Journal Website

Article history:
Received 10 June 2025
Revised 05 September 2025
Accepted 13 September 2025
Initial Published 28 October 2025
Final Publication 01 December 2025

Iranian Journal of Neurodevelopmental Disorders

Volume 4, Issue 4, pp 1-10

E-ISSN: 2980-9681

The Structural Model for Predicting Psychological Well-Being in Adolescents with Nomophobia Based on Socioeconomic Status with the Mediating Role of Emotion Regulation

Leila. Bahrampouri[1], Marzieh. Gholamitooranposhti [2*], Mohammad. Ghamari[3]

[1] Department of Psychology, SR.C., Islamic Azad University, Tehran, Iran
[2] Department of Psychology, ShB.C., Islamic Azad University, Shahr Babak, Iran
[3] Consulting Department, SR.C., Islamic Azad University, Tehran, Iran

*** Corresponding author email address**: gholamitooranposhti@iau.ac.ir

A r t i c l e I n f o

Article type:
Original Research

How to cite this article:
Bahrampouri, L., Gholamitooranposhti, M., & Ghamari, M. (2025). The Structural Model for Predicting Psychological Well-Being in Adolescents with Nomophobia Based on Socioeconomic Status with the Mediating Role of Emotion Regulation. *Iranian Journal of Neurodevelopmental Disorders, 4*(4), 1-10.
https://doi.org/10.61838/kman.jndd.589

A B S T R A C T

Purpose: This study aimed to develop and test a structural model predicting psychological well-being in adolescents with nomophobia based on socioeconomic status, with the mediating role of emotion regulation.

Methods and Materials: The study employed a descriptive–correlational design with an applied objective. The statistical population consisted of all female secondary school students with nomophobia in Tehran during the 2023–2024 academic year. Using multistage cluster sampling, 304 participants were selected from four districts of Tehran. Data were collected using the Nomophobia Questionnaire (Azadmanesh et al., 2016), Ryff's Psychological Well-Being Scale – Short Form (Ryff, 1989), the Socioeconomic Status Questionnaire (Ghodratnama, 2013), and the Emotion Regulation Questionnaire (Gross & John, 2003). Data analysis was conducted using Pearson correlation tests, confirmatory factor analysis, and structural equation modeling with SPSS-V27 and AMOS-V3.3.

Findings: Results indicated that socioeconomic status was positively and significantly related to psychological well-being in adolescents with nomophobia. Reappraisal, as a strategy of emotion regulation, showed a positive and significant association with psychological well-being ($\beta = 0.312$, $p < 0.001$), while suppression exhibited a negative and significant relationship with psychological well-being ($\beta = -0.270$, $p < 0.001$). The mediating analysis demonstrated that reappraisal significantly mediated the relationship between socioeconomic status and psychological well-being ($\beta = 0.096$, $p = 0.008$), whereas suppression did not yield a significant mediating effect ($p = 0.181$). The overall structural model explained 69% of the variance in psychological well-being among adolescents with nomophobia.

Conclusion: The findings highlight the pivotal role of socioeconomic status and emotion regulation strategies in shaping psychological well-being in adolescents with nomophobia. While higher socioeconomic status directly supports well-being, adaptive strategies such as reappraisal enhance these effects, whereas suppression undermines them.

Keywords: *Nomophobia, Socioeconomic Status, Emotion Regulation, Psychological Well-Being, Adolescents*

1. Introduction

In the digital era, the rapid proliferation of smartphones has reshaped nearly every aspect of human interaction, learning, and socialization. For adolescents, who are navigating critical stages of psychosocial and cognitive development, the ubiquity of mobile devices has created both opportunities and risks. One of the emerging phenomena closely tied to problematic smartphone use is "nomophobia," a term describing the fear or anxiety of being without access to a mobile phone or network connectivity (Khan et al., 2021). Nomophobia has attracted increasing scholarly attention as its prevalence has surged worldwide, particularly among youth populations, where dependency on digital technologies intersects with vulnerable stages of emotional regulation and identity formation (Catone et al., 2020; Montag et al., 2024).

Nomophobia and smartphone-related behavioral dependencies are not isolated constructs but are part of a broader spectrum of problematic technology use. Research has demonstrated that excessive or maladaptive smartphone use is frequently associated with emotional dysregulation, heightened stress, reduced psychological well-being, and vulnerability to other psychopathological symptoms (Gioia et al., 2021; Oliveira et al., 2024). Adolescents, due to their developmental stage, are especially at risk of developing maladaptive coping strategies that exacerbate mental health challenges when their smartphone access is restricted or unavailable (Ayala et al., 2025). Within this context, examining the mechanisms through which nomophobia affects psychological well-being, particularly the mediating role of emotion regulation and the moderating influence of socioeconomic factors, is critical to both theory and practice.

The global scope of smartphone usage underscores the urgency of studying nomophobia. For instance, by 2023, the number of smartphone users worldwide had reached over 6.9 billion, illustrating an unprecedented level of digital penetration (O'Dea, 2021). While the increased accessibility of smartphones brings potential educational and social benefits, it also heightens dependency risks, particularly among adolescents. Nomophobia often manifests as anxiety, depression, or social withdrawal when disconnection occurs (Boggero et al., 2022). In certain cases, adolescents report symptoms resembling withdrawal behaviors observed in substance addictions, reinforcing the conceptualization of smartphone dependency as an addictive pattern (Fortuna, 2024).

