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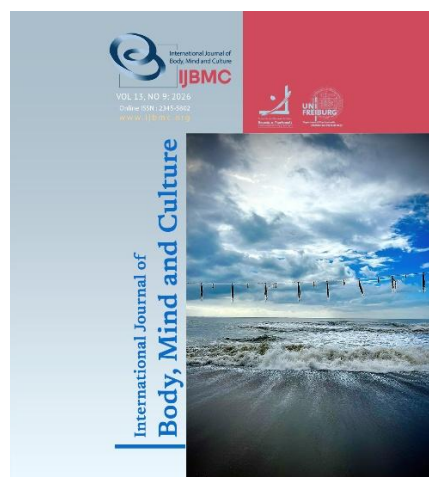
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The Relationship Between Phubbing and Mental Health Among Adolescents

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ABSTRACT

Objective: This study examined the relationship between phubbing behavior and mental health among adolescents and tested whether phubbing statistically predicted depression, anxiety, stress, and overall psychological distress.

Methods and Materials: A quantitative cross-sectional survey was conducted with 350 adolescents aged 13-18 years recruited from three secondary schools. Participants completed the Generic Scale of Phubbing (GSP) and the Depression Anxiety Stress Scales-21 (DASS-21). Data were analyzed using descriptive statistics, Cronbach's alpha, an independent-samples t test, Pearson correlations, and simple linear regression.

Findings: Mean phubbing was 3.26 (SD = 0.68). Phubbing was positively associated with depression ($r = .24$), anxiety ($r = .29$), stress ($r = .35$), and overall psychological distress ($r = .38$). In separate regression models, phubbing explained 5.8% of the variance in depression, 8.4% in anxiety, 12.3% in stress, and 14.4% in psychological distress (all $p < .001$). No significant gender difference in phubbing was observed, $t(348) = 0.75$, $p = .45$.

Conclusion: Higher phubbing was associated with greater psychological distress among adolescents. Because the design was cross-sectional, the findings do not establish causality. School- and family-based digital well-being initiatives that promote attentive face-to-face interaction and healthier smartphone habits may be useful preventive strategies.

Keywords: Phubbing, Adolescents, Depression, Anxiety, Stress, Smartphone Use, Psychological Distress.

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Introduction

Adolescence is a developmentally sensitive period characterized by rapid emotional, cognitive, and social change. Depression, anxiety, and stress are common forms of psychological distress during this stage and can interfere with academic functioning, relationships, and general well-being (Lin & Guo, 2024; Fombouchet et al., 2023). Supportive peer relationships and effective interpersonal functioning are important protective resources during adolescence (Costello et al., 2023; Bahari et al., 2025).

Within a broader sociocultural perspective, adolescent mental health may be shaped by the interaction of digital exposure with chronic stress, family dynamics, and rapidly changing social environments, highlighting the need to understand technology-related behaviors within the wider context of adolescents' psychological well-being (Seyed Alitabar, 2026a).

Phubbing, a blend of "phone" and "snubbing," refers to attending to a smartphone while disregarding a person who is physically present (Chotpitayasunondh & Douglas, 2018; Al-Saggaf, 2022). As smartphones have become embedded in adolescents' communication, entertainment, and education, the boundary between online and face-to-face interaction has become increasingly permeable (Huang et al., 2022). When smartphone attention repeatedly interrupts in-person exchanges, the quality of social interaction may be reduced and feelings of disconnection or social exclusion may emerge.

Research has increasingly shifted from general screen-time indicators toward specific patterns of socially disruptive smartphone use. Recent studies have linked phubbing with depression, anxiety, stress, and poorer interpersonal functioning (Dibajnia et al., 2025; Gao et al., 2025; Yue et al., 2024). Meta-analytic evidence likewise indicates that being phubbed is associated with adverse emotional and social outcomes, with effects that may be particularly important in younger populations (Nuñez & Radtke, 2024). Even so, evidence focusing specifically on adolescents' own phubbing behavior remains more limited than research on adults, university students, or parental phubbing.

Accordingly, the present study aimed to examine the relationship between phubbing behavior and mental health outcomes among adolescents and determine whether phubbing significantly predicts depression, anxiety, stress, and overall psychological distress.

