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The Relationship Between Smartphone Overuse, Affective Lability, Depression, and Anxiety Levels in University Students

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Abstract:

Objective: This study aimed to investigate the relationship between smartphone overuse and affective lability, depression, and anxiety levels among university students.

Methods: A total of 216 university students were included in the study. Participants were recruited via online platforms. To collect data, sociodemographic data forms, the Affective Lability Scale-18 (ALS-18), the Patient Health Questionnaire-9 (PHQ-9), the Generalized Anxiety Disorder-7 (GAD-7), and the Smartphone Overuse Screening Scale (SOSS) were used.

Results: The mean age of the 216 university students who participated in the study was 21±1.23 years; 141 (65.28%) were male, 75 (34.72%) were female; 6 (2.78%) were only children, while 210 (97.22%) had siblings. Fourteen (6.48%) had parents living separately, and 202 (93.52%) had parents living together. Spearman correlation analysis revealed a significant positive correlation between the total score of the SOSS and the total score, as well as all subdimensions of the ALS-18, and the total scores of the PHQ-9 and GAD-7. Wilcoxon test showed no significant difference in total SOSS scores between male and female groups, between only children and those with siblings, or between those who had received psychological treatment and those who had not. The Wilcoxon test indicated that participants with siblings scored significantly higher in the ALS-18 Depression/Elevation subscale compared to those who were only children. Regression analysis results showed that among the independent variables, only the ALS-18 anger variable had a significant effect on smartphone overuse.

Conclusion: Smartphone overuse is associated with affective lability, anxiety levels, and depressive symptoms. Therefore, there is a need for appropriate health education programs and interventions to improve the mental health of university students.

Keywords: Smartphone, Anxiety, Depression, Affective Lability

Nowadays, smartphone use plays a significant role in both our professional and social lives. Smartphone overuse, characterized by increasing duration of use and behaviors such as the urge to use the phone immediately upon waking, has become a contemporary topic of discussion due to its physical and cognitive indicators [1]. Smartphone overuse, regarded as a type of behavioral overuse and studied by researchers, is not yet explicitly defined in the Diagnostic and Statistical Manual of Mental Dis-

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orders (DSM-V). However, the inclusion of "gambling disorder" and "internet gaming disorder" in DSM-V, which may share similar patterns with smartphone overuse, is considered a positive step for research in this field [2, 3, 4].

A bidirectional relationship has been shown between smartphone overuse and depressive symptoms [5]. There is evidence suggesting that smartphone overuse may be a cause of depression and anxiety [6]. A review of the literature reveals findings indicating a relationship between smartphone overuse and negative emotional states such as anxiety and depression [7-9]. However, the underlying mechanisms between smartphone overuse and depression and anxiety still require further investigation. Strong associations have been identified between smartphone overuse and psychiatric disorders such as depression, anxiety, bipolar disorder, dependent personality disorder, compulsive personality disorder, and somatization. Additionally, it has been reported that depression, anxiety, and bipolar disorders significantly predict smartphone overuse [10]. Previous studies have suggested that emotion dysregulation may be related to the development and maintenance of various psychiatric disorders and maladaptive behaviors [11]. A key aspect of emotion dysregulation is abnormal frequency, intensity, and breadth of affective fluctuations [12]. Affective lability is present in many psychiatric conditions and is a core feature of several forms of psychopathology, including bipolar disorder and borderline personality disorder [13-15].

This study investigated the relationship between excessive smartphone use—which negatively affects individuals' work and social lives—and affective lability, depression, and anxiety levels. Studies directly examining the relationship between smartphone overuse and affective lability among university students in Turkey are limited. Therefore, our study aims to fill this gap in the literature.

Research Hypotheses

H1: Students with smartphone overuse will have higher affective lability scores.

H2: Students with smartphone overuse will have higher depression scores.

H3: Students with smartphone overuse will have higher anxiety scores.

METHODS

Study Design and Sample

The study used a convenience sampling method, which limits the generalizability of the results. Participants volunteered through announcements made through online platforms (social media groups and email lists of university student communities). Participation in the study was entirely voluntary, and no incentives were provided. A total of 250 students completed the survey, and after excluding incomplete forms, 216 participants (86.4% response rate) were included in the analyses.