Psychological research has increasingly identified emotion regulation as a core mechanism linking smartphone dependency and nomophobia with adverse outcomes. Emotion regulation, broadly defined as the processes through which individuals influence their emotional experiences and expressions, plays a central role in shaping adaptive or maladaptive responses to stressors (Fokker et al., 2021). Studies have highlighted that adolescents with poor emotion regulation skills are more likely to develop addictive digital behaviors, using smartphones as an avoidance or soothing strategy (Karaer & Akdemir, 2019; Wang et al., 2024). Conversely, adaptive strategies, such as cognitive reappraisal, may buffer the negative effects of nomophobia and enhance psychological well-being, while maladaptive strategies, such as suppression, may intensify psychological distress (Oliveira et al., 2024).

The relationship between nomophobia and mental health outcomes extends beyond emotion regulation to encompass socioeconomic factors. Adolescents from lower socioeconomic status (SES) backgrounds may rely more heavily on smartphones for social connection, identity validation, or entertainment due to fewer alternative resources (Van Wilder et al., 2021). This reliance may, in turn, amplify vulnerability to nomophobia and its psychological consequences. Conversely, higher SES is often linked with greater access to coping resources and healthier emotion regulation capacities, which may mitigate the risks associated with smartphone overuse (Visser et al., 2021). The literature also suggests that socioeconomic disparities significantly shape mental health outcomes during adolescence, especially under conditions of digital dependency (Myhr et al., 2021; Wang et al., 2021).

Psychological well-being, a multidimensional construct encompassing autonomy, personal growth, environmental mastery, purpose in life, positive relations with others, and self-acceptance (Aslani et al., 2023), provides a robust framework for understanding the consequences of nomophobia. Adolescents experiencing high levels of nomophobia often report diminished psychological well-being, as they struggle with autonomy and environmental mastery when disconnected from digital devices (Sadrnejad, 2022). Moreover, problematic smartphone use has been linked to impaired social relationships, sleep disturbances, and heightened levels of stress and anxiety, all of which undermine overall well-being (Marler et al., 2021; Nathan & Zeitzer, 2018). The cumulative evidence underscores the necessity of investigating nomophobia not merely as a

E-ISSN: 2980-9681

behavioral addiction but as a psychosocial condition that interacts with contextual and personal variables.

Cultural and contextual factors also shape how nomophobia manifests and is experienced. In Iran, for example, research has begun to explore how attachment styles, loneliness, and digital dependency contribute to nomophobia among adolescents (Kolah-Kaj et al., 2023). Similarly, the role of spiritual intelligence, personality traits, and coping strategies in predicting emotion regulation has been examined, highlighting the culturally embedded dimensions of digital behaviors (Dadfarnia et al., 2023). These findings suggest that nomophobia, while global in prevalence, may vary in intensity and outcomes based on sociocultural conditions, emphasizing the importance of localized research to inform effective interventions.

The interplay between socioeconomic status, nomophobia, and psychological well-being aligns with broader health research. Studies have established that changes in socioeconomic status directly influence health outcomes, including mental health, by shaping access to resources, social capital, and stress exposure (Barakat & Konstantinidis, 2023). Adolescents living in deprived neighborhoods or with fewer economic opportunities often exhibit higher rates of psychological distress and maladaptive technology use (Visser et al., 2021). In contrast, adolescents from more stable socioeconomic contexts may be better positioned to regulate their emotions effectively and sustain higher psychological well-being despite technological challenges (Van Wilder et al., 2021).

Nomophobia is further complicated by its links with comorbid behaviors such as phubbing, cyberbullying, and internet addiction. For instance, nomophobia has been found to co-occur with bullying victimization and perpetration, intensifying risks for psychopathology (Catone et al., 2020). Adolescents engaged in problematic internet use also demonstrate higher emotional dysregulation, reinforcing the role of emotion regulation as a mediating mechanism (Gioia et al., 2021). Research during the COVID-19 pandemic further illustrated how digital dependency exacerbated social isolation and mental health issues among students, underscoring the urgency of addressing digital addictions in educational and policy contexts (Marler et al., 2021; Myhr et al., 2021; Wang et al., 2021).

Nomophobia's detrimental effects also extend to cognitive performance and attentional processes. Schwaiger and Tahir (Schwaiger & Tahir, 2022) demonstrated that the mere presence of a smartphone can negatively impact fluid intelligence and attention, suggesting that nomophobia may impair not only emotional and social functioning but also cognitive resources. This finding resonates with studies linking poor sleep quality, attention deficits, and daytime sleepiness to problematic mobile phone use among adolescents (Nathan & Zeitzer, 2018). Such cognitive impairments further contribute to diminished psychological well-being and academic performance.

In addition, personality and psychological traits play a significant role in shaping vulnerability to nomophobia. Adolescents with certain attachment styles are more likely to develop dependency patterns, particularly when loneliness is present as a mediating factor (Kolah-Kaj et al., 2023). Similarly, adolescents who lack adequate social support or experience maladaptive parenting styles are at greater risk of developing internet or smartphone addiction (Karaer & Akdemir, 2019). These findings highlight the complex interplay of individual, familial, and contextual factors that converge in the development of nomophobia and its psychological consequences.

