# Fear of Missing Out as a Psychological Predictor of Problematic Internet Use in Emerging Adults: A Cross-Sectional Study

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**Abstract:** Excessive internet engagement has become increasingly common among young people and may develop into problematic internet use (PIU) that interferes with daily functioning. In emerging adulthood, the pressure to remain socially connected online can intensify fear of missing out (FoMO), which may undermine self-regulation and increase vulnerability to PIU. **Objective:** This study aims to empirically examine the effect of FoMO on PIU among individuals in the emerging adulthood stage. **Methodology:** A quantitative cross-sectional survey design was applied using purposive sampling. A total of 203 participants aged 18–29 years completed an online questionnaire (Google Forms). PIU was measured using an instrument based on Caplan's (2010) dimensions, and FoMO was assessed using a scale based on Przybylski, Murayama, DeHaan, and Gladwell's (2013) dimensions. Data were analyzed using simple linear regression. **Findings:** FoMO significantly and positively predicted PIU (F = 125.532; p < 0.05; R = 0.620; $R^2$ = 0.384). FoMO explained 38.4% of the variance in PIU, while the remaining 61.6% may be attributable to factors outside the model. **Implications:** The findings support the need for digital literacy initiatives and interventions targeting emotion regulation and self-control among emerging adults to reduce PIU risk. Future studies should incorporate additional psychosocial factors (e.g., depression, loneliness, social anxiety, and shyness) to better explain PIU and clarify underlying mechanisms. **Originality:** This study provides empirical evidence quantifying the contribution of FoMO to PIU specifically within an emerging adulthood sample characterized by intensive internet use, offering added value for prevention-oriented research and practice in digital mental health.

**Keywords**: Fear of Missing Out; Problematic Internet Use; Emerging Adulthood; Digital Behavior; Self-Regulation; Social Media Use; Cross-Sectional Survey

## INTRODUCTION

Internet penetration in Indonesia continues to rise and has fostered a pervasive digital lifestyle, particularly among younger cohorts who constitute the dominant user base. In 2024, the number of internet users reached 221,563,479 (79.5% of the population), increasing by 1.4% compared with the previous period; the user composition was dominated by Gen Z (34.40%) and millennials (30.62%), and was more concentrated in urban (69.5%) than rural areas (30.5%) (APJII, 2024). Online intensity is also high: 26%

of respondents use the internet for more than 6 hours per day, with higher proportions among younger groups (Gen Z 35%; Gen Y 26%) (Indonesia & Center, 2022), and average daily time spent online is approximately 7 hours and 38 minutes (Department, 2024). Social media, beyond facilitating communication, shapes psychological dynamics such as fear of missing out (FoMO) that can drive repeated efforts to remain constantly connected.

The practical importance of this phenomenon is strengthened by synthesized evidence linking FoMO to problematic internet use (PIU); a meta-analysis of 19 studies (2019–2024) reported a moderate association between FoMO and PIU (r = 0.461; p < 0.001), suggesting FoMO as a potential predictor of PIU (Kartikawati et al., 2025). The predominance of young users overlapping with emerging adulthood supports the need for empirical work that informs digital literacy prevention and psychological well-being interventions for young populations (APJII, 2024; Elsayed, 2025).

Problematic internet use (PIU) research increasingly relies on psychometrically tested instruments, with the Generalized Problematic Internet Use Scale 2 (GPIUS2) and the Compulsive Internet Use Scale (CIUS) receiving substantial attention. Evidence supporting the GPIUS2 includes validation of its theoretical and measurement models, with adequate reliability and factorial support in non-clinical European samples such as Poland (Ciżkowicz, 2022) alongside applications that link individual profiles to patterns of social media platform use (Chang, 2025).

CIUS studies emphasize a concise measurement approach and report stable construct performance across adolescents in multiple countries, including psychometric testing in India, the Philippines, and Turkey (Fernandes et al., 2021), as well as additional evidence from Spain through short-form development and subsequent adolescent validation (Ortuño-Sierra et al., 2024; Pérez-Sáenz et al., 2023). Population concentration in validation work and differences in measurement approach (multidimensional vs. concise) can still constrain cross-study comparability and the precision of PIU interpretation outside the most-studied groups, creating space for more focused assessment in emerging adulthood (Ciżkowicz, 2022; Ortuño-Sierra et al., 2024).

FoMO has been operationalized through multiple standardized scales supported by reliability, construct validity, and measurement invariance across cultural settings. A general FoMO scale has demonstrated a stable unidimensional structure with acceptable reliability and test–retest evidence in Turkish social media users (Can & Satici, 2019), while strong model-fit and invariance evidence has also been reported in Chilean university

samples (Martínez-Libano et al., 2023). Developmental coverage has expanded through Italian validation supporting use in emerging adults and adolescents (Casale & Fioravanti, 2020). Broader cultural extensions include a Chinese FoMO scale modeling multiple components (motivation, cognition, emotion, behavior) with adequate psychometric properties in college students (Ma et al., 2022).

