Received Date: 17 June 2025 I Accepted Date: 31 July 2025

RESEARCH ARTICLE

OPUS Journal of Society Research

From Belongingness to Phubbing Behavior among Adults: The Serial Multiple Mediational Role of Leisure Boredom and Smartphone Use

Müge Akbağ[1], Fuat Aydoğdu[2], Banu Sayıner[3]

[1] Assoc. Prof. Dr. Marmara University, Faculty of Atatürk Education, Department of Guidance and Psychological Counseling, Istanbul/Türkiye
ORCID: 0000-0003-0507-9072
E-Mail: makbag@marmara.edu.tr

[2] PhD. Candidate, Ministry of National Education, Osmangazi Science and Art Center, Bursa/Türkiye
ORCID: 0000-0002-5986-5645
E-Mail: pskdanfuat@gmail.com

[3] PhD., independent researcher Istanbul/Türkiye
ORCID: 0000-0002-4842-0712
E-Mail: banusayiner@gmail.com

Corresponding Author: Müge Akbağ

July 2025
Volume:22
Issue:4
DOI: 10.26466/opusjsr.1709529

Citation: Akbağ, M., Aydoğdu, F. & Sayıner, B. (2025). From belongingness to phubbing behavior among adults: The serial multiple mediational role of leisure boredom and smartphone use. *OPUS– Journal of Society Research, 22*(4), 779-797.

Abstract

Although smartphones can make life easier, their excessive and uncontrolled use can lead to negative behavioural patterns. One such pattern is 'phubbing'. It is important to identify the antecedents of phubbing in order to develop effective preventive interventions. This study examined the serial multiple mediating effects of leisure boredom and smartphone use on the relationship between general belongingness and phubbing among adults. A correlational survey design was employed to collect data from 305 adults aged 18–60 years using the Personal Information Form, the General Phubbing Scale, the General Belongingness Scale, and the Leisure Boredom Scale. The proposed serial multiple mediation model was tested using a regression-based bootstrapping technique via Hayes' PROCESS Macro (model 6). The findings revealed that leisure boredom and smartphone use significantly mediated the link between general belongingness and phubbing. As general belongingness decreased, leisure boredom increased, which in turn, led to greater smartphone use and subsequently higher levels of phubbing behaviour in adult sample. Contributions to future research and implications for potential interventions to reduce phubbing were discussed, along with suggestions for researchers and practitioners.

Keywords: *Phubbing, general belongingness, leisure boredom, smartphone use, adults*

Öz

Akıllı telefonlar yaşamı kolaylaştırmalarına rağmen aşırı ve kontrolsüz kullanım sonucu olumsuz davranış kalıplarına neden olabilmektedir. Bu davranış kalıplarından biri de sosyotelizmdir. Sosyotelizmin öncüllerinin belirlenmesi önleyici müdahaleler açısından önem taşımaktadır. Bu araştırmanın amacı, yetişkinlerde genel aidiyet duygusunun sosyotelizm ile ilişkisinde boş zaman can sıkıntısı ve akıllı telefon kullanımının sıralı çoklu aracılık rolünü sınamaktır. İlişkisel tarama modelinde yürütülen araştırmanın örneklemi 18-60 yaş arası 305 yetişkinden oluşmaktadır. Veriler Kişisel Bilgi Formu, Genel Sosyotelizm Ölçeği, Genel Aidiyet Ölçeği ve Boş Zaman Can Sıkıntısı Ölçeği kullanılarak toplanmıştır. Önerilen sıralı çoklu aracılık modeli Hayes'in PROCESS Macro programı (model 6) aracılığıyla regresyon temelli bootstrapping tekniği ile sınanmıştır. Bulgular, boş zaman can sıkıntısı ve akıllı telefon kullanımının genel aidiyet duygusu ve sosyotelizm arasındaki ilişkide sıralı çoklu aracılık rolünün olduğunu göstermektedir. Bu bulgu, yetişkinlerde genel aidiyet duygusu azaldıkça boş zaman can sıkıntısının arttığını, bunun da akıllı telefon kullanımına daha fazla odaklanmaya yol açarak sosyotelizm davranışını artırdığını göstermektedir. Araştırmadan elde edilen bulgular ileride yapılacak araştırmalara katkısı ve sosyotelizmin azaltılmasına yönelik müdahalelere ilişkin doğurguları açısından değerlendirilerek araştırmacılara ve uygulamacılara yönelik bazı öneriler getirilmiştir.