Technological and cultural shifts continue to intensify the challenges of regulating adolescent digital behavior. Scholars have argued that emotion regulation difficulties not only heighten vulnerability to internet addiction but also serve as pathways through which parenting practices and maladaptive cognitions impact adolescent mental health (Wang et al., 2024). Others have shown that interventions designed to enhance metacognitive and emotion regulation strategies can significantly improve adolescents' psychological well-being (Aslani et al., 2023). These insights suggest promising directions for intervention programs aimed at mitigating the risks of nomophobia.

Despite growing scholarly attention, gaps remain in fully understanding the mechanisms linking socioeconomic status, emotion regulation, and nomophobia with adolescent psychological well-being. While global research highlights consistent associations between these variables, more culturally grounded studies are required to explore these dynamics in non-Western settings, where socioeconomic disparities and digital engagement patterns may differ (Parchami Khoram et al., 2022; Parsakia et al., 2023; Safari, 2023). Moreover, while several studies have confirmed the role of emotion regulation in problematic technology use (Fortuna, 2024; Oliveira et al., 2024), relatively few have systematically modeled its mediating role between socioeconomic status and well-being outcomes in adolescents experiencing nomophobia.

Taken together, the literature demonstrates that nomophobia is a multidimensional phenomenon involving

E-ISSN: 2980-9681

psychological, social, and contextual determinants. It disrupts adolescents' capacity for emotional balance, impairs psychological well-being, and exacerbates vulnerabilities associated with socioeconomic disadvantage. At the same time, evidence suggests that adaptive emotion regulation strategies may serve as protective mechanisms, buffering the negative impacts of digital dependency on adolescent mental health.

Therefore, the present study aims to develop a structural model to predict psychological well-being in adolescents with nomophobia based on socioeconomic status, with the mediating role of emotion regulation.

2. Methods and Materials

2.1. Study Design and Participants

The present study employed a descriptive correlational design, and its purpose was applied. The statistical population consisted of all female secondary school students with nomophobia in Tehran during the academic year 2023–2024. In this study, sampling was conducted using a multistage cluster method. Accordingly, from among the districts of Tehran, four districts (7, 11, 14, 19) were selected, and from each district three schools, and from each school four classes, were randomly selected in accordance with the required sample size. To determine the sample size, the research questionnaires together with the Nomophobia Questionnaire developed by Azadmanesh, Ahadi, and Manshaee (2016) were administered to 734 individuals. Considering that in the study of Azadmanesh, Ahadi, and Manshaee (2016) the mean and standard deviation of the total nomophobia score were 39.77 and 9.12, respectively, individuals whose scores were 48.89 and above were considered as the study sample. In this way, 304 participants were identified as individuals with nomophobia, and their data were used for analysis.

2.2. Measures

a) Nomophobia Questionnaire: The Nomophobia Questionnaire by Azadmanesh et al. (2016) consists of 17 items scored on a 6-point Likert scale (from never to always). The minimum score is 17 and the maximum is 102. Higher scores indicate a greater likelihood of having nomophobia or its symptoms. In the study of Azadmanesh et al. (2016), exploratory factor analysis results showed that the questionnaire consists of three factors: anxiety (items 2, 1, 6, 17, 10, 13, 14, 11, 5), depression (items 9, 15, 8, 7, 16), and failure (items 3, 4, 12), with satisfactory validity and reliability. Second-order confirmatory factor analysis also confirmed the three-factor model.

b) Ryff's Psychological Well-Being Scale – Short Form: The Psychological Well-Being Scale developed by Ryff (1989) includes 18 items and six subscales: self-acceptance (items 2, 8, 10), positive relations with others (items 3, 11, 13), autonomy (items 9, 12, 18), purpose in life (items 5, 4, 16), personal growth (items 7, 15, 17), and environmental mastery (items 1, 4, 6). Items are scored on a Likert scale from strongly disagree = 1 to strongly agree = 6 (Ryff, 1989). In the Iranian standardization study by Bayani et al. (2008), the total scale reliability coefficient via test–retest was 0.82, and the reliability coefficients of the subscales of self-acceptance, positive relations, autonomy, purpose in life, personal growth, and environmental mastery were 0.71, 0.77, 0.78, 0.70, 0.78, and 0.77, respectively. Convergent validity was reported as satisfactory, based on correlations with the Satisfaction with Life Scale by Diener et al. (1985), the Oxford Happiness Questionnaire by Argyle et al. (1989), and the Rosenberg Self-Esteem Scale (1965). In the study of Khanjani et al. (2014), single-group confirmatory factor analysis showed that the six-factor model (self-acceptance, environmental mastery, positive relations with others, purpose in life, personal growth, and autonomy) had good fit in the total sample and across genders. Cronbach's alpha coefficients for the six factors were 0.51, 0.76, 0.75, 0.52, 0.73, and 0.72, respectively, and 0.71 for the whole scale.

c) Ghodratnama's Socioeconomic Status Questionnaire: The Socioeconomic Status Questionnaire developed by Ghodratnama (2013) includes four components: income level, economic class, education, and housing status. It has six demographic questions and five main questions, rated on a 5-point Likert scale ranging from very low = 1 to very high = 5. The demographic questions cover gender, age, marital status, education level, employment status (yes or no), and type of occupation. Examples of the main questions are: "If people were divided into five economic classes, in which class would you place your family?" and "If you (or your family) are not homeowners, to what extent do you consider your financial ability to purchase a home?" Eslami et al. (2013) confirmed the face and content validity of the questionnaire by 12 experts in sports sciences. In addition, Cronbach's alpha reliability was reported as 0.83.

d) Emotion Regulation Questionnaire by Gross and John: The Emotion Regulation Questionnaire by Gross and John (2003) consists of 10 items assessing two components, suppression and reappraisal, on a 7-point Likert scale

E-ISSN: 2980-9681

ranging from strongly disagree = 1 to strongly agree = 7. Gross and John (2003) reported Cronbach's alpha coefficients ranging from 0.68 to 0.82, and the correlations of suppression and reappraisal with the Rumination–Reflection Questionnaire by Trapnell and Campbell (1999) were reported as 0.19 and −0.29, respectively. Lotfi et al. (2019), in the standardization of this tool on adolescents aged 9 to 14, reported correlations with depression of 0.71, and Cronbach's alpha coefficients of 0.68 and 0.79 for suppression and reappraisal, respectively.