Data were collected using a sociodemographic data form, the Affective Lability Scale-18 (ALS-18), the Patient Health Questionnaire-9 (PHQ-9), the Generalized Anxiety Disorder-7 (GAD-7), and the Smartphone Overuse Screening Scale (SOSS). In the analysis, psychological variables (affective lability, depression, and anxiety), as well as family structure (presence of a sibling) and family income level, were initially included in the model as potential socioeconomic confounding variables. The purpose of including these variables is to control for possible demographic factors that may influence smartphone overuse.

The study was initiated with the approval of the Alanya Alaaddin Keykubat University Faculty of Medicine Clinical Research Ethics Committee dated 11.09.2024 and numbered 20-07.

Data Collection Tools

Sociodemographic Data Form

A form developed by the researchers to collect data on participants' age, gender, etc.

Affective Lability Scale (ALS-18)

Developed by Oliver and Simons (2004) [17], ALS-18 is an 18-item Likert-type self-report questionnaire that assesses affective lability across three dimensions: perceived changes in emotions and related cognition, physiological changes, and behavioral changes. Each item is rated on a 4-point scale ranging from "not at all characteristic" to "very characteristic" (0–3). The scale measures three types of affective lability: Anxiety/Depression (AD), Depression/Elevation (DE), and Anger. Higher scores indicate greater

affective lability. ALS-18 has been shown to have good internal consistency and appropriate test-retest reliability. Test-retest analysis demonstrated temporal stability over 30 days, with reliability estimates ranging from 0.56 to 0.79 for women and 0.48 to 0.86 for men. The Turkish validity and reliability study was conducted by Doğan and Şenormancı, with Cronbach's alpha internal consistency coefficients found to be α=0.92 for both the AD and DE groups [18].

Patient Health Questionnaire-9 (PHQ-9)

The PHQ-9 is a 9-item scale developed based on DSM-IV criteria for depression. It was selected for this study due to its brevity compared to other depression scales, its established validity and reliability, and its widespread use by healthcare professionals in international publications for depression screening. The severity of depressive symptoms assessed using the PHQ-9 is scored between 0–27 points. In the Turkish adaptation study, the internal consistency coefficient was reported as 0.84, indicating that the scale is a valid and reliable measurement tool. According to this scale, scores of 1–4 indicate minimal depression, 5–9 mild, 10–14 moderate, 15–19 moderately severe, and 20–27 severe depression [19]. Furthermore, previous studies have suggested a cut-off score of 15 for depression risk [20]. Accordingly, in the current study, the cut-off score for depression was set at 15 based on literature findings.

Generalized Anxiety Disorder-7 (GAD-7)

The GAD-7 is a scale constructed based on the DSM-IV-TR criteria for generalized anxiety disorder (GAD) [21]. The scale consists of seven items, with a total score ranging from 0 to 21. In the Turkish validity and reliability study, the internal consistency coefficient was calculated as 0.85 [22]. While the original version of the scale identified a cut-off score of 10 as the threshold for a probable diagnosis of GAD, the Turkish adaptation determined the cut-off to be 8. Therefore, in this study, a cut-off score of 8 was used for anxiety.

Smartphone Overuse Screening Scale (SOSS)

The scale comprises subfactors including preoccupation, loss of control, craving, insight, excessive use, and neglect of other areas. Its Turkish validity and reliability were established by Kuru *et al*. [23]. In that study, the Cronbach's alpha for the total score was reported as 0.93, and the test-retest reliability coefficient was 0.79. The items of the scale are evaluated based on the last month and rated on a 4-point Likert scale ranging from 0 to 3 (never, sometimes, often, always).