Anahtar Kelimeler: *Sosyotelizm, genel aidiyet duygusu, boş zaman can sıkıntısı, akıllı telefon kullanımı, yetişkinler*

Introduction

Technological advancements have rapidly transformed communication tools, making smartphones an indispensable part of daily life. According to Dataportal's February 2025 report, 87% of the 5.78 billion mobile users worldwide own a smartphone, and this number is projected to reach 6.38 billion by 2029. The average daily use is 4 hours 37 minutes globally, with Turkey ranking 18th at 4 hours 7 minutes (Kepios, 2025). Statista reports that smartphones are most commonly used for gaming (94%), social media (92%), and entertainment (83%), particularly among individuals aged 18 to 49 (Kumar, 2025). These statistics highlight the widespread nature of smartphone usage in Turkey and around the world. However, excessive and unconscious smartphone use can lead to psychological and social problems, including addiction and problematic behaviors (Bulut & Nazir, 2020; Larsen et al., 2023). One of the most notable behaviours in this context is *'phubbing'*.

Phubbing is defined as the act of focusing attention on a smartphone during face-to-face interaction, thereby ignoring the other person and interrupting the communication process (Chotpitayasunondh & Douglas, 2016; Karadağ et al., 2015). This behavioral pattern is thought to involve addiction to smartphones, the internet, social media, and games, as well as the problematic use of these technologies (Karadağ et al., 2015; Yam & İlhan, 2020). Individuals who display phubbing behavior (phubbers) are often preoccupied with social media, games, or similar applications, neglecting the person they are interacting with. In contrast, those exposed to this behavior (phubbees) frequently experience feelings of exclusion (Karadağ et al., 2016; Roberts & David, 2016; Yam & İlhan, 2020). Phubbing is recognized as a widespread social issue that harms interpersonal communication and negatively impacts psychological well-being (Çizmeci, 2017; Chotpitayasunondh & Douglas, 2018b; David & Roberts, 2021a; Mir, 2020; Karadağ et al., 2015). Research shows that phubbing is a risk factor for psychological problems such as depression, anxiety, and stress (Ergün et al., 2019; Nagarajappa et al., 2020; Parmaksız, 2021) and is more prevalent among individuals who are introverted, lonely, or dependent on technology (Bakır & Dilmaç, 2023). In addition, social isolation (Błachnio & Przepiorka, 2019; Chotpitayasunondh & Douglas, 2018a; David & Roberts, 2021b) and feelings of loneliness (Aydoğdu & Çevik, 2020; David & Roberts, 2017) are frequently reported psychological consequences of phubbing.

Understanding the antecedents of phubbing is as important as its consequences. Literature identifies smartphone and internet addiction (Davey et al., 2018; Błachnio et al., 2016), frequent social media use (Balta et al., 2020; Guazzini et al., 2021), and loneliness (Ivanova et al., 2020) as meaningful predictors of phubbing. Furthermore, unmet basic psychosocial needs (e.g. Butt & Arshad, 2021; Karaman & Arslan, 2024; Shen et al., 2024) have also been considered as contributing factors to phubbing. Belonging is one such basic psychosocial need. Depending on the context (e.g. romantic relationships, family or the work environment), phubbing can undermine this sense of belonging leading to decreased relationship satisfaction (Chotpitayasunondh & Douglas, 2018b; Roberts & David, 2016), increased problematic internet use (Geng et al., 2021) and diminished employees' sense of work meaningfulness (Khan et al., 2022). Conversely, a weak sense of belonging may trigger phubbing (Chotpitayasunondh & Douglas, 2016). Nevertheless, a review of the literature reveals that the influence of belonging on phubbing has not been sufficiently or thoroughly explored. Research mostly focuses on victims of phubbing (e.g., Chotpitayasunondh & Douglas, 2018a; Geng et al., 2021), with fewer studies on how general belonging affects phubbing behavior (Butt & Arshard, 2021; Karaman & Arslan, 2024; Chotpitayasunondh & Douglas, 2016). Given the increasing prevalence of phubbing and its addictive nature, understanding its antecedents is vital for the development of effective prevention and intervention strategies. Therefore, the present study examines the relationship between general belonging and phubbing, including potential mediators.