2.3. Data Analysis

To test the research hypotheses, Pearson correlation tests, confirmatory factor analysis, and structural equation modeling were conducted using Amos-V.3.3 software.

3. Findings and Results

The findings showed that among the participants, 58 students (19.1%) were 14 years old, 65 students (21.4%) were 15 years old, 72 students (23.7%) were 16 years old, 75 students (24.7%) were 17 years old, and 34 students (11.2%) were 18 years old. The mean age of the participants was 15.87 years with a standard deviation of 1.29 years. In addition, 164 participants (53.9%) were female and 140 participants (46.1%) were male. Regarding the field of study, 106 students (34.9%) studied in the humanities, 91 students (29.9%) in experimental sciences, 60 students (19.7%) in mathematics–physics, and 47 students (15.5%) in other fields. In terms of educational grade, 68 students (22.4%) were in grade 10, 128 students (42.1%) in grade 11, and 108 students (35.5%) in grade 12.

Table 1

Mean, Standard Deviation, and Cronbach's Alpha Coefficients of the Research Variables

Variable	Mean	SD	Cronbach's Alpha
Socioeconomic status – financial status	3.79	1.12	0.79
Socioeconomic status – parents' education level	3.31	1.85	0.87
Socioeconomic status – housing status	3.80	1.49	0.84
Emotion regulation – reappraisal	25.97	6.23	0.83
Emotion regulation – suppression	14.87	3.42	0.76
Psychological well-being – autonomy	12.15	3.82	0.65
Psychological well-being – environmental mastery	11.44	2.40	0.58
Psychological well-being – personal growth	10.76	2.79	0.67
Psychological well-being – positive relations	11.60	3.36	0.62
Psychological well-being – purpose in life	11.09	2.86	0.70
Psychological well-being – self-acceptance	10.41	2.74	0.66

Table 1 shows the Cronbach's alpha coefficients of each variable. As can be observed, the coefficients for the environmental mastery component are somewhat low; therefore, caution should be exercised in interpreting the findings related to this component.

Table 2

Path Coefficients (Total and Direct) Between the Research Variables in the Structural Model

Path	Variables	b	S.E	β	p
Direct	Socioeconomic status → suppression strategy	-0.418	0.306	-0.098	0.157
Direct	Socioeconomic status → reappraisal strategy	2.479	0.619	0.312	0.001
Direct	Suppression strategy → psychological well-being	-0.149	0.028	-0.270	0.001
Direct	Reappraisal strategy → psychological well-being	0.093	0.018	0.312	0.001
Direct	Socioeconomic status → psychological well-being	0.155	0.141	0.066	0.255
Indirect	Socioeconomic status → psychological well-being	0.213	0.105	0.090	0.025
Total	Socioeconomic status → psychological well-being	0.368	0.165	0.156	0.019

Table 2 shows that the total path coefficient between socioeconomic status and psychological well-being (β = 0.156, p = 0.019) is positive and significant. Accordingly, the research hypothesis was supported, indicating that socioeconomic status has a positive and significant relationship with psychological well-being in adolescents

E-ISSN: 2980-9681

with nomophobia. The results also show that the path coefficient between reappraisal strategy of emotion regulation and psychological well-being (β = 0.312, p = 0.001) is positive, and the path coefficient between suppression strategy of emotion regulation and psychological well-being (β = -0.270, p = 0.001) is negative and significant. Accordingly, in testing the sixth hypothesis, it was concluded that reappraisal strategy of emotion regulation is positively and suppression strategy is negatively and significantly associated with psychological well-being in adolescents with nomophobia.

Table 3

Mediating Role of Reappraisal and Suppression Strategies of Emotion Regulation in the Relationship Between Socioeconomic Status and Psychological Well-Being