Statistical Analysis

Statistical analyses, data management, visualization, and reporting processes were carried out using R version 4.4.2 [16]. Descriptive statistics were calculated; numerical data were summarized using mean±standard deviation or median (min–max), and categorical data were presented as n (%). Normality was assessed using the Shapiro-Wilk test. For normally distributed data, t-tests and ANOVA were used; for non-normally distributed data, Wilcoxon and

TABLE 1. Demographic Characteristics of the Participants (n=216)

Demographic Characteristics	Value
Age (years)	
18-30	21.0±1.23
Gender	
Female	75 (34.72%)
Male	141 (65.28%)
Sibling existence	
Yes	210 (97.22%)
No	6 (2.78%)
Are the parents married or divorced?	
Divorced	14 (6.48%)
Married	202 (93.52%)
Monthly income of mother and father (minimum wage)	
1	63 (29.17%)
2-3	96 (44.44%)
4-6	27 (12.50%)
7-12	14 (6.48%)
13 and above	16 (7.41%)
Psychological treatment history	
Yes	14 (6.48%)
No	202 (93.52%)

Data are shown as mean±standard deviation or n (%).

Kruskal-Wallis tests were applied. For categorical variables, the chi-square test or Fisher's exact test (when cell counts were low) was used. In correlation analyses, Pearson was applied for normally distributed data, while Spearman and Kendall Tau were used for non-parametric data. Linear regression analyses were performed to model the relationships between variables, and logistic regression models were applied for binary categorical dependent variables.

RESULTS

The mean age of the 216 university students participating in the study was 21±1.23 years. Of these, 141 (65.28%) were male and 75 (34.72%) were female; 6 (2.78%) were only children, while 210 (97.22%) had siblings; 14 (6.48%) had parents who were living separately, and 202 (93.52%) had parents living together (Table 1). Detailed descriptive analysis of the numerical data is provided in Table 2.

Spearman correlation analysis showed a statistically significant positive correlation between the total SOSS score and the ALS-18 total score (r=0.504, P<0.001), ALS-18 Depression Elevation (r=0.393, P<0.05), PHQ-9 total score (r=0.513, P<0.001), and GAD-7 total score (r=0.433, P<0.001). Furthermore, a significant positive correlation was found between the SOSS Insight subscale and GAD-7 (r=0.342, P<0.001).

The Wilcoxon test showed that there were no significant differences in SOSS Total Score between the female and male groups (W = 5650.5, P=0.407), between the only child and having a sibling (W = 774, P=0.342), between the groups receiving psychological treatment and those not receiving psychological treatment (W=1316.5, P=0.668), and between the groups with divorced and married parents (W=1551, P=0.546) (Table 3).

The Wilcoxon test revealed no significant differences in GAD-7 total score (W=1560.5, P=0.518), PHQ-9 total score (W=1470.5, P=0.804), or ALS-18 total score (W=1601, P=0.409), and all subscales, between participants whose parents live together and those whose parents live separately.

The Wilcoxon test revealed a significant difference between groups with a sibling and those with a single child across all scales, except for the ALS-18 depression elevation subscale (W=310.5, P=0.034), and significantly higher affective variability in those with a sibling. However, the very small number of only child participants (n=6) necessitates a cautious and limited interpretation of this result (Table 3).

The Wilcoxon test showed significant differences between male and female participants in the ALS-18 total score (W=6151.5, P=0.048), ALS-18 Anxiety &

TABLE 2. Detailed Descriptive Analysis of Numerical Data (n=216)

Variables	Median (Min-Max	Mean±SD
GAD-7 Total points	8.0 (0-21)	8.98±5.12
PHQ-9 Total points	10.0 (0-27)	11.05±5.86
ALS-18 Anxiety/Depression	13.0 (5-21)	12.27±4.05
ALS-18 Depression/Elevation	21.0 (8-32)	20.57±5.88
ALS-18 Anger	11.0 (5-20)	11.37±3.91
ALS-18 Total points	46.0 (18-72)	44.21±12.26
Preoccupation factor	10.0 (0-26)	10.55±5.55
Loss of control factor	4.0 (0-12)	3.99±2.70
Craving factor	3.0 (0-9)	3.34±2.27
Insight factor	3.0 (0-9)	3.11±2.49
Overuse factor	1.0 (0-6)	1.51±1.52
SOSS Total points	21.5 (0-66)	23.48±13.73

GAD-7, Generalized Anxiety Disorder-7; PHQ-9, Patient Health Questionnaire-9; ALS-18, Affective Lability Scale-18; SOSS, Smartphone Overuse Screening Scale; Max, maximum; Min, minimum; SD, standard deviation

Depression subscale (W=6157, P=0.046), and ALS-18 Depression Elevation subscale (W=6481.5, P=0.006), with females exhibiting significantly higher affective lability. No significant gender differences were found in ALS-18 Anger, PHQ-9 total score, GAD-7 total score, or SOSS total and subscale scores (Table 3).