A sense of belonging is defined as the need to feel connected to and accepted by a group or individual, and to experience meaningful and lasting relationships in which one feels valued (Allen et

al., 2016; Baumeister & Leary, 1995). Baumeister and Leary's (1995) *'belongingness theory'* propose that people are innately and strongly motivated to form and maintain positive, enduring relationships with others. Developing a sense of belonging requires the establishment of satisfying, meaningful and stable social bonds. According to *'belongingness theory'*, individuals who are unable to satisfy their need for belonging seek alternative ways to fulfill this need (Baumeister & Leary, 1995), which may lead to an increased inclination toward digital communication tools (David & Roberts, 2017; Roberts & David, 2020; Özteke Kozan et al., 2019; Malone et al., 2012). Those who struggle to form real social connections may use their phones in uncomfortable social settings, which can potentially trigger phubbing (Chotpitayasunondh & Douglas, 2016; David & Roberts, 2021b). Moreover, exposure to phubbing can increase the likelihood of engaging in it due to unmet belonging needs (Chotpitayasunondh & Douglas, 2016; David & Roberts, 2017). On the other hand, a review of the literature suggests that the link between belonging and phubbing —as well as variables related to phubbing, such as excessive social media use and problematic internet use—is often indirect, shaped by mediating variables (Przybylski et al., 2013; Alt & Boniel-Missiou, 2018, Roberts & David, 2017; Elhai et al., 2016). Boredom is one such potential mediator.

Boredom proneness is defined as "*an aversive emotional state that arises when an individual is unable to successfully focus attention on the internal and external stimuli required to engage in a satisfying activity, becomes aware of this inability, and attributes the negative experience to the environment*" (Eastwood et al., 2012, p. 482). To escape this negative feeling, individuals may turn to various activities (Van Tilburg et al., 2012), particularly smartphone use (Tam & Inzlicht, 2024; Wang et al., 2022; Zhang et al., 2022), which in turn, may trigger phubbing. Indeed, previous research has identified boredom proneness as a strong predictor of phubbing (Al-Saggaf, 2021; Al-Saggaf et al., 2019; Duradoni, 2023; Gao et al., 2023; Tam & Inzlicht, 2024; Gupta & Nagar, 2024). However, Al-Saggaf and colleagues (2019) emphasized that most existing studies have focused on trait boredom, while context-specific forms such as leisure boredom have not yet been adequately explored in relation to phubbing behavior. Therefore, the present study focuses on leisure boredom**.**

Leisure time is defined as the period in which individuals engage in activities of their own choosing, outside of work and obligatory responsibilities (Iso-Ahola & Baumeister, 2023). Leisure activities support subjective well-being, enhance resilience to stress, contribute to personal growth and transformation, and enabling individuals to build social support networks, most importantly, establish social bonds with others (Fancourt et al., 2021; Kara et al., 2018). Leisure boredom, on the other hand, occurs when activities are insufficient, repetitive, and unfulfilling or unmeaningful, resulting from a mismatch between expectations and actual activities (Iso-Ahola & Weissinger, 1990; Caldwell et al., 1999). According to *'optimal arousal theory'*, a lack of adequate mental or emotional stimulation during leisure time—i.e., under-stimulation—is also considered one of the main causes of leisure boredom (Iso-Ahola, 1980). '*The structure activity deficit theory'*, developed by Iso-Ahola and Weissinger (1990), suggests that a lack of planning and structuring skills regarding how to spend leisure time may also lead to leisure boredom. Due to the aforementioned reasons highlighted in the literature, individuals often turn to easily accessible smartphones to escape or alleviate the distress and discomfort caused by such boredom (Kil et al., 2021; Allaby & Shannon, 2020; Lepp et.al., 2025). We Are Social's Turkey report show that 50% of people aged 16–64 use the internet during leisure time, mostly via smartphones (We Are Social, 2024), and boredom is a common reason for social media use (Duarte, 2025). Empirical studies have shown that leisure boredom is linked to excessive smartphone use, internet, mobile phone, and social media addictions (Kil et al., 2021; Kara & Gürbüz, 2022; Wang et al., 2020; Huang, 2014). Given these addictions' strong relation to phubbing (e.g., Alhazmi et al., 2018; Al-Saggaf & O'Donnell, 2019; Davey et al., 2018; Guazzini et al., 2021; Karadağ et al., 201), it can be expected that individuals who experience high levels of leisure boredom are more likely to engage in phubbing.