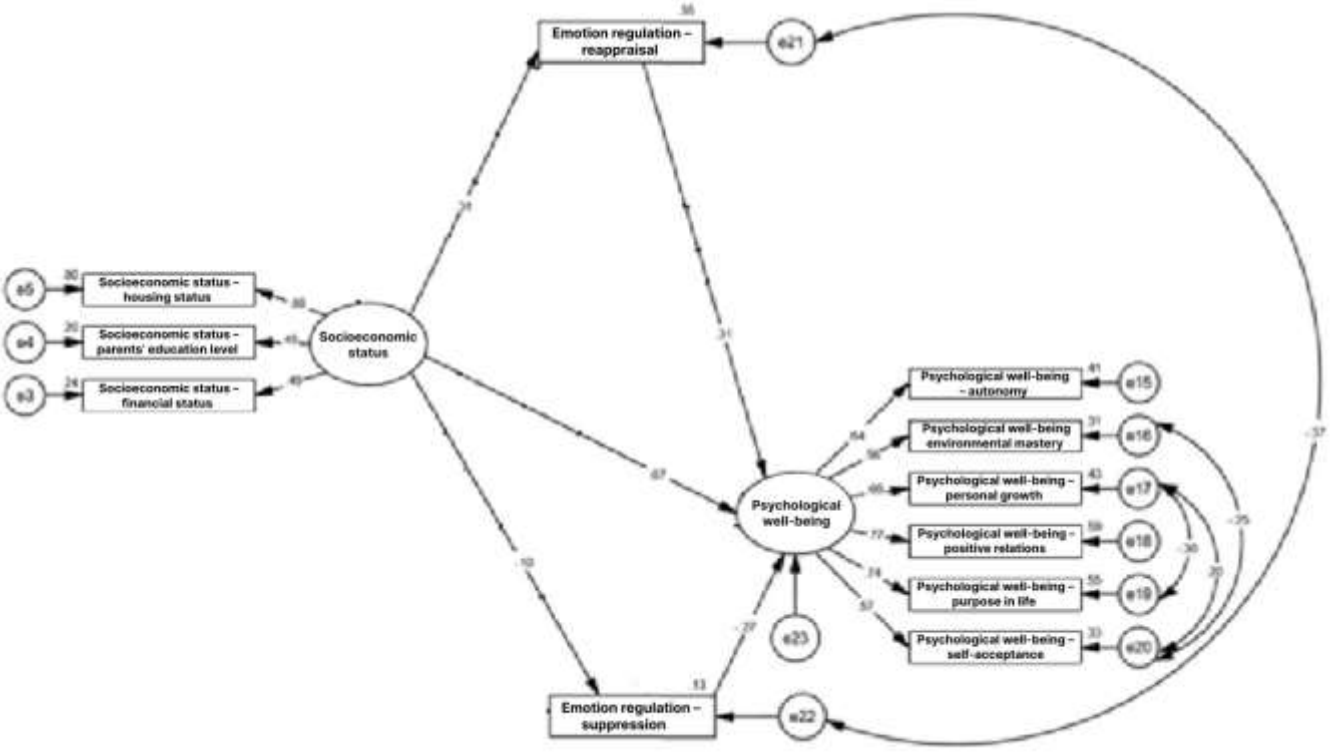
Path	a*b	β	SEab	Z	p
Socioeconomic status → reappraisal → psychological well-being	0.223	0.096	0.084	2.65	0.008
Socioeconomic status → suppression → psychological well-being	0.063	0.030	0.047	1.34	0.181
Socioeconomic status → academic stress → psychological well-being	-0.078	-0.035	0.049	-1.59	0.112

According to the results in Table 3, the use of Baron and Kenny's formula showed that the indirect path coefficient between socioeconomic status and psychological well-being through the reappraisal strategy of emotion regulation (β = 0.096, p = 0.008) was positive and significant, whereas the indirect path through suppression strategy of emotion regulation (β = 0.030, p = 0.181) was not significant. Accordingly, in testing the eleventh hypothesis, it was concluded that reappraisal strategy of emotion regulation positively and significantly mediates the relationship between socioeconomic status and psychological well-being in adolescents with nomophobia.

Figure 1 presents the structural research model using standardized data.

Figure 1

Standardized Parameters in the Structural Research Model



E-ISSN: 2980-9681

The figure indicates that the total coefficient of determination (R^2) for psychological well-being was 0.69. This finding suggests that socioeconomic status and emotion regulation together explain 69% of the variance in psychological well-being among adolescents with nomophobia.

4. Discussion and Conclusion

The present study sought to examine the structural model of psychological well-being among adolescents with nomophobia based on socioeconomic status, with the mediating role of emotion regulation. The results indicated that socioeconomic status is positively associated with psychological well-being in adolescents, and that reappraisal as an emotion regulation strategy mediates this relationship, whereas suppression has a negative direct effect. These findings provide important insights into the interplay between socioeconomic conditions, digital dependency, and psychological functioning in adolescents.

The finding that socioeconomic status is positively related to psychological well-being aligns with existing evidence emphasizing the significance of social and material resources for youth mental health. Previous studies have consistently documented that individuals from disadvantaged socioeconomic backgrounds are more vulnerable to lower levels of psychological well-being, partly because of restricted access to health care, educational opportunities, and supportive environments (Van Wilder et al., 2021; Visser et al., 2021). In the context of chronic stressors, adolescents from lower socioeconomic status families are often exposed to environments characterized by instability, financial strain, and limited coping resources, which may undermine their emotional resilience (Wang et al., 2021). These findings underscore the robustness of socioeconomic status as a determinant of psychological health, particularly in vulnerable youth populations struggling with technological dependencies such as nomophobia.

At the same time, the current results demonstrate that reappraisal, as a strategy of emotion regulation, plays a mediating role between socioeconomic status and psychological well-being. This is consistent with studies showing that emotion regulation is a crucial psychological process that enables adolescents to cope effectively with stressors, thereby protecting well-being even in the presence of external challenges (Oliveira et al., 2024; Wang et al., 2024). Reappraisal, by reframing potentially threatening or stressful events in a more positive or manageable way, fosters adaptive responses and reduces maladaptive consequences associated with internet and smartphone addiction (Fokker et al., 2021; Fortuna, 2024). Adolescents who employ reappraisal are better able to reinterpret their dependency on mobile phones, reducing feelings of distress or social inadequacy when disconnected. This mechanism helps explain why reappraisal not only mitigates the harmful effects of nomophobia but also enhances psychological well-being in adolescents with lower socioeconomic resources.