The Fisher's exact test showed a significant relationship between a history of psychological treatment and the presence of siblings (P=0.004). The Wilcoxon test also revealed a significant difference in the ALS-18 Anxiety & Depression subscale between participants with and without a history of psychological treatment (W=969, P=0.048), suggesting that those with a history of psychological treatment had significantly higher affective lability.

Regression analysis revealed that the model had an explanatory power of $R^2 = 0.353$ and Adjusted $R^2 = 0.234$. The overall model fit was significant, $F(9, 49) = 2.97$, P=0.0067. Assumption checks (linearity, normality, and multicollinearity) indicated no violations. In the linear regression analysis, only ALS-18 Anger was found to be statistically significant (P=0.008, β=0.449). As ALS-18 Anger scores increased, SOSS total scores also increased significantly (Table 4). The correlation heatmap is presented in Figure 1.

DISCUSSION

This study investigated the relationship between excessive smartphone use and psychological variables among university students. In the study, the presence of siblings and income level were also included in the model; however, these variables are not theoretically considered primary determinants of smartphone overuse. Therefore, they were evaluated solely to control for potential confounding effects. Our findings indicate that these demographic variables did not make a significant contribution to the model. Thus, it can be concluded that psychological factors (affective lability, depression, and anxiety) primarily emerge as the main

TABLE 3. Relationships Between Demographic Variables and Scale Scores

Demographic variables	Scale Scores	GAD-7 T	PHQ-9 T	ALS-18 A/D	ALS-18 D/E	ALS-18 Anger	ALS-18 T	SOSS T
		P-value[a]						
Gender	Female (n=141)	0.126	0.282	**0.046***	**0.006****	0.843	**0.048***	0.407
	Male (n=75)	—	—	—	—	—	—	—
Sibling existence	None (n=6)	0.783	0.968	0.588	**0.034***	0.469	0.235	0.342
	Present (n=210)	—	—	—	—	—	—	—
Family unity	Separated (n=14)	0.518	0.804	0.206	0.959	0.294	0.409	0.546
	Together (n=202)	—	—	—	—	—	—	—
Psychological treatment	None (n=202)	0.225	0.239	**0.048***	0.993	0.461	0.403	0.668
	Present (n=14)	—	—	—	—	—	—	—

GAD-7, Generalized Anxiety Disorder-7; PHQ-9, Patient Health Questionnaire-9; ALS-18, Affective Lability Scale-18; SOSS, Smartphone Overuse Screening Scale; T, total points, A/D, anxiety/depression; D/E, depression/elevation.

[a]Wilcoxon Test (Mann–Whitney U). Significance: *P<0.05; **P<0.01. Statistically significant P-values are shown in bold.

TABLE 4. SOSS Total Points Regression Analysis with All Relevant Data

Variable	B	Beta	t	P-value	95% Confidence Interval
Constant	-1.221	—	-0.051	0.959	(-49.117, 46.675)
ALS-18 Anxiety/Depression	-0.575	-0.103	-0.53	0.598	(-2.753, 1.604)
ALS-18 Depression/Elevation	0.185	0.051	0.277	0.783	(-1.160, 1.530)
ALS-18 Anger	**1.871**	**0.449**	**2.771**	**0.008**	**(0.514, 3.227)**
PHQ-9 Total points	-0.118	-0.024	-0.172	0.865	(-1.504, 1.267)
GAD-7 Total points	0.958	0.26	1.503	0.139	(-0.323, 2.239)
Sibling existence	9.135	0.072	0.43	0.669	(-33.524, 51.794)
Are the parents married or divorced?	-5.73	-0.088	-0.64	0.525	(-23.731, 12.272)
Monthly Income of mother and father	-1.766	-0.13	-1.028	0.309	(-5.217, 1.686)
Psychological treatment history	-4.536	-0.084	-0.635	0.528	(-18.882, 9.809)

GAD-7, Generalized Anxiety Disorder-7; PHQ-9, Patient Health Questionnaire-9; ALS-18, Affective Lability Scale-18; SOSS, Smartphone Overuse Screening Scale

R^2: 0.353, Adjusted R Square: 0.234, F(9.49)=2.97, P=0.0067. Statistically significant P-value is shown in bold.

