further impacts Psychological Well-Being negatively by exacerbating stress, anxiety, and social disconnection.

Nomophobia, defined as fear or anxiety arising from an inability to access one's phone, is not only related to losing access to the device but also to losing connection to the online social world (Yildirim & Correia, 2015). This dependency can disrupt various dimensions of Psychological Well-Being, including self-acceptance, positive relationships, autonomy, environmental mastery, purpose in life, and personal growth (Ryff, 1989). Consistent with past research (Kuss et al., 2018), this study highlights how Nomophobia contributes to emotional discomfort, reduced productivity, and impaired social relationships.

Notably, this study underscores that FoMO significantly increases Nomophobia, with individuals exhibiting higher levels of FoMO also demonstrating greater phone dependency. These findings support previous research by Gezgin (2017) and Maysitoh et al. (2020), who observed that individuals with FoMO frequently check phone notifications to stay informed and connected. This behavior feeds into Nomophobia, creating a cyclical relationship that exacerbates dependence on mobile devices.

The findings have several theoretical and practical implications. Theoretically, the study emphasizes the critical role of Nomophobia in explaining how FoMO impacts Psychological Well-Being. This highlights the need for further research into the mechanisms driving this relationship, particularly in diverse cultural and demographic contexts. Practically, the results suggest that interventions aimed at reducing FoMO and Nomophobia could improve Psychological Well-Being. For example, digital literacy programs and strategies promoting healthy phone use habits could help mitigate the negative effects of these constructs.

In conclusion, this study demonstrates that Nomophobia partially mediates the relationship between FoMO and Psychological Well-Being, with significant implications for understanding the psychological challenges posed by digital connectivity. Interventions targeting phone dependency and FoMO could play a vital role in promoting Psychological Well-Being in the digital age.

Recommendations

Based on the findings of this study, several recommendations can be implemented to reduce the negative impact of FoMO and Nomophobia on the psychological well-being of students. First, educational institutions should provide educational programs or seminars addressing social media usage management. These programs can help students understand the negative effects of FoMO and offer strategies to reduce dependence on social media. In addition, counseling services or dedicated support groups focused on FoMO and Nomophobia issues should be made available. Through this support, students can learn to manage their anxiety and dependence on technology, which, in turn, enhances their psychological well-being.

Alongside psychological support, campuses can promote a balance between digital life and real-life interactions through social, sports, or recreational activities. These activities can encourage students to engage in direct interactions, thus reducing dependence on digital devices. Awareness campaigns about the effects of nomophobia are also essential to increase students' understanding of the risks associated with phone dependency. Such campaigns can be conducted through seminars, educational materials, or activities that encourage students to engage in regular "digital detox" sessions.

Additionally, digital literacy that teaches self-management skills, such as setting time limits on device usage, needs to be improved. With this literacy, students can learn to use technology wisely and maintain their psychological well-being. Finally, considering that only a small portion of Nomophobia variability was explained in this model, further research investigating other factors that may influence Nomophobia is highly recommended. Factors such as social environment, culture, and other psychological conditions need to be explored to obtain a more comprehensive understanding and develop more effective intervention strategies. Implementing these recommendations is expected to help students manage FoMO and Nomophobia better and improve their overall psychological well-being.

While this study provides valuable contributions, it is not without limitations. The focus on a single faculty and cross-sectional data restricts the generalizability and causal inferences of the findings. The reliance on self-reported data may introduce bias, and the cross-sectional design limits the ability to infer causality. Future research should explore diverse populations, incorporate longitudinal designs, and consider external factors influencing Nomophobia, such as cultural and social dynamics. Future research should also explore additional factors influencing nomophobia and psychological well-being, as well as consider longitudinal designs to better understand causal relationships.

Conclusion

The present study underscores the detrimental impact of Fear of Missing Out (FoMO) and nomophobia on the psychological well-being of students, offering critical insights

into the interplay of these digital anxieties. By demonstrating the mediating role of nomophobia, this research advances theoretical frameworks on technology-related behaviors and mental health. The findings highlight a pressing need for targeted interventions that promote digital literacy, emotional resilience, and balanced technology use.

This research contributes to the growing body of knowledge on the psychological impacts of digital behaviors, equipping educators, psychologists, and policymakers with actionable insights. By fostering healthier technology habits, we can mitigate the adverse effects of digital dependency, enhancing students' mental health and overall well-being in an increasingly connected world. We call on the academic community to prioritize this agenda, driving impactful scholarship and practical solutions to address these urgent challenges.

In conclusion, this study highlights the detrimental effects of FoMO and nomophobia on students' psychological well-being, with FoMO contributing to the development of nomophobia, which further exacerbates declines in mental health. These findings emphasize the importance of fostering digital literacy and emotional resilience to mitigate the negative impacts of technology-related behaviors in an increasingly connected world.

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Data availability Data can be seen in Zenodo (https://zenodo.org/records/14257910).

1 Declarations

Ethical statement The study followed the guidelines of the Declaration of Helsinki.

Informed consent was obtained from all individuals involved in the study.

Conflict of interest The researchers declare that this article has no conflicts of interest.

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