Measurement innovation has introduced online-specific tools such as the Online Fear of Missing Out (ON-FoMO) inventory validated in Italian young adults using EFA–CFA and invariance tests across gender and age (Sommantico et al., 2024), as well as a brief FoMO-3 suitable for time-intensive designs with invariance across time and sex (Hisham et al., 2025). Heterogeneity in factor structure (unidimensional vs. multidimensional), measurement target (general vs. online-specific FoMO), and scale length (10-item vs. 3-item) can affect comparability across studies, reinforcing the value of context-sensitive testing in the target population to minimize measurement bias (Casale & Fioravanti, 2020; Hisham et al., 2025; Sommantico et al., 2024).

Studies consistently link FoMO to various problematic digital behaviors general PIU, problematic social media use, and problematic smartphone use and clarify the mediating and moderating pathways involved. Longitudinal panel evidence also shows that FoMO increases distinct engagement patterns (broadcasting, lurking, connection), which over time heighten the risk of problematic social media use (Chen et al., 2025). Emotion regulation frequently appears as a key mechanism, with intrapersonal and interpersonal regulation shaping the strength of the FoMO–PIU association (Flack et al., 2024) and emotion dysregulation relating to trajectories toward problematic social media use (Quaglieri et al., 2022).

Dispositional vulnerabilities such as neuroticism and reduced self-control have also been implicated in problematic social networking site use (Gugushvili et al., 2024). Smartphone-focused evidence shows FoMO relates to severity of problematic smartphone and social media use and may outperform affective factors such as worry in predicting symptom severity (Elhai et al., 2025), while three-wave longitudinal evidence suggests depressive symptoms and FoMO contribute to increasing severity of problematic smartphone use and related problematic digital behaviors among young adults. General PIU findings extend through university samples (Aygar et al., 2019), network analytic approaches linking FoMO with loneliness/well-being and PIU, mechanistic accounts involving epistemic trust in emerging adulthood (Benzi et al., 2024) and distinctions

between dispositional and online-specific FoMO across internet applications (Röttinger et al., 2021). Variability in operationalization (general vs. platform-specific outcomes; dispositional vs. online-specific FoMO) and frequent reliance on cross-sectional designs in parts of the literature complicate direct comparisons of directionality and effect magnitude, supporting the need for focused work using standardized measures in emerging adulthood within local contexts (Aygar et al., 2019; Benzi et al., 2024; Flack et al., 2024).

The aim of this study is to empirically examine the effect of fear of missing out on problematic internet use among individuals in the emerging adulthood stage, thereby clarifying the contribution of fear of missing out as a psychological factor that may increase vulnerability to problematic internet use in this age group.

The proposed mechanism positions FoMO as a psychological drive characterized by anxiety when disconnected, which can prompt repetitive checking, difficulty regulating online duration, and internet use as a means of emotion regulation and fulfilling social connectedness needs. These tendencies align with core features of PIU, including deficient self-regulation, cognitive preoccupation, and negative consequences in daily functioning; heightened sensitivity to social validation and peer relatedness during emerging adulthood is expected to amplify these processes. The hypothesis of this study states a positive and significant effect of fear of missing out on problematic internet use in emerging adulthood, such that higher FoMO corresponds to higher levels of PIU among emerging adults.

## RESEARCH METHOD

### Variables

The unit of analysis in this study was the individual emerging adult internet user. Two variables were examined: problematic internet use (PIU) as the dependent variable (Y) and fear of missing out (FoMO) as the independent variable (X).

### Research Design

A quantitative, cross-sectional design was applied to empirically test the proposed effect of FoMO on PIU within a single time frame. This design was selected because it enables statistical estimation of the association between variables using survey-based numerical data.

## Population and Sample

Participants were recruited using non-probability purposive sampling based on specific inclusion criteria (Kurniawan & Puspitaningtyas, 2016). Eligible respondents were individuals aged 18–29 years (emerging adulthood), domiciled in Tangerang, and actively using the internet across any platform or social media for at least 5 hours per day.

## Data Sources and Data Collection

Primary data were collected through an online self-administered questionnaire. PIU was measured using the Generalized Problematic Internet Use Scale 2 (GPIUS2) developed by Caplan (2010), covering preference for online social interaction, mood regulation, cognitive preoccupation, compulsive internet use, and negative outcomes. FoMO was measured using the Fear of Missing Out Scale developed by Przybylski et al. (2013), which assesses FoMO through the dimensions of self and relatedness.

## Data Analysis

Data were analyzed using simple linear regression to estimate the effect of FoMO on PIU among emerging adults. Statistical analyses were conducted using SPSS version 25.0 for Windows, with model outputs interpreted to determine the direction, significance, and magnitude of the effect.