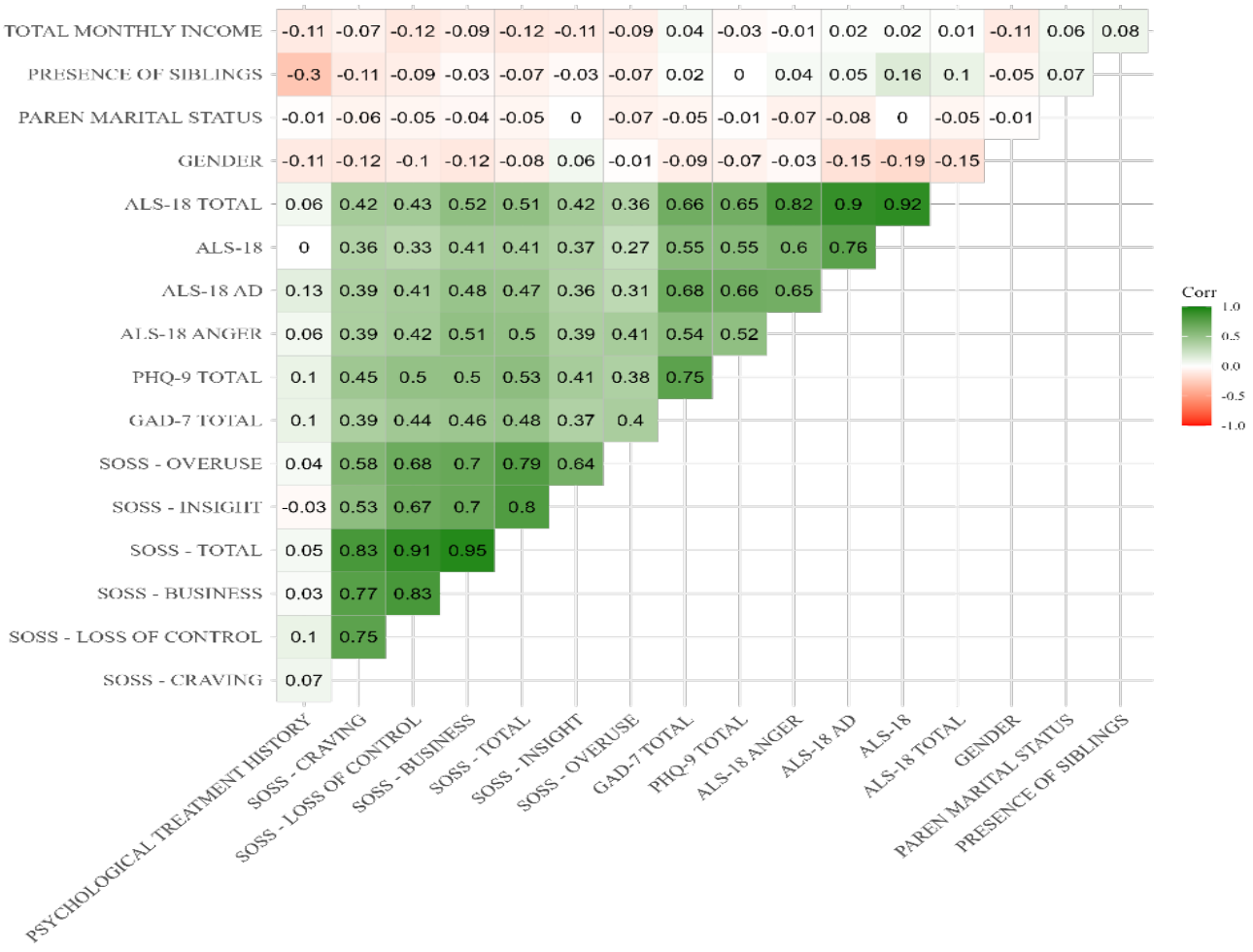

FIGURE 1. Correlation heatmap.

