Fear of Missing Out and Problematic Smartphone Use Severity: The Mediating Role of Perceived Social Isolation Among Adolescents

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Abstract: *The present study explored how Fear of Missing Out (FoMO) is connected to Problematic Smartphone Use (PSU) among adolescents, and whether Perceived Social Isolation (PSI) helps explain this link. 100 adolescents (aged 15-19) were tested using standardized self report measures namely- The Fear of Missing Out Scale (Przybylski et al., 2013), the Smartphone Addiction Scale- Short Version (Kwon et al. 2013) and the UCLA Loneliness Scale- Short version from (Russell, 1996). In simple terms, teenagers who often feel they are missing out on social experiences also tend to feel more socially isolated. This sense of isolation then appears to play role in increasing their problematic Smartphone use. Result analysis suggested significant positive correlation between FoMO, PSI and PSU; adolescents who scored high on FoMO experience more social isolation which in turn contributes to higher levels of Problematic Smartphone use. Results also suggest the importance of addressing social-emotional needs of adolescents to alleviate technology related problems.*

Keywords: Fear of Missing Out, Perceived Social Isolation, Problematic Smartphone Use, Adolescents, Digital Behavior

1. Introduction

Technological advancement is a benefit for mankind, which has made our life easy. Digital tools have been developed that have made a lot of work easier and faster with less physical labor and time. Features such as global positioning system navigation, voice assistants, and handwriting recognition have made life easier and improved how people communicate and organize with each other, but over-reliance on these features can have negative consequences. Such overuse may also generate new problems such as attention deficit problems, excessive dependency on devices, or social or emotional disruption that offset to some degree the benefits of technology.

This is the world in technology. A smartphone is part of everybody's life today. Each time we desire to cook a meal or each time we are stressed or anxious, we first reach for our phone. This little device, it controls the way we behave, the way we interact with each other toward it, the way we think, and the way we feel. Social media apps are a digital reflection of one's life. Now people of all ages are keen to share the little moments of their day, be it lunch, a movie, an outing with friends, or just lazing around at home. It is now standard to post Instagram, Facebook, or WhatsApp stories, and many of us feel the urge to check what others are posting on a regular basis. The constant peeking into people's lives and staying up-to-date is the basis for FoMO—'Fear of Missing Out.'

The concept 'FoMO-Fear of Missing Out' was formally popularized in 2004 by Patric J McGinnis in his article titles' *Social Theory at HBS: McGinnis two FO's*.' Dictionary meaning of the term would be *–fear of not being included in something such as interesting/ enjoyable activity that others are experiencing*.(1) FoMO is also associated with the feelings of regret that one has missed an opportunity or any unique experience, memorable event or any profitable investment.

Social Networking sites give us continuous awareness of what an individual may be missing in terms of a good times which the researcher correctly phrases as 'It creates distorted perceptions of edited lives of others."The round the clock nature of these communication may lead to feeling lonely and inadequate through highlighting other's activities and popularity and comparison of oneself with others.

FoMO is closely related to the time people spend on social networking sites. It is an important predictor of emotional distress. Being constantly exposed to curated online lives often leads to social comparison and creates unrealistic expectations, which can hurt self-esteem. These experiences are often linked to symptoms of depression. They may become stronger when people experience less emotional stability, lower self-worth, and more self-doubt. Additionally, research shows that FoMO might influence the connection between narcissism and problematic use of social networking platforms. This suggests that unmet needs for social connection can drive people to engage excessively and in unhealthy ways online.

FoMO and Social Functioning
Many young people today report feeling lonelier and more emotionally distant despite being constantly connected online. FoMO can make these feelings even stronger, especially when someone spends long periods scrolling through social networking sites. Because online communication often lacks facial expressions, gestures, and tone of voice, conversations may feel less warm and genuine. As a result, messages can be easily misinterpreted, leading to

frustration, emotional discomfort, and a deeper sense of isolation.

Research also suggests that frequent engagement with social media may activate parts of the brain associated with fear and threat, such as the amygdala, making adolescents more sensitive to rejection and exclusion. This can create a cycle in which individuals turn to social media to feel connected, only to end up feeling more left out, which sends them back online again in search of comfort and reassurance.

FoMO seems to be stronger among young people whose basic psychological needs, such as feeling competent, independent, and connected to others, are not being fully met. Social media constantly exposes users to many opportunities and experiences, making it hard to make decisions or stick to plans. Many worry that choosing one option might mean missing out on something better or more rewarding. Over time, this mindset can affect confidence, lead to indecision, and harm emotional well-being.

2. Methodology

Objectives
1) To study the relationship between Fear of Missing Out (FoMO) and severity of problematic smartphone use among adolescents.
2) To measure the level of perceived social isolation (PSI) experienced by adolescents who often use smartphones and social media.
3) To investigate whether perceived social isolation functions as a mediating factor between FoMO and the severity of problematic smartphone use.