Literature Review

Phubbing Behavior

Phubbing is a socially disruptive pattern of smartphone use in which attention is shifted from a face-to-face interaction toward the device (Chi et al., 2022). It can include checking notifications during a conversation, browsing social media while spending time with peers, or repeatedly prioritizing online interaction over the person who is physically present (Al-Saggaf, 2022). In adolescents, these behaviors may occur in peer, family, and school contexts where smartphone use is frequent and socially normalized.

Phubbing is closely related to problematic smartphone use and may be reinforced by frequent notifications, social-media rewards, fear of missing out, and habitual checking (Giansanti, 2025; Mujica et al., 2022). Over time, repeated smartphone checking during social encounters may become habitual and increasingly difficult to regulate.

Mental Health of Adolescents

Adolescent mental health encompasses emotional, psychological, and social well-being. Depression, anxiety, and stress are among the most frequently studied forms of distress in this age group (Lin & Guo, 2024). Depressive symptoms may involve persistent low mood, loss of interest, and hopelessness; anxiety is characterized by excessive worry and fear; and stress can emerge in response to academic, interpersonal, and developmental demands (Jiang et al., 2022). These experiences may impair school functioning, relationships, and daily adjustment.

The quality of social interaction and perceived support is closely related to adolescent psychological well-being (Kurudirek et al., 2022). Supportive friendships can strengthen emotional support competencies, whereas disrupted or unsatisfying interactions may undermine belonging and adjustment (Costello et al., 2023). Because adolescence is also an important period for the development

of emotion regulation (Fombouchet et al., 2023), repeated disruptions to face-to-face interaction may be especially relevant to mental health.

Phubbing and Mental Health

Empirical evidence increasingly links phubbing with poorer mental-health outcomes. A cross-sectional study found positive associations between phubbing and depression, anxiety, and stress (Dibajnia et al., 2025), while adolescent research has identified a direct association between phubbing and depressive symptoms as well as indirect pathways through poorer peer relationships and psychological need frustration (Yue et al., 2024). These findings are consistent with the view that socially disruptive smartphone use may weaken interpersonal satisfaction and emotional connectedness.

Longitudinal evidence has further demonstrated temporal links among phubbing, depression, and anxiety in middle- and high-school students (Gao et al., 2025). At the same time, meta-analytic findings indicate that the consequences of phubbing vary in magnitude across emotional, cognitive, social, and behavioral outcomes (Nuñez & Radtke, 2024). The association is therefore unlikely to be uniform and may depend on individual characteristics, relationship context, baseline distress, and the social meaning of smartphone use.

Despite a growing evidence base, several limitations remain. Many studies use cross-sectional and self-report designs, which restrict causal interpretation and may introduce common-method or social-desirability bias. Samples are often drawn from university students or specific cultural contexts, limiting generalizability to younger adolescents. Further research is therefore needed to clarify the magnitude and consistency of associations between adolescents' own phubbing behavior and multiple dimensions of psychological distress.

Conceptual Framework

The conceptual framework integrates social displacement, social exclusion, and problematic smartphone-use perspectives. From a displacement perspective, smartphone engagement during face-to-face interaction can reduce opportunities for meaningful social

exchange. From social-exclusion perspectives, phubbing can communicate inattention or rejection and may undermine relationship quality (Nazir, 2025). Problematic smartphone-use models further suggest that poorly regulated device use may co-occur with psychological distress and reinforce maladaptive coping patterns (Nuñez & Radtke, 2024). Together, these perspectives support examining phubbing as a behavioral correlate and statistical predictor of adolescent psychological distress while avoiding causal assumptions in a cross-sectional design.

Methods and Materials

Research Design

This study used a quantitative cross-sectional survey design to examine associations between phubbing behavior and mental-health outcomes among adolescents. The design was appropriate for estimating contemporaneous relationships among the study variables within a school-based sample; however, it does not permit conclusions about temporal or causal direction.

Participants

The target population comprised adolescents aged 13-18 years attending secondary schools. This age range was selected because smartphone use is common during adolescence and because this developmental period is characterized by heightened sensitivity to peer relationships, emotional regulation, and psychological distress.

Sampling Method

A convenience sampling strategy was used because recruitment depended on school access, administrative approval, parental or guardian permission, and student availability. Three secondary schools participated in the study.