predictors of smartphone overuse. The findings indicate a statistically significant positive correlation between smartphone overuse and anxiety, depression, and affective lability. These results are consistent with previous research and support the notion that smartphone overuse may have adverse effects on individuals' psychological health [24]. Additionally, our findings are consistent with studies demonstrating that emotion regulation difficulties significantly predict smartphone overuse [25]. In the present study, the Wilcoxon test showed no significant difference between smartphone overuse and variables such as gender, only-child status, or history of psychological treatment. This result suggests that gender differences reported in some previous studies were not observed in this sample [3, 26]. Nevertheless, given that female participants exhibited higher affective lability scores on the ALS-18 subscales, this result warrants cautious interpretation. The fact that female participants had higher depression and anxiety scores is consistent with similar findings in the literature [27, 28]. These findings indicate that SOSS scores are primarily associated with psychological and behavioral characteristics of individuals, while showing no direct link to factors such as family structure.

Moreover, participants with siblings had significantly higher scores in the ALS-18 Depression Elevation subscale. Additionally, individuals with a history of psychological treatment scored significantly higher in the ALS-18 Anxiety & Depression subscale, suggesting that individuals requiring psychological support may be more vulnerable in terms of affective lability.

The results of the regression analysis revealed that among the independent variables, only the ALS-18 Anger subscale had a statistically significant effect on smartphone overuse. As the level of anger increased, smartphone overuse also increased. This finding suggests that individuals who struggle with anger regulation may be more prone to developing digital addictions. The relationship between anger and impulsivity is also a topic emphasized in the literature [29]. Therefore, intervention programs targeting smartphone overuse should focus on improving emotional regulation strategies.

Strengths and Limitations

Although this study provides valuable insights into the relationship between excessive smartphone use and psychological variables, several limitations should be noted. The use of convenience sampling and recruitment of participants via online voluntary enrollment limits the representativeness and generalizability of the findings. The cross-sectional design of the study precludes causal inferences between variables; longitudinal studies are needed to provide stronger evidence regarding the causal direction of these relationships. Furthermore, the sample consisted solely of university students, and the number of only-child participants was very small (n=6), necessitating cautious interpretation of the results. Finally, the influence of cultural and socioeconomic factors on excessive smartphone use warrants more detailed investigation.

CONCLUSION

This study demonstrates that excessive smartphone use is closely associated with individuals' psychological well-being, whereas no direct relationship was observed with factors such as family structure. The findings provide practical implications for understanding university students' digital habits in the context of mental health. For educators, monitoring students' smartphone use and identifying those at risk of overuse can facilitate the implementation of digital literacy and time management training. Such interventions may support students' academic performance and psychological well-being. For clinicians, including psychologists and counselors, interventions can be developed to manage mood variability in students, along with individual or group therapies aimed at reducing symptoms of depression and anxiety. From a university policy perspective, integrating campus digital usage policies with mental health programs can promote preventive strategies that enhance students' psychological well-being. This holistic approach may help mitigate the negative effects of excessive digital use and improve overall quality of life. Overall, these findings offer concrete recommendations for both academic and clinical practice, highlighting the importance of interventions that address university students' digital habits and mental health in an integrated manner.

Ethics Approval and Consent to Participate

This study was approved by the Alanya Alaaddin

Keykubat University Faculty of Medicine Clinical Research Ethics Committee (Decision No: ALKÜ-KAEK-2024/20-07; date: 11.09.2024). All procedures were conducted in accordance with the ethical standards of the institutional and national research committee and with the 1964 Helsinki Declaration and its later amendments. Written informed consent was obtained from all individual participants included in the study.

Data Availability

All data generated or analyzed during this study are included in this published article. The data that support the findings of this study are available on request from the corresponding author, upon reasonable request.