By contrast, suppression was found to have a negative relationship with psychological well-being. This result supports the view that maladaptive regulation strategies tend to exacerbate stress and reduce well-being over time (Gioia et al., 2021; Karaer & Akdemir, 2019). Suppression, although it may temporarily reduce visible emotional expression, fails to resolve underlying distress and often contributes to internalized anxiety and depressive symptoms. The negative predictive effect of suppression resonates with evidence from prior research indicating that maladaptive emotion regulation is strongly correlated with higher levels of problematic internet and smartphone use (Catone et al., 2020; Montag et al., 2024). Adolescents who rely on suppression may attempt to conceal their fears of disconnection but continue to experience significant internal discomfort, which can reduce their overall psychological well-being.

The mediating role of reappraisal confirms that emotion regulation is not merely a consequence of psychological distress but an active process shaping the relationship between external socioeconomic conditions and individual mental health outcomes. This finding echoes prior work indicating that difficulties in emotion regulation may explain why harsh parenting or maladaptive cognitions increase susceptibility to internet addiction (Wang et al., 2024). Moreover, the current study highlights the importance of targeting emotion regulation skills in interventions for adolescents with nomophobia, particularly among those in disadvantaged socioeconomic groups.

The results are also consistent with research on the psychological risks of excessive smartphone dependency. Nomophobia has been associated with heightened anxiety, loneliness, and reduced well-being, especially among adolescents and young adults (Ayala et al., 2025; Khan et al., 2021). The pervasive presence of smartphones as essential communication tools intensifies the emotional dependency that many adolescents experience (O'Dea, 2021). When adolescents feel unable to access their devices, they

E-ISSN: 2980-9681

experience significant psychological distress, undermining emotional stability and well-being (Boggero et al., 2022; Schwaiger & Tahir, 2022). These observations converge with the present findings, as adolescents with higher socioeconomic status may be better positioned to regulate these anxieties through greater access to supportive environments and resources.

Additionally, the observed relationship between socioeconomic conditions and psychological well-being supports broader theories of social determinants of health. As prior work demonstrates, shifts in socioeconomic status are closely tied to variations in health and well-being outcomes (Barakat & Konstantinidis, 2023). Adolescents from higher socioeconomic strata often benefit from more stable family structures, increased parental education, and access to health-promoting environments, which buffer against the psychological toll of digital dependence (Marler et al., 2021). On the contrary, those from deprived backgrounds may experience amplified vulnerability due to weaker support systems and fewer resources for coping, consistent with systematic reviews on neighborhood deprivation and youth mental health (Visser et al., 2021).

Our results further corroborate prior Iranian studies highlighting the predictive power of emotion regulation strategies on psychological well-being (Aslani et al., 2023; Dadfarnia et al., 2023; Safari, 2023). For instance, Aslani et al. (Aslani et al., 2023) found that training in cognitive, metacognitive, and emotion regulation strategies significantly improved psychological well-being in high school students. Similarly, Dadfarnia et al. (Dadfarnia et al., 2023) demonstrated that emotion regulation could be predicted by personality traits and spiritual intelligence, reinforcing the notion that these regulatory capacities are central to adolescent adjustment. Safari (Safari, 2023) also emphasized the detrimental impact of internet addiction on well-being, particularly when maladaptive regulation strategies dominate. Taken together, these results indicate that interventions promoting adaptive regulation may offer protective benefits in contexts where nomophobia is prevalent.

Other studies lend further support. Parchami Khoram et al. (Parchami Khoram et al., 2022) found that psychological well-being could be predicted by the satisfaction of basic psychological needs, with social media addiction playing a mediating role. This resonates with the present findings, where reappraisal serves as a protective mediator, while suppression functions as a risk pathway. Similarly, Sadrnejad (Sadrnejad, 2022) observed that loneliness and addiction to virtual networks negatively predicted well-being, pointing to the psychological risks associated with maladaptive engagement in digital contexts. The mediating function of reappraisal identified in our study extends these insights by showing that adaptive regulation mechanisms can offset the harmful pathways linking socioeconomic disadvantage, digital dependence, and well-being.

The results also contribute to the growing body of literature that identifies the psychological consequences of problematic internet and smartphone use among adolescents (Gioia et al., 2021; Montag et al., 2024). Excessive connectivity, coupled with emotion dysregulation, not only fosters dependency but also disrupts social support networks and adaptive coping, thereby reducing psychological well-being (Catone et al., 2020). These findings are consistent with cross-cultural studies emphasizing the universality of digital-related anxieties across contexts (Boggero et al., 2022).

Finally, the findings align with global perspectives on how socioeconomic inequality interacts with digital culture. Adolescents from low-income contexts may face compounded risks because they not only struggle with fewer resources but also become heavily reliant on smartphones as a primary source of social connection (Myhr et al., 2021). This dual vulnerability intensifies the risk of nomophobia and its negative impact on psychological health. However, interventions that enhance adaptive regulation, such as reappraisal training, may counterbalance these effects and foster resilience (Fortuna, 2024).