On the other hand, the **'***leisure motivation theory'* emphasizes that individuals' motivation to find

satisfying leisure activities is associated with their ability to meet certain basic psychological needs (Iso-Ahola, 1980) like the sense of belonging, which develops through meaningful social engagement (Mahar et al., 2013). A weakend sense of belonging may cause individuals to distance themselves from meaningful social activities and perceive their leisure time as more tedious (Marshall et al., 2019). Considering that leisure boredom generally arises in situations where there are no opportunities to engage in meaningful activities (Iso-Ahola & Weissinger, 1990), a low sense of belonging may trigger boredom by reducing motivation to spend leisure time meaningfully. As previously noted, the motivation to escape this negative emotional state may lead individuals to turn to short-term gratifications via smartphones, triggering phubbing as an escape or coping strategy (Jiang & Li, 2018; Chotpitayasunondh & Douglas, 2018b). In this context, leisure boredom may serve as a bridge in the relationship between low sense of belonging and increased smartphone use.

Boredom is more common in adolescence and can lead to risky behaviors like addiction (Biolcati et al., 2018; Wegner, 2011; Weybright, 2015). Therefore, the majority of studies in the relevant literature focus primarily on adolescent populations. However, leisure boredom also occurs in different age groups including young, middle, and older adulthood (An et al., 2023). It has been associated with increased digital media use, internet addiction and time spent in virtual social environments in these groups (Al-Saggaf et al., 2019; Tam & Inzlicht, 2024). Given that leisure boredom can affect various life stages, this study included a broader age range beyond young adulthood.

Research shows that smartphone addiction and problematic smartphone use are strong predictors of phubbing (Al-Saggaf & O'Donnell, 2019; Karadağ et al., 2015; Balta et al., 2020), and that increased smartphone usage time triggers this behavior (Alhazmi et al., 2018; Bulut & Nazir, 2020; Karadağ et al., 2015; Verma et al., 2019). Moreover, internet and social media addiction also increase phubbing through excessive or addictive phone use (Davey et al., 2018; Guazzini et al., 2021; Karadağ et al., 2015). Based on the findings of existing studies, it can be assumed that increased smartphone use fuels phubbing behaviour. There are also studies in the literature indicating significant relationships between the sense of belonging and duration of smartphone usage as well as problematic smartphone use. These studies indicated that low social satisfaction directs individuals towards digital environments (Elhai et al., 2017), and that individuals who experience a lack of belonging attempt to fill the void created by this deprivation in virtual social environments, as they lack lasting social bonds (Zhan et al., 2022). Easy access to virtual social environments and the use of smartphones for entertainment and social interaction may lead individuals to engage in phubbing during face-to-face communication (Chotpitayasunondh & Douglas, 2018b). Therefore, in this study, smartphone use was examined as a second mediator in the relationship between belonging and phubbing.

Aim of the Present Study

This study addresses the gap in the literature, which has mostly focused on those exposed to phubbing rather than on why people engage in it. It assumes that a lower sense of belonging may increase phubbing tendencies. No prior research has explored the indirect link between belonging and phubbing via leisure boredom and smartphone use. Identifying these mediators that help explain the mechanism underlying the relationship between sense of belonging and phubbing may offer important contributions to the protective, preventive, and therapeutic interventions to mitigate phubbing. Thus, the current study aims to examine the serial multiple mediating role of leisure boredom and smartphone use in the relationship between general sense of belonging and phubbing among adults. The following hypotheses were developed on the basis of theoretical explanations and empirical findings in the literature.

Hypothesis 1: General belongingness is negatively associated with phubbing in adults.

Hypothesis 2: Leisure boredom plays a mediating role between general belongingness and phubbing in adults.

Hypothesis 3: Smartphone usage duration plays a mediating role between general belongingness and phubbing in adults.