Authors' Contribution

Study Conception: VD, GKS; Study Design: VD, GKS; Supervision: VD; Funding: VD, GKS; Materials: VD; Data Collection and/or Processing: VD, GKS; Statistical Analysis and/or Data Interpretation: VD; Literature Review: VD, GKS; Manuscript Preparation: VD; and Critical Review: VD.

Conflict of Interest

The author(s) disclosed no conflict of interest during the preparation or publication of this manuscript.

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Generative Artificial Intelligence Statement

The all content of the study was produced by the author(s) in accordance with scientific research methods and academic ethical principles. During the preparation of this work, the authors used ChatGPT to improve language and readability. After using this tool/service, the authors reviewed and edited the content as needed and take full responsibility for the content of the publication.

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REFERENCES

1. Dula A, Güler Ş. Akıllı Telefon Bağımlılığı Üzerinde Dijital Sosyal Baskının Rolünü Keşfetmek [Exploring the Role of Digital Social Pressure on Smartphone Addiction]. Cyprus Turkish Journal of Psychiatry & Psychology. 2022;4(4):306-314. doi: 10.35365/ctjpp.22.4.01. [Article in Turkish]
2. American Psychiatric Association. Diagnostic and statistical manual of mental disorders: DSM-5. 5th ed. Washington. DC: APA; 2013.
3. Kwon M, Kim DJ, Cho H, Yang S. The smartphone addiction scale: development and validation of a short version for adolescents. PLoS One. 2013;8(12):e83558. doi: 10.1371/journal.pone.0083558.
4. Tam PG. Problematic internet use in youth: An outline and overview for health professionals. Australian Clinical Psychologist. 2017;2(1):1-14.
5. Shi X, Wang A, Zhu Y. Longitudinal associations among smartphone addiction, loneliness, and depressive symptoms in college students: Disentangling between- And within-person associations. Addict Behav. 2023;142:107676. doi: 10.1016/j.addbeh.2023.107676.
6. Alhassan AA, Alqadhib EM, Taha NW, Alahmari RA, Salam M, Almutairi AF. The relationship between addiction to smartphone usage and depression among adults: a cross sectional study. BMC Psychiatry. 2018;18(1):148. doi: 10.1186/s12888-018-1745-4.
7. Ithnain N, Ghazali SE, Jaafar N. Relationship between smartphone addiction with anxiety and depression among undergraduate students in Malaysia. Int J Health Sci Res. 2018;8(1):163-171.
8. Kim SG, Park J, Kim HT, Pan Z, Lee Y, McIntyre RS. The relationship between smartphone addiction and symptoms of depression, anxiety, and attention-deficit/hyperactivity in South Korean adolescents. Ann Gen Psychiatry. 2019;18:1. doi: 10.1186/s12991-019-0224-8.
9. Matar Boumosleh J, Jaalouk D. Depression, anxiety, and smartphone addiction in university students- A cross sectional study. PLoS One. 2017;12(8):e0182239. doi: 10.1371/journal.pone.0182239.
10. Alavi SS, Ghanizadeh M, Farahani M, Jannatifard F, Esmaili Alamuti S, Mohammadi MR. Addictive Use of Smartphones and Mental Disorders in University Students. Iran J Psychiatry. 2020;15(2):96-104.
11. Svaldi J, Griepenstroh J, Tuschen-Caffier B, Ehring T. Emotion regulation deficits in eating disorders: a marker of eating pathology or general psychopathology? Psychiatry Res. 2012;197(1-2):103-11. doi: 10.1016/j.psychres.2011.11.009.
12. Thompson RJ, Berenbaum H, Bredemeier K. Cross-sectional and longitudinal relations between affective instability and depression. J Affect Disord. 2011;130(1-2):53-59. doi: 10.1016/j.jad.2010.09.021.