## RESULT AND DISCUSSION

### Measurement Quality (Scale Performance)

Item discrimination testing showed that the problematic internet use (PIU) scale consisted of 15 items, all of which demonstrated acceptable discrimination; therefore, **no** items were removed. Internal consistency testing further indicated high reliability for PIU (α = 0.899). For the fear of missing out (FoMO) scale, the original 10-item version was assessed and 9 items met the discrimination criterion, while 1 item did not and was excluded. The FoMO scale demonstrated good reliability (α = 0.868).

**Table 1.** Item Discrimination and Reliability of the Study Scales

| Scale | Initial Items | Retained Items | Items Removed | Cronbach's Alpha (α) | Interpretation |
|---|---|---|---|---|---|
| Problematic Internet Use (PIU) | 15 | 15 | 0 | 0.899 | High reliability |
| Fear of Missing Out (FoMO) | 10 | 9 | 1 | 0.868 | Good reliability |

Table 1 indicates that both instruments achieved satisfactory psychometric performance in this sample. The PIU measure retained all items with strong internal consistency, while the FoMO measure required the removal of one item yet still maintained a high reliability coefficient. These findings support the use of the resulting PIU and FoMO scores for further assumption testing and inferential analysis.

### Assumption Testing

Normality testing indicated that both PIU and FoMO scores were not normally distributed (PIU: $p = 0.000$; FoMO: $p = 0.002$). Linearity testing showed that the relationship between FoMO and PIU was linear ($p = 0.000$).

**Table 2.** Assumption Testing Results

| Assumption Test | Variable/Relationship | p-value | Decision |
|---|---|---|---|
| Normality | PIU | 0.000 | Not normal |
| Normality | FoMO | 0.002 | Not normal |
| Linearity | FoMO–PIU | 0.000 | Linear |

Table 2 shows that the distributions of the study variables deviated from normality, whereas the association between FoMO and PIU satisfied the linearity requirement. This pattern suggests that, despite non-normal score distributions, the core relationship of interest followed a linear trend, supporting the use of linear regression for hypothesis testing within the study framework.

### Hypothesis Testing

Simple linear regression results indicated that FoMO significantly predicted PIU among emerging adults. The regression model was statistically significant ($F = 125.532$, $p = 0.000$, $p < 0.05$), with $R = 0.620$ and $R^2 = 0.384$, indicating that FoMO explained 38.4% of the variance in PIU. Descriptively, the empirical means suggested moderate levels of both PIU ($M = 40.53$) and FoMO ($M = 23.67$) in the sample.

**Table 3.** Simple Linear Regression Results

| Statistic | Value |
|---|---|
| F | 125.532 |
| p-value | 0.000 ($p < 0.05$) |
| R | 0.620 |
| $R^2$ | 0.384 |
| Variance explained | 38.4% |

Table 3 demonstrates a strong and statistically significant regression model, supporting the hypothesis that FoMO has a positive effect on PIU. The explained variance suggests that FoMO represents a meaningful psychological contributor to PIU within emerging adulthood, while also indicating that additional factors outside the model account for the remaining variance.

**Table 4.** Descriptive Statistics

| Variable | Mean (M) | Interpretation |
|----------|----------|----------------|
| PIU | 40.53 | Moderate |
| FoMO | 23.67 | Moderate |

Table 4 complements the regression findings by indicating that, on average, participants reported moderate levels of both FoMO and PIU. This profile is consistent with the interpretation that FoMO-related connectivity concerns are present in the sample and coincide with nontrivial levels of problematic internet use, reinforcing the relevance of examining FoMO as a psychological predictor in emerging adults.

**Discussion**

This study examined whether fear of missing out (FoMO) predicts problematic internet use (PIU) among emerging adults. The findings indicate that both measures performed well psychometrically, with high internal consistency for PIU ($\alpha = 0.899$) and good internal consistency for FoMO ($\alpha = 0.868$). The regression results supported the proposed relationship, showing that FoMO significantly predicted PIU ($F = 125.532$, $p < .001$) with a meaningful proportion of explained variance ($R^2 = 0.384$) and a positive association ($R = 0.620$). The descriptive profile further suggests that emerging adults in this sample experienced moderate FoMO and moderate PIU levels, implying that concerns about staying socially updated co-occur with nontrivial difficulties in regulating online engagement.