Hypothesis 4: Leisure boredom and duration of smartphone usage play a serial mediating role between general belongingness and phubbing in adults.

Research Model

This cross-sectional study employed a correlational survey model, one of the quantitative research methods. While not establishing causality, this design enables prediction between variables (Karasar, 2000). The present study explored the relationships among phubbing, general belongingness, leisure boredom, and duration of smartphone use via a **serial multiple mediation model**. In this model, a predictor (X) affects an outcome (Y) through two sequential mediators (M1 and M2), enabling both direct and indirect effect analyses (Hayes, 2022).

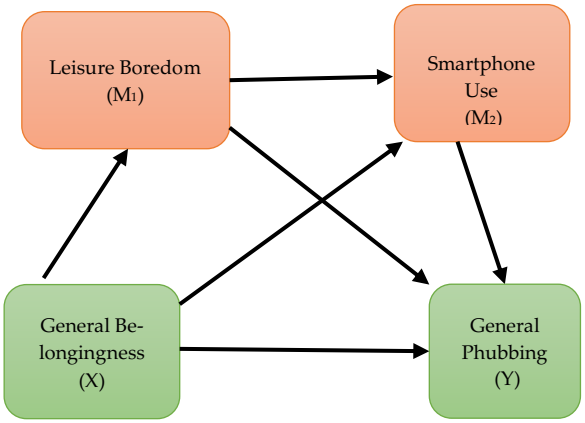

Figure 1. *The proposed serial multiple mediation model*

Based on prior research and theoretical background, the proposed model includes general belongingness as the main predictor (X), leisure boredom (M_1) and duration of smartphone use (M_2) as potential mediators, and phubbing (Y) as the outcome variable (see Figure 1). In conclusion, the study examines whether belongingness indirectly influences phubbing through these mediators.

Population and Sample

The study targeted adults aged 18 and over residing in Turkey who use smartphones. Due to difficulty of reaching diverse age groups, convenience sampling, a non-probability method, was used based on participants' availability and willingness (Creswell, 2017). The sample size was determined via *power analysis* method, which helps identify the minimum sample size required to achieve accurate results and minimize Type I and Type II errors (Faul et al., 2009; Kang, 2021). The minimum sample size for mediation analysis was estimated using G*Power 3.1.9.7 software (Faul et al., 2007) and Daniel Soper's online calculator (Soper, 2025), both are widely used in the literature.

Table 1. Demographics of the participants (N= 305)

Variable	Category	f	%
Gender	Male	97	31.8
	Female	208	68.2
Age	18-25	111	36.4
	26-45	49	16.1
	46 +	145	47.5
Education level	Primary education	18	5.9
	High School	44	14.4
	Undergraduate	189	62.0
	Graduate	54	17.7
Purpose of Smartphone Use	*Entertainment and Leisure Activities*	245	80.3
	Playing games	11	3.6
	Listening to music	11	3.6
	Watching movies, series, sports, etc.	33	10.8
	Following social media	190	62.3
	Activities Other Than Entertainment and Leisure	60	19.7
	Sending text messages	11	3.6
	Shopping and banking	9	3.0
	Studying and work-related use	4	1.3
	Researching a topic of interest	13	4.3
	Following news and current events	23	7.5
Duration of Daily Smartphone Use /Hour	Min.= 1, Max.= 20	M= 4.36	SD=2.29

Assuming a medium effect size ($f^2 = 0.15$), a target statistical power of 0.95, six predictor variables (including covariates such as age, gender and education level), and a significance level of $\alpha = 0.05$, these software programs recommended sample sizes of 146 and 151, respectively. Considering that the minimum number of participants recommended by both software programs was similar,

the inclusion of 318 participants was deemed sufficient to meet the requirements of serial multiple mediation analysis. After data collection, a total of 13 incomplete and outlier responses were excluded from the data set. The final sample comprised 305 participants aged 18–60. Demographic details are shown in Table 1.

Of the participants, 68.2% were female and 31.8% were male. Most were aged 26–45 (47.5%) and held an undergraduate degree (62.0%). Beyond communication, the primary use of smartphones was for social media (62.3%), while work- or study-related use was the least common (1.3%). Participants predominantly prefered to use their smartphones for entertainment and leisure activities (80.3%). Daily smartphone use ranged from 1 to 20 hours, averaging 4.36 hours (SD = 2.29).