13. Benazzi F, Akiskal HS. A downscaled practical measure of mood lability as a screening tool for bipolar II. J Affect Disord. 2005;84(2-3):225-232. doi: 10.1016/j.jad.2003.09.010.
14. Aminoff SR, Jensen J, Lagerberg TV, et al. An association between affective lability and executive functioning in bipolar disorder. Psychiatry Res. 2012;198(1):58-61. doi: 10.1016/j.psychres.2011.12.044.
15. Reich DB, Zanarini MC, Fitzmaurice G. Affective lability in bipolar disorder and borderline personality disorder. Compr Psychiatry. 2012;53(3):230-237. doi: 10.1016/j.comppsych.2011.04.003.
16. R Core Team. R: A language and environment for statistical computing (Version 4.4.2) [Computer software]. R Foundation for Statistical Computing, Vienna, Austria. 2024. https://www.R-project.org/
17. Oliver MNI, Simons JS. The affective lability scales: Development of a short-form measure. Pers Individ Dif. 2004;37(6):1279-1288. doi: 10.1016/j.paid.2003.12.013.
18. Doğan V, Şenormanci Ö. Validity and Reliability of the Affective Lability Scale-18 (ALS-18) Turkish Form in the Non-Clinical Group. Turk Psikiyatri Derg. 2025;36:18. doi: 10.5080/u27329.
19. Sarı YE, Kokoglu B, Balcioglu H, Bilge U, Çolak E, Ünlüoğlu İ. Turkish reliability of the patient health questionnaire-9. Biomedical Research. 2016(Special Issue):S460-S462.
20. Rossi R, Socci V, Pacitti F, et al. Mental Health Outcomes Among Frontline and Second-Line Health Care Workers During the Coronavirus Disease 2019 (COVID-19) Pandemic in Italy. JAMA Netw Open. 2020;3(5):e2010185. doi: 10.1001/jamanetworkopen.2020.10185.
21. Spitzer RL, Kroenke K, Williams JB, Löwe B. A brief measure for assessing generalized anxiety disorder: the GAD-7. Arch Intern Med. 2006;166(10):1092-1097. doi: 10.1001/archinte.166.10.1092.
22. Konkan R, Senormancı Ö, Güçlü O, Aydın E, Sungur M.Z. Generalized Anxiety Disorder-7 (GAD-7) Turkish version validity and reliability. Noropsikiyatri Ars. 2013;50(1):53-58. doi: 10.4274/npa.y6308.
23. Kuru T, Uymaz P, Cömertoğlu S, Çelenk S. Turkish Validity and Reliability of the Smartphone Overuse Screening Questionnaire. Addicta: The Turkish Journal on Addictions. 2022;9(3):320-327. doi: 10.5152/ADDICTA.2022.22053.
24. Elhai JD, Levine JC, Alghraibeh AM, Alafnan AA, Aldraiweesh AA, Hall BJ. Fear of missing out: Testing relationships with negative affectivity, online social engagement, and problematic smartphone use. Comput Human Behav. 2018;89:289-298. doi: 10.1016/j.chb.2018.08.020.
25. Sevi Tok ES, Güzel HŞ. Akıllı telefon bağımlılığı, bağlanma ve duygu düzenlemenin ilişkisi: Mizaç ve karakter özelliklerinin aracı rolü [The relationship between smartphone addiction, attachment, and emotion regulation]. Klinik Psikoloji Dergisi. 2020;4(1):48-62. doi: 10.5455/kpd.26024438m000020. [Article in Turkish]
26. Aktan AK, Kutlay Ö. Tıp Fakültesi Öğrencilerinde Akıllı Telefon Bağımlılığı, Depresyon Ve Anksiyete Arasındaki İlişki [The Relationship Between Smartphone Addiction, Depression, And Anxiety in Faculty of Medicine Students]. Acıbadem Univ. Sağlık Bilim. Derg. 2021; 12(2): 176-182. doi: 10.31067/acusaglik.852109. [Article in Turkish]
27. Aliyev V. Effects of Pharmacotherapy on Cognitive Functions in Major Depressive Disorder. [Medical Thesis]. Ankara Universitesi, Türkiye. 2020.
28. Antep Z, Kocadağ ZA, Sur H. Evaluation of Depression, Anxiety and Stress Levels of Healthcare Workers During the Covid-19 Pandemic in Turkey. Nobel Med. 2023;19(3):166-173.
29. Ramírez JM, Andreu JM. Aggression, and some related psychological constructs (anger, hostility, and impulsivity); some comments from a research project. Neurosci Biobehav Rev. 2006;30(3):276-291. doi: 10.1016/j.neubiorev.2005.04.015.