Hypotheses
H1: Higher levels of FoMO will be positively associated with greater problematic smartphone use severity among adolescents.
H2: Higher levels of FoMO will be positively associated with higher perceived social isolation.
H3: Perceived social isolation will be positively associated with problematic smartphone use severity.
H4: Perceived social isolation will mediate the relationship between FoMO and problematic smartphone use severity, such that adolescents with higher FoMO will experience greater social isolation, which in turn will predict increased problematic smartphone use.

3. Literature Review

Research indicates that loneliness is a major psychological driver behind teens' unhealthy reliance on smartphones. In a 2024 study, Shao and their team discovered that adolescents who feel lonely often lean on their devices to fill the gap in their social lives. The connection isn't straightforward, though—it works through a process of upward social comparison and that constant worry about missing out, known as FoMO. Essentially, lonely kids compare their own lives to the seemingly perfect ones they see online, which makes them feel even more inadequate, boosts their FoMO, and ends up fueling more problematic smartphone use.

Shao et al. (2024) also highlighted the moderating role of self-identity, noting that adolescents with stronger identity development were less affected by social comparison pressures. This finding supports earlier research suggesting that secure self-concept can buffer against excessive technology dependence. Overall, the study expands current understanding of PSU by showing that emotional and cognitive factors- not just time spent online—contribute to adolescents' vulnerability to problematic smartphone behaviors.

Ng (2024) showed that FoMO is a multidimensional construct involving both emotional concern about missing rewarding experiences and cognitive strategies to avoid being left out. The study found that a strong need to belong increased these FoMO responses among Malaysian undergraduates, although FoMO did not directly predict problematic smartphone use. These findings suggest that the link between FoMO and digital overuse may involve additional factors and highlight the value of multidimensional models and objective measures when examining smartphone-related behaviors in young adults

Hou (2024) conducted a large five-wave longitudinal study demonstrating a reciprocal relationship between Fear of Missing Out (FoMO), problematic smartphone use (PSU), and problematic social networking site use (PSNSU). Using a Random-Intercept Cross-Lagged Panel Model, the findings showed that FoMO predicted later increases in both PSU and PSNSU, and these behaviors, in turn, reinforced higher FoMO over time. Although the effect sizes were small, the results highlight a persistent cyclical pattern rather than a one-directional influence, indicating that FoMO and problematic technology use mutually sustain each other across time. This evidence underscores the need for interventions that address both emotional and behavioral aspects of technology engagement among young users

Li et al. (2024) examined the directionality of relationships between Fear of Missing Out (FoMO), problematic social media use (PSMU), and adolescent well-being using a four-wave longitudinal design. Their findings showed that FoMO predicted later increases in PSMU during mid-adolescence, but problematic use did not lead to higher FoMO, suggesting a primarily one-way influence. The study also found that lower life satisfaction in early adolescence predicted higher FoMO over time, indicating that emotional well-being may be a precursor to FoMO development. Overall, the results position FoMO as a significant psychological risk factor for problematic social media engagement, while also highlighting the role of low life satisfaction as an early vulnerability contributing to FoMO in young people

Zhang et al. (2024) examined how narcissism expressed through social media (NiSM) contributes to social media addiction (SMA) over time and tested whether Fear of Missing Out (FoMO) explains this link. Using a three-wave longitudinal design with college students, the study found that both NiSM and FoMO were significant predictors of later SMA. Importantly, FoMO served as a mediating factor, indicating that individuals with higher social-media-based narcissism are more likely to experience FoMO, which then increases their vulnerability to addictive social media use.

These findings emphasize the importance of targeting FoMO-related cognitive and emotional processes in prevention and intervention programs aimed at reducing problematic online behaviors among young adults

Sample –
The sample consisted of 100 adolescents (50 males and 50 females) aged 15–19 years (M = 16.7, SD = 1.2), recruited from two urban higher secondary schools/ colleges through purposive sampling. All participants owned a smartphone and reported daily social media use. Informed consent and parental permission were obtained, and confidentiality was maintained

4. Instruments

1) Fear of Missing Out Scale (FoMOs; Przybylski et al., 2013):

The Fear of Missing Out Scale (FoMOs) by Przybylski and colleagues (2013) was created to better understand how often people experience the feeling of being left out in their daily lives. The scale was first developed with 32 statements that individuals rated on a five-point scale, ranging from "Not at all true of me" to "Extremely true of me." After statistical testing, the researchers found that the items reflected one strong underlying factor, and seven less effective items were removed. This resulted in a shorter and more efficient 10-item scale that still captured a wide range of FoMO experiences. The final version of the FoMOs showed strong reliability in multiple studies, with internal consistency values close to .90, demonstrating that the scale measures the construct consistently and accurately.

2) Smartphone Addiction Scale–Short Version (SAS-SV; Kwon et al., 2013):

The Smartphone Addiction Scale–Short Version (SAS-SV), developed by Kwon and colleagues (2013), is a brief tool designed to measure the severity of problematic smartphone use. It was created as a shorter and more practical version of the original full-scale measure, making it easier to use with adolescents, students, and larger samples. The SAS-SV includes a set of statements that respondents rate based on how accurately they reflect their smartphone-related behaviors, thoughts, and emotional experiences. Higher scores indicate a greater risk of smartphone overuse and potential addiction. The scale has demonstrated strong reliability and validity in research and is widely used to assess addictive patterns related to smartphone use in both clinical and non-clinical populations.