Sample Size and Recruitment

Eligible students were informed about the study through school announcements and classroom briefings conducted with the assistance of school staff. Participation required that students were 13-18 years old, available during the data-collection period, and able to provide adolescent assent together with written parental or guardian consent.

Of 420 students invited to participate, 370 returned parental or guardian consent and provided adolescent assent. Twenty questionnaires were excluded because of incomplete or internally inconsistent responses, resulting in a final analytic sample of 350 adolescents. The final usable-response rate was 83.3%.

Response rate = $350 / 420 \times 100 = 83.3\%$.

Instruments

The Generic Scale of Phubbing (GSP) was used to assess phubbing behavior (Chotpitayasunondh & Douglas, 2018). The GSP contains 15 items across four domains—nomophobia, interpersonal conflict, self-isolation, and problem acknowledgment—rated on a 7-point Likert scale from 1 (never) to 7 (always). Higher scores indicate more frequent phubbing. The wording was reviewed for age-appropriate comprehension in the 13-18-year-old sample, with minor wording adjustments where necessary. In the present study, the total scale showed good internal consistency (Cronbach's $\alpha = .86$).

The Depression Anxiety Stress Scales-21 (DASS-21) was used to assess symptoms of depression, anxiety, and stress (Antony et al., 1998). The instrument contains 21 items, with seven items per subscale, rated from 0 (did not apply to me at all) to 3 (applied to me very much or most of the time). Higher scores reflect greater symptom severity. The DASS-21 is a screening measure of psychological symptoms and is not a substitute for a clinical diagnosis. Internal consistency in the present sample was good for depression ($\alpha = .88$), anxiety ($\alpha = .84$), and stress ($\alpha = .90$). A composite psychological-distress score derived from the DASS-21 subscales also demonstrated high internal consistency ($\alpha = .91$).

Ethical Considerations

Data collection began after approval from the Institutional Research Ethics Committee of the authors' university and formal permission from participating school authorities. The ethics committee did not issue a separate approval number.

Because all participants were minors or adolescents aged 13-18 years, written parental or guardian consent and age-appropriate adolescent assent were obtained before

participation. Students were informed about the study purpose, the voluntary nature of participation, and their right to withdraw without penalty.

Confidentiality and anonymity were maintained throughout the study. Questionnaires did not collect direct personal identifiers, and each response was assigned a numerical code for data entry and analysis. Paper records were stored securely, and electronic files were password protected and accessible only to the research team.

Because the DASS-21 assessed potentially elevated psychological distress, a referral pathway was available for students whose responses indicated substantial distress. These students were encouraged to contact the school counselor or an appropriate mental-health professional, and school safeguarding procedures were followed when necessary.

Procedures

Before recruitment, school administrators received information about the study purpose, procedures, and ethical safeguards and provided formal institutional permission. Recruitment then proceeded through participating schools.

Parents or legal guardians received study information and provided written consent, after which adolescents provided assent. Participants received standardized instructions for questionnaire completion and were reminded that participation was voluntary.

Self-administered questionnaires were completed during school hours or through a secure online format, depending on logistical arrangements. The survey included standardized measures of phubbing and mental-health symptoms and did not request personally identifying information.

Completed paper questionnaires were returned anonymously in sealed envelopes or collection boxes. Online responses were stored in protected electronic files. These procedures were used to minimize unauthorized access and preserve confidentiality.

Before analysis, responses were screened for completeness and internal consistency. Questionnaires with substantial missing or conflicting responses were excluded

from the analytic sample. The remaining data were cleaned and checked for anomalous response patterns before statistical analysis.

Data Analysis

Data were analyzed using IBM SPSS Statistics. Analyses were organized to describe the sample and study variables, evaluate internal consistency, test bivariate associations, and estimate the statistical predictive value of phubbing for each mental-health outcome. The significance level was set at $p < .05$.

Analysis

Cronbach's alpha coefficients were calculated for the GSP, each DASS-21 subscale, and the composite psychological-distress score to evaluate internal consistency in the study sample.

Pearson product-moment correlations were calculated between phubbing scores and depression, anxiety, stress, and overall psychological distress. The direction and magnitude of the associations were examined using a two-sided significance level of $p < .05$.