Despite the strengths of this study, several limitations should be acknowledged. First, the cross-sectional design prevents any firm conclusions about causality between socioeconomic status, emotion regulation, and psychological well-being. Longitudinal studies would be necessary to establish temporal ordering and causal inferences. Second, the study relied on self-report questionnaires, which may be subject to biases such as social desirability or inaccurate recall. Third, the sample was limited to high school students in Tehran, which restricts the generalizability of the findings to other age groups, cultural contexts, or geographic regions. Fourth, although several important variables were included, other potential confounders such as family functioning, peer relationships, or personality traits were not examined. Finally, the reliability coefficients for some subscales, such as environmental mastery, were lower than desired, suggesting caution in interpreting results related to those specific constructs.

E-ISSN: 2980-9681

Future research should address these limitations by employing longitudinal and experimental designs to explore the causal relationships between socioeconomic status, emotion regulation, and psychological well-being. Studies might also consider multi-informant assessments, incorporating perspectives from parents, teachers, and peers in addition to self-reports. Cross-cultural research would be valuable for examining whether the observed relationships hold in diverse societies with varying digital cultures and socioeconomic structures. It would also be beneficial to explore additional mediating and moderating variables, such as parental monitoring, digital literacy, or resilience, to enrich our understanding of the complex mechanisms linking socioeconomic disadvantage, nomophobia, and adolescent well-being. Finally, qualitative approaches could complement quantitative models by capturing the lived experiences of adolescents struggling with nomophobia and digital dependence.

From a practical standpoint, the findings highlight the need for interventions that simultaneously target emotion regulation skills and socioeconomic vulnerabilities in adolescents with nomophobia. Schools and counseling centers should incorporate programs that train students in adaptive strategies such as cognitive reappraisal, mindfulness, and metacognitive awareness, thereby reducing reliance on maladaptive suppression. Policymakers and educators should also prioritize equitable access to mental health resources for adolescents from disadvantaged socioeconomic backgrounds, ensuring that support systems are inclusive and accessible. Furthermore, awareness campaigns can help parents, teachers, and adolescents recognize the psychological risks associated with nomophobia and promote healthier digital engagement. Together, these initiatives can mitigate the negative consequences of digital dependency and foster psychological well-being in youth populations.

Authors' Contributions

All authors significantly contributed to this study.

Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

Acknowledgments

We hereby thank all individuals for participating and cooperating us in this study.

Declaration of Interest

The authors report no conflict of interest.

Funding

According to the authors, this article has no financial support.

Ethical Considerations

In this study, to observe ethical considerations, participants were informed about the goals and importance of the research before the start of the study and participated in the research with informed consent.

References

Aslani, H., Alivandi Vafa, M., & Panah-Ali, A. (2023). Comparing the effectiveness of cognitive, metacognitive, and emotion regulation strategy training on the psychological well-being of male high school students with low academic performance. *Psychological Science*, *22*(127), 567-580. https://psychologicalscience.ir/browse.php?a_id=2032&sid=1&slc_lang=en

Ayala, M. J., Alegre de la Rosa, O. M., Chambi Catacora, M. A. D. P., Vargas Onofre, E., Cari Checa, E., & Díaz Flores, D. (2025). Nomophobia, phubbing, and deficient sleep patterns in college students. *Frontiers in Education*, *9*, 1421162. https://doi.org/10.3389/feduc.2024.1421162

Barakat, C., & Konstantinidis, T. (2023). A review of the relationship between socioeconomic status change and health. *International journal of environmental research and public health*, *20*(13), 6249. https://doi.org/10.3390/ijerph20136249

Boggero, A., Puente, G. D., & Bragazzi, N. L. (2022). Selfie takers are Nomophobic? A Correlational Study Between Selfie Addiction, Nomophobia, Locus of Control and Validationof Selfie -Liking Scale in Italian Language. *Biomedical Journal of Scientific & Technical Research*, *42*(3), 33752-33761. https://doi.org/10.26717/BJSTR.2022.42.006769

Catone, G., Senese, V. P., Pisano, S., Siciliano, M., Russo, K., Muratori, P., & Broome, M. R. (2020). The drawbacks of Information and Communication Technologies: Interplay and psychopathological risk of nomophobia and cyberbullying, results from the bullying and youth mental health Naple's study (BYMHNS). *Computers in human Behavior*, *113*. https://doi.org/10.1016/j.chb.2020.106496

Dadfarnia, S., Seifi Kashani, F., Mahdieh, A., & Ezoddini, M. (2023). Predicting emotion regulation based on dimensions of personality traits and spiritual intelligence. Third National Conference on Psychology and Health: From Adaptation to Well-being, Shiraz, Iran.

E-ISSN: 2980-9681

Fokker, E., Zong, X., & Treur, J. (2021). A second-order adaptive network model for emotion regulation in addictive social media behaviour. *Cognitive Systems Research*, *70*, 52-62. https://doi.org/10.1016/j.cogsys.2021.07.006

Fortuna, D. D. (2024). The Influence of Emotional Regulation on Internet Addiction towards Students Who Use Online Gambling Sites and Applications. *Trend: International Journal of Trends in Global Psychological Science and Education*, *1*(3), 69-77. https://doi.org/10.62260/intrend.v1i3.166

Gioia, F., Rega, V., & Boursier, V. (2021). Problematic Internet Use and Emotional Dysregulation among Young People: A Literature Review. *Clinical Neuropsychiatry*, *18*(1), 41-54. https://pubmed.ncbi.nlm.nih.gov/34909019/