3) Perceived Social Isolation (UCLA Loneliness Scale – Short Form; Russell, 1996):

The UCLA Loneliness Scale – Short Form (Russell, 1996) is a widely used measure designed to assess an individual's feelings of social isolation and lack of connectedness. It asks respondents to reflect on their everyday emotional experiences, such as how often they feel left out, isolated, or lacking companionship. The short form is a briefer version of the original scale, making it easier to administer while still capturing the core aspects of loneliness. Higher scores indicate stronger feelings of perceived social isolation. The scale has been shown to be reliable and valid across different age groups and cultural contexts, making it a common choice in research exploring emotional well-being and social connectedness.

Procedure
Participants were 100 adolescents aged 15–19, recruited through local schools. Informed consent was obtained from all participants and, when required, from parents or guardians. Data were collected in a quiet classroom setting, where participants completed three standardized self-report measures: the Fear of Missing Out Scale (Przybylski et al., 2013), the Smartphone Addiction Scale–Short Version (Kwon et al., 2013), and the UCLA Loneliness Scale – Short Form (Russell, 1996). The measures were administered in paper or digital format and required approximately 20 minutes to complete. Afterward, responses were scored according to standard guidelines, and statistical analyses were conducted to examine associations among FoMO, perceived social isolation, and problematic smartphone use, including mediation effects.

5. Statistical Analysis

Table 1: Descriptive Statistics and Reliability Coefficients (N = 100)

Measure	M	SD	Min	Max	α
Fear of Missing Out	32.45	6.8	18	48	0.89
Perceived Social Isolation	28.6	7.1	12	45	0.87
Problematic Smartphone Use	31.25	8.2	15	52	0.91

Note. Higher scores reflect greater levels of the corresponding construct.

Table 2: Intercorrelations Between Study Variables

Variable	1	2	3
1. FoMO	—		
2. PSI	.52**	—	
3. PSU	.58**	.49**	—

*Note. FoMO = Fear of Missing Out; PSI = Perceived Social Isolation; PSU = Problematic Smartphone Use. *$p < .01$.*

Table 3: Mediation Analysis for PSI as Mediator Between FoMO and PSU

Path	b	SE	95% CI (LL–UL)
FoMO → PSI	0.38	0.07	0.24–0.52
PSI → PSU	0.41	0.09	0.24–0.60
FoMO → PSU (Direct Effect)	0.42	0.08	0.26–0.57
FoMO → PSU (Indirect Effect via PSI)	0.16	0.05	0.08–0.28

Note. Indirect effect significance determined with 5,000 bootstrap samples.

6. Discussion of Results

The findings of the study indicate meaningful relationships among Fear of Missing Out (FoMO), perceived social isolation (PSI), and problematic smartphone use (PSU) in adolescents. Descriptive statistics showed average to high levels of FoMO, PSI, and PSU in the sample, and all scales demonstrated strong internal reliability, suggesting the measures were consistent and appropriate for use with this population.

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Correlation analysis revealed that FoMO was significantly and positively associated with both perceived social isolation and problematic smartphone use. This means that adolescents who frequently worry about missing out on social experiences tend to feel more socially isolated and also show a greater tendency toward excessive or problematic use of smartphones. Additionally, perceived social isolation was also positively correlated with PSU, indicating that adolescents who felt lonelier or less socially connected were more likely to depend heavily on their smartphones.

Mediation analysis further clarified these relationships. Perceived social isolation partially mediated the link between FoMO and PSU. In other words, adolescents with higher levels of FoMO were more likely to experience feelings of social isolation, and this sense of isolation contributed to increased problematic smartphone use. The indirect effect was statistically significant, as the confidence interval did not include zero, supporting the mediational hypothesis.

Together, these results suggest that FoMO does not just directly influence smartphone overuse- it also affects adolescents indirectly by increasing feelings of loneliness. This pattern points to a potential cycle in which adolescents feel left out, turn to their phones for relief or connection, and may paradoxically become more isolated, further reinforcing smartphone dependence. These findings highlight the importance of addressing emotional and social needs when designing interventions aimed at reducing problematic smartphone use among young people.

7. Conclusion

Results of the present study indicate that perceived social isolation (PSI) has an important mediating role in the relationship between Fear of Missing Out (FoMO) and problematic Smartphone use among adolescents. Higher level of FoMO was associated with increased feelings of social isolation, which in turn predicted greater severity of Smartphone overuse. These findings suggest that excessive Smartphone behavior in adolescents may stem not only from digital engagement habits but also from underlying emotional and social experiences.

These outcomes have practical implications for educators, parents, and mental health practitioners. Interventions that focus on enhancing offline social support, fostering emotional resilience, and reducing the pressure to remain constantly connected may help limit the negative effects of problematic Smartphone use. Future research could benefit from longitudinal designs, larger samples, and the inclusion of additional psychological or social variables to deepen understanding of this issue.

Overall, the study underscores the importance of viewing adolescent Smartphone use through a broader psychosocial lens rather than as a purely behavioral concern

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