Measures

Personal Information Form (PIF): This form was developed by the researchers to collect information from participants about their demographic characteristics. These characteristics include gender, age, level of education, the approximate duration of daily smartphone use (in hours) and the primary purpose of smartphone use.

Generic Scale of Phubbing (GSP): The Generic Scale of Phubbing (GSP), developed by Chotpitayasunondh and Douglas (2018a), has 15 items in four subdimensions—*nomophobia, interpersonal conflict, self-isolation, and problem acknowledgement*—rated on a 7-point Likert scale, with higher scores indicating more phubbing. The Turkish adaptation by Orhan-Göksun (2019) confirmed the four-factor structure (χ^2/df = 1.99, RMSEA = 0.07, SRMR = 0.06, NFI = 0.92, CFI = 0.96, GFI = 0.89) and showed high reliability (overall scale α = .93; subdimensions α = .73–.88). In this study, CFA indicated good fit (χ^2/df = 2.47, GFI = 0.96, CFI = 0.96, NFI = 0.95, TLI = 0.95, IFI = 0.97, RMSEA = 0.07, SRMR = 0.05), with high reliability for the overall scale (α = 0.93, ω = 0.93) and acceptable to excellent for subdimensions (α = 0.76–0.92, ω = 0.78–0.92).

Leisure Boredom Scale (LBS): The original 16-item LBS by Iso-Ahola and Weissinger (1990), rated on a 5-point Likert scale, was adapted to Turkish by Soylu and Siyez (2014). Higher scores indicate greater leisure boredom. The scale has two subdimensions: *competence*, assessing the ability to organize and manage leisure time (higher scores = lower competence), and *motivation,* assessing productive use of leisure time (higher scores = lower motivation). During adaptation, one item was removed for cross-loading and three for low factor loadings (<0.30), yielding a 12-item, two-factor structure confirmed by CFA. Reliability was α = 0.85 (competence), α = 0.70 (motivation), and α = 0.84 (overall). In this study, CFA showed acceptable fit (χ^2/df = 2.75, GFI = 0.93, CFI = 0.93, NFI = 0.90, TLI = 0.91, IFI = 0.93, RMSEA = 0.076, SRMR = 0.05). Reliability was α = 0.91, ω = 0.91 for overall scale, α = 0.87, ω = 0.87 for competence subdimension, and α = 0.67, ω = 0.68 for motivation subdimension.

General Belongingness Scale (GBS): The GBS, developed by Malone et al. (2012) and adapted to Turkish by Duru (2015), is a 12-item scale rated on a 7-point Likert scale with two subdimensions: *acceptance/inclusion* and *rejection/exclusion*. Rejection/exclusion items are reverse-coded and combined with acceptance/inclusion items for a total score, with higher scores indicating stronger general belonging. CFA confirmed the two-factor structure. In the Turkish version, reliability was α = 0.92 (overall), α = 0.89 (acceptance/inclusion), and α = 0.91 (rejection/exclusion). In this study, CFA showed acceptable fit (χ^2/df = 2.75, GFI = 0.93, CFI = 0.96, NFI = 0.93, TLI = 0.94, IFI = 0.96, RMSEA = 0.076, SRMR = 0.05). Reliability for the current sample was α = 0.91, ω = 0.91 (overall); α = 0.88, ω = 0.89 (acceptance/inclusion); and α = 0.87, ω = 0.87 (rejection/exclusion).

Procedure

After determining the sample size and selecting the instruments for data collection, permission was obtained from the developers or adapters of the scales. The Ethics Committee of Educational Sciences at Istanbul Medeniyet University granted ethical approval (Decision: 17/05/2021, No:

2021/05-06). Data were collected online via Google Forms. Participants provided written informed consent after reviewing details on the study's purpose, confidentiality, voluntary participation, and potential publication use. The scale forms were completed by participants in approximately 20-25 minutes.