Karaer, Y., & Akdemir, D. (2019). Parenting styles, perceived social support and emotion regulation in adolescents with internet addiction. *Comprehensive Psychiatry*, *92*, 22-27. https://doi.org/10.1016/j.comppsych.2019.03.003

Khan, S., Atta, M., Malik, N. I., & Makhdoom, I. F. (2021). Prevalence and Relationship of Smartphone Addiction, Nomophobia, and Social Anxiety among College and University Late Adolescents. *İlköğretim Online*, *20*(5). https://ilkogretim-online.org/index.php/pub/article/view/5960

Kolah-Kaj, B., Khalatbari, J., Salahian, A., & Nasrollahi, B. (2023). Predicting nomophobia based on attachment styles with the mediating role of loneliness in adolescents. *Applied Family Therapy*, *4*(3), 210-225. https://doi.org/10.61838/kman.aftj.4.3.9

Marler, E. K., Bruce, M. J., Abaoud, A., Henrichsen, C., Suksatan, W., Homvisetvongsa, S., & Matsuo, H. (2021). The impact of COVID-19 on university students' academic motivation, social connection, and psychological well-being. *Scholarship of Teaching and Learning in Psychology*. https://www.researchgate.net/publication/353415647_The_impact_of_COVID-19_on_university_students%27_academic_motivation_social_connection_and_psychological_well-being

Montag, C., Demetrovics, Z., Elhai, J. D., Grant, D., Koning, I., Rumpf, H. J., Spada, M. M., Throuvala, M., & van den Eijnden, R. (2024). Problematic social media use in childhood and adolescence. *Addictive behaviors*, 107980. https://doi.org/10.1016/j.addbeh.2024.107980

Myhr, A., Naper, L. R., Samarawickrema, I., & Vesterbekkmo, R. K. (2021). Impact of COVID-19 pandemic lockdown on mental well-being of Norwegian adolescents during the first wave-socioeconomic position and gender differences. *Frontiers in Public Health*, *9*, 717747. https://doi.org/10.3389/fpubh.2021.717747

Nathan, N., & Zeitzer, J. (2018). A survey study of the association between mobile phone use and daytime sleepiness in California high school students. *BMC public health*, *13*(1), 840. https://doi.org/10.1186/1471-2458-13-840

O'Dea, S. (2021). Number of smartphone users worldwide from 2016 to 2023. *Statista Research Department*.

Oliveira, J., Pedras, S., Inman, R. A., & Ramalho, S. M. (2024). Latent profiles of emotion regulation among university students: links to repetitive negative thinking, internet addiction, and subjective wellbeing. *Frontiers in psychology*, *15*, 1272643. https://doi.org/10.3389/fpsyg.2024.1272643

Parchami Khoram, M., Imani, S., & Ansari, D. (2022). Predicting psychological well-being based on basic psychological needs: The mediating role of social media addiction. *Behavioral Sciences Research*, *20*(2), 317-328. https://doi.org/10.52547/rbs.20.2.317

Parsakia, K., Rostami, M., & Saadati, S. M. (2023). Validity and reliability of the Digital Self-Efficacy Scale in an Iranian sample. *Journal of Adolescent and Youth Psychological Studies*, *4*(4), 125-133. https://doi.org/10.61838/kman.jayps.4.4.15

Sadrnejad, M. (2022). The relationship between psychological well-being, loneliness, and quality of life with addiction to virtual social networks (with an emphasis on Instagram) among high school students in Amol county. *Applied Researches in Management and Humanities*, *3*(6), 45-58. https://elmnet.ir/doc/2704208-80127

Safari, L. (2023). The impact of internet addiction on psychological well-being and aggression in students. *Pajhohesh-e Melal*, *95*, 32-45. https://rnmagz.com/article/782/

Schwaiger, E., & Tahir, R. (2022). The impact of nomophobia and smartphone presence on fluid intelligence and attention. *Cyberpsychology: Journal of Psychosocial Research on Cyberspace*, *16*(1). https://doi.org/10.5817/CP2022-1-5

Van Wilder, L., Pype, P., Mertens, F., Rammant, E., Clays, E., Devleesschauwer, B., Boeckxstaens, P., & De Smedt, D. (2021). Living with a chronic disease: insights from patients with a low socioeconomic status. *BMC Family Practice*, *22*, 1-11. https://doi.org/10.1186/s12875-021-01578-7

Visser, K., Bolt, G., Finkenauer, C., Jonker, M., Weinberg, D., & Stevens, G. W. (2021). Neighbourhood deprivation effects on young people's mental health and well-being: A systematic review of the literature. *Social Science & Medicine*, *270*, 113542. https://doi.org/10.1016/j.socscimed.2020.113542

Wang, H., Liu, H., Zhou, L., Bi, X., Tao, J., Jiang, Y., & Zhang, R. (2024). Harsh Parenting and Internet Addiction: The Chain Mediating Effect of Emotional Regulation Difficulties and Maladaptive Cognitions. *Perspectives in psychiatric care*, *2024*(1), 7334182. https://doi.org/10.1155/2024/7334182

Wang, M. T., Henry, D. A., Del Toro, J., Scanlon, C. L., & Schall, J. D. (2021). COVID-19 employment status, dyadic family relationships, and child psychological well-being. *Journal of Adolescent Health*, *69*(5), 705-712. https://doi.org/10.1016/j.jadohealth.2021.07.016

E-ISSN: 2980-9681