A plausible explanation for this pattern is that FoMO operates as a motivational–affective driver that sustains persistent connectivity. FoMO reflects anxiety about being excluded from rewarding peer experiences or missing important information, which can encourage repetitive checking behaviors and prolonged online presence. This behavior provides short-term relief by reducing uncertainty and worry, yet it also reinforces reliance on online monitoring as an emotion-regulation strategy. Over time, this reinforcement loop can align with core features of PIU, including cognitive preoccupation, deficient self-

regulation, and negative outcomes that disrupt daily functioning. Evidence from prior work emphasizes that emotion-regulation processes, both intrapersonal and interpersonal, can shape how FoMO escalates into problematic patterns of internet engagement, supporting the interpretation that FoMO is not merely a correlate of social media use but a psychologically driven pathway to dysregulated online behavior (Flack et al., 2024).

The present results are consistent with accumulated evidence documenting FoMO as a meaningful correlate and potential predictor of problematic technology use. A recent meta-analysis synthesizing studies from 2019–2024 reported a moderate effect size for the association between FoMO and PIU, reinforcing the robustness of this link across contexts (Kartikawati et al., 2025). Findings also align with longitudinal and mechanistic studies indicating that FoMO can increase specific engagement patterns on social media that elevate the risk of problematic use over time (Chen et al., 2025), and that FoMO can be a strong predictor of problematic smartphone and social media use severity, sometimes exceeding the contribution of related affective factors such as worry (Elhai et al., 2025).

Within this landscape, the magnitude of explained variance observed in this study ($R^2$ = 0.384) underscores FoMO as a substantial psychological contributor to PIU in emerging adults, while the remaining unexplained variance suggests that additional psychosocial factors such as loneliness, depressive symptoms, social anxiety, or self-control likely co-determine PIU risk, as highlighted in broader mechanistic accounts (Benzi et al., 2024; O'Brien et al., 2023). The study's added value lies in providing a focused test of FoMO's predictive contribution to PIU within an emerging adulthood sample characterized by high daily internet use, supported by reliable measurement of both constructs.

Beyond statistical significance, the findings carry broader implications for how digital life is experienced in emerging adulthood. This developmental period is often marked by heightened sensitivity to peer evaluation and social belonging, which can amplify the motivational force of FoMO and normalize continuous connectivity as a social expectation. In such contexts, problematic internet use should not be reduced to time spent online alone; it reflects the psychological meaning of being connected, the perceived costs of disconnection, and the ways individuals manage emotions and social needs through digital channels.

FoMO-driven connectivity can be functional in limited ways, such as maintaining social awareness and facilitating belonging during life transitions, yet it becomes dysfunctional when repetitive checking and prolonged online engagement interfere with

offline responsibilities, sleep routines, academic or work performance, and interpersonal functioning. The moderate average levels observed in this sample may indicate a "gray zone" in which behaviors remain socially normative while self-regulation gradually deteriorates for a subset of individuals, supporting prevention strategies that address early risk rather than only severe cases.

These results point to actionable steps for policy and practice in educational and community settings. Digital literacy initiatives can explicitly address FoMO mechanisms curated social comparison, perceived social urgency, and "always-on" norms while promoting healthier interpretations of online content and realistic expectations about social participation. Preventive programs can integrate emotion-regulation and self-control skills, given the centrality of emotional processes in FoMO-related problematic use pathways (Flack et al., 2024; Quaglieri et al., 2022). Institutions can also encourage practical behavioral strategies such as notification management, scheduled offline intervals, and time-bounded social media use, aiming to reduce compulsive checking without requiring abstinence. Finally, screening using validated FoMO and PIU measures can support early identification of higher-risk emerging adults and referral to brief interventions, especially in populations reporting sustained high daily internet use.

**CONCLUSION**

This study highlights that fear of missing out (FoMO) is a meaningful psychological factor associated with problematic internet use (PIU) among emerging adults. The findings show a positive and statistically significant effect of FoMO on PIU, with FoMO explaining 38.4% of the variance in PIU, while the remaining 61.6% is attributable to other factors not examined in this model. Descriptively, the sample displayed moderate levels of both PIU (M = 40.53) and FoMO (M = 23.67), indicating that connectivity-related anxiety and problematic engagement with the internet coexist at nontrivial levels in emerging adulthood.

The main scientific contribution of this study lies in providing empirical evidence that quantifies the predictive contribution of FoMO to PIU within an emerging adulthood sample using standardized measurement, thereby reinforcing FoMO's relevance as a risk-related psychological construct in contemporary digital behavior research. These results extend the understanding of PIU beyond time spent online by emphasizing the role of

psychologically driven connectivity concerns that may erode self-regulation and daily functioning.

Several limitations should be acknowledged. The cross-sectional design restricts causal inference, and the reliance on self-report measures may introduce reporting bias. The use of purposive sampling and the focus on emerging adults domiciled in Tangerang may also limit generalizability to other regions or demographic groups. Future studies should employ longitudinal or experimental designs, include broader and more diverse samples, and examine additional psychosocial variables (e.g., loneliness, depression, social anxiety, and self-control) to better explain the remaining variance in PIU and clarify the mechanisms linking FoMO to problematic internet behavior.

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