Four separate simple linear regression models were estimated with phubbing as the independent variable and

Table 1

Descriptive Statistics of Key Variables (N = 350)

Variable	Mean	SD	Min	Max
Phubbing	3.26	0.68	1.31	5.37
Depression	3.07	0.80	0.72	5.63
Anxiety	2.87	0.75	1.03	5.46
Stress	3.03	0.86	0.42	5.54
Psychological Distress	2.99	0.44	2.03	4.44

Internal consistency estimates ranged from .84 to .91 across the study measures (Table 2). The GSP showed an alpha of .86, while the depression, anxiety, and stress

Table 2

Internal Consistency Reliability of Study Measures

Scale	Cronbach's α
Generic Scale of Phubbing (GSP)	.86
Depression (DASS-21)	.88
Anxiety (DASS-21)	.84
Stress (DASS-21)	.90
Psychological Distress (Composite)	.91

depression, anxiety, stress, or overall psychological distress as the dependent variable. Unstandardized and standardized regression coefficients, 95% confidence intervals, R^2 , adjusted R^2 , F statistics, and p values were reported. No covariates were included in the final models. Results were summarized in descriptive, reliability, correlation, and regression tables, together with graphical displays of phubbing-score distributions and bivariate relationships.

Findings and Results

The final analytic sample comprised 350 adolescents aged 13-18 years. Preliminary screening did not identify substantial missingness or extreme outliers in the retained cases. Histograms and boxplots indicated that the principal variables were approximately normally distributed, supporting the planned parametric analyses.

Table 1 presents descriptive statistics for phubbing, depression, anxiety, stress, and overall psychological distress. The mean phubbing score was 3.26 (SD = 0.68). Mean scores were 3.07 (SD = 0.80) for depression, 2.87 (SD = 0.75) for anxiety, 3.03 (SD = 0.86) for stress, and 2.99 (SD = 0.44) for the composite psychological-distress score.

subscales showed alphas of .88, .84, and .90, respectively. The composite psychological-distress score showed an alpha of .91.

An independent-samples *t* test showed no statistically significant gender difference in phubbing scores, $t(348) = 0.75$, $p = .45$. Thus, phubbing levels were comparable between male and female adolescents in this sample.. Pearson correlations indicated positive associations between

phubbing and depression ($r = .24$), anxiety ($r = .29$), stress ($r = .35$), and overall psychological distress ($r = .38$). Thus, higher phubbing scores were associated with higher levels of psychological symptoms in the sample (Table 3).

Table 3

Pearson Correlation Matrix

Variable	Phubbing	Depression	Anxiety	Stress	Psychological Distress
Phubbing	1.00	.24	.29	.35	.38
Depression	.24	1.00	.61	.68	.79
Anxiety	.29	.61	1.00	.72	.82
Stress	.35	.68	.72	1.00	.85
Psychological Distress	.38	.79	.82	.85	1.00

Note. Correlations involving phubbing were statistically significant at $p < .05$.

Four simple linear regression models were used to test whether phubbing statistically predicted depression, anxiety, stress, and overall psychological distress. Each model included phubbing as the sole independent variable; no covariates were entered. Phubbing was a statistically significant predictor in all four models (Table 4). It explained

5.8% of the variance in depression, 8.4% in anxiety, 12.3% in stress, and 14.4% in overall psychological distress. The standardized coefficients ranged from $\beta = .24$ for depression to $\beta = .38$ for psychological distress, with all models significant at $p < .001$.

Table 4

Simple Linear Regression Models Predicting Mental Health Outcomes From Phubbing

Outcome	B	SE	β	t	p	95% CI for B	R ²	Adjusted R ²	F(df)
Depression	0.28	0.06	.24	4.61	< .001	[0.16, 0.40]	.058	.055	21.27 (1, 348)
Anxiety	0.32	0.06	.29	5.65	< .001	[0.21, 0.43]	.084	.081	31.95 (1, 348)
Stress	0.44	0.06	.35	6.97	< .001	[0.32, 0.57]	.123	.120	48.58 (1, 348)
Psychological distress	0.25	0.03	.38	7.66	< .001	[0.18, 0.31]	.144	.142	58.73 (1, 348)

These findings indicate that phubbing was a statistically significant, although modest, predictor of the measured mental-health outcomes in this cross-sectional sample (Table 5).