Data Analysis

The dataset's normality was first assessed. Univariate outliers, identified via z-scores exceeding ±3.29, led to the removal of 10 cases (Büyüköztürk, 2021). Multivariate outliers, detected using Mahalanobis distance at $p < 0.001$, resulted in 3 further exclusions (Hair et al., 2019; Stevens, 2009). Descriptive statistics (M, SD, skewness, kurtosis) were calculated, with skewness and kurtosis within ±1.5, indicating normal distribution (Tabachnick & Fidell, 2019; see Table 2). Autocorrelation of residuals, assessed via Durbin-Watson (1.79), fell within the acceptable range (1.5–2.5; Field, 2024). Multicollinearity checks showed VIF = 1.02–1.61, tolerance = 0.62–0.98, and correlations < 0.90 (see Table 2), meeting accepted thresholds (VIF < 10, tolerance > 0.20, correlations < 0.90) and suggesting no multicollinearity issues (Büyüköztürk, 2021).

The scales' compatibility with the dataset was tested using Confirmatory Factor Analysis (CFA), with model fit evaluated via Chi-square/Degrees of Freedom (χ^2/df), Comparative Fit Index (CFI), Goodness of Fit Index (GFI), Tucker–Lewis Index (TLI), Root Mean Square Error of Approximation (RMSEA), Standardized Root Mean Square Residual (SRMR), and Normed Fit Index (NFI). Acceptable fit criteria were $\chi^2/df \leq 3$ (Tabachnick & Fidell, 2019; Kline, 2016; Schermelleh-Engel et al., 2003), SRMR ≤ 0.10, RMSEA ≤ 0.08 (Browne & Cudeck, 1993; Kline, 2016), and CFI, GFI, TLI, IFI, NFI ≥ 0.90 (Hu & Bentler, 1999; Kline, 2016). Good fit criteria were $\chi^2/df \leq 2$, RMSEA and SRMR ≤ 0.05, and CFI, GFI, TLI, IFI, NFI ≥ 0.95. Reliability was assessed using Cronbach's α and McDonald's ω.

Pearson correlation was used to examine the relationships among variables. Gender, age, and education differences in phubbing were analyzed with t-tests (two groups) and ANOVA (more than two). Due to equal variances but unequal group sizes, Bonferroni post-hoc tests were applied in case of significant ANOVAs (Field, 2024; Tabachnick & Fidell, 2019). The hypothesized serial multiple mediation model was tested with Hayes' PROCESS Macro (Model 6), using 5000 bootstrap samples and 95% bias-corrected confidence intervals. This model assessed serial indirect effects through two mediators and specific indirect effects through each mediator separately. Mediation was considered significant when BootLLCI and BootULCI for indirect effects excluded zero (Hayes, 2022).

Table 2. Means, standart deviations, kurtosis and skewness values of study variables (N=305)

Variable	M	SD	Skewness	$SD_{skewness}$	Kurtosis	$SD_{kurtosis}$
Phubbing (Total)	3.21	1.14	0.54	0.14	-0.25	0.28
Nomophobia	4.51	1.32	-0.28	0.14	-0.59	0.28
Self-Isolation	2.67	1.40	0.73	0.14	-0.22	0.28
Interpersonal Conflict	2.32	1.28	1.00	0.14	0.20	0.28
Problem Acknowlegment	3.41	1.42	0.19	0.14	-0.84	0.28
Belongingness (Total)	5.74	0.97	-0.73	0.14	-0.28	0.28
Acceptance	5.68	1.04	-0.83	0.14	0.24	0.28
Rejection	2.20	1.11	0.87	0.14	-0.04	0.28
Leisure Boredom (Total)	2.32	0.76	0.21	0.14	-0.82	0.28
Competence	2.32	0.10	0.40	0.14	-0.72	0.28
Motivation	2.32	0.69	0.05	0.14	-0.73	0.28

The following paths were examined: (1) belongingness → phubbing (direct), (2) belongingness → leisure boredom → phubbing (ind1), (3) belongingness → smartphone use → phubbing (ind2), and (4) belongingness → leisure boredom → smartphone use → phubbing (ind3). Analyses used IBM SPSS 24.0 (descriptives, correlations, Cronbach α), Jamovi 2.3.26 (McDonald's ω),

AMOS 21.0 (CFA), and PROCESS Macro 4.0 (mediation), with significance at $p < 0.05$.