Discussion and Conclusion

This study examined the relationship between phubbing and adolescent mental health. Phubbing was positively associated with depression, anxiety, stress, and overall psychological distress, and it emerged as a statistically significant predictor in separate regression models. This pattern is consistent with recent cross-sectional and longitudinal evidence linking phubbing with emotional distress (Dibajnia et al., 2025; Gao et al., 2025; Yue et al., 2024). Because the present study used a cross-sectional

design, the regression results should be interpreted as statistical prediction rather than evidence of causal influence.

One possible explanation is social displacement. When attention is repeatedly directed toward a smartphone during in-person interaction, opportunities for reciprocal communication, emotional support, and interpersonal closeness may be reduced. These processes may be particularly important during adolescence, when peer relationships and social belonging are central developmental resources (Costello et al., 2023). Evidence that peer-relationship quality helps explain the association between adolescent phubbing and depression is consistent with this interpretation (Yue et al., 2024).

A social-exclusion interpretation is also plausible. Phubbing can signal inattention and may leave interaction partners feeling ignored or devalued, experiences that are associated with poorer well-being (Nuñez & Radtke, 2024). At the same time, reverse or reciprocal processes are possible: adolescents who are already experiencing depression, anxiety, or interpersonal discomfort may turn more frequently to smartphones during social encounters. Longitudinal findings support the possibility of bidirectional relationships between phubbing and internalizing symptoms (Gao et al., 2025).

The findings also reinforce the importance of distinguishing between engaging in phubbing and being phubbed by others. Both experiences can occur within the same peer network, but they may involve different psychological mechanisms. The present study focused on adolescents' own phubbing behavior, extending a literature in which many studies have emphasized the consequences of receiving phubbing rather than performing it (Nuñez & Radtke, 2024).

Accordingly, efforts to promote healthier digital behavior should extend beyond merely limiting smartphone use and should also preserve relational engagement, cultural responsiveness, and meaningful human connection as central components of psychologically supportive digital environments (Seyed Alitabar, 2026b).

The practical implications extend to schools, families, and mental-health services. School-based digital well-being programs can address attentive communication, responsible smartphone use, and the social consequences of device use during face-to-face interaction. Families can support phone-free periods during shared activities and model respectful smartphone habits. When clinically relevant, mental-health professionals may also include patterns of smartphone use and phubbing in psychosocial assessment, particularly when adolescents report interpersonal difficulties or emotional distress.

Several limitations should be considered. First, the cross-sectional design prevents causal or temporal conclusions. Second, reliance on self-report measures may introduce response and common-method bias. Third, convenience sampling from three schools limits generalizability to other

adolescent populations. Fourth, potentially important covariates—including loneliness, sleep quality, academic pressure, family communication, peer support, and fear of missing out—were not included in the regression models.

Future research should use longitudinal and multi-informant designs to clarify temporal direction and reduce shared-method bias. Intervention studies could test whether reducing socially disruptive smartphone use or strengthening face-to-face communication improves adolescent well-being. Studies should also examine mediating and moderating mechanisms such as peer relationship quality, emotion regulation, loneliness, family communication, and problematic smartphone use.

The study found that higher phubbing behavior was associated with higher depression, anxiety, stress, and overall psychological distress among adolescents. Phubbing also accounted for a statistically significant, though modest, proportion of variance in each mental-health outcome. These findings identify phubbing as a relevant digital behavior in adolescent mental-health research, while the cross-sectional design precludes causal conclusions.

Recommendations

Schools should consider integrating digital well-being, smartphone self-regulation, and face-to-face communication skills into student-support programs. Adolescents can be encouraged to practice digital etiquette and create phone-free periods during interpersonal activities. Schools and families should also maintain clear referral pathways for adolescents showing substantial psychological distress. These measures may help reduce socially disruptive smartphone behavior while supporting healthier interpersonal and developmental outcomes.

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Declaration of Interest

The authors of this article declared no conflict of interest.

Ethical Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants. Ethical considerations in this study were that participation was entirely optional.

Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

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Authors' Contributions

All authors equally contribute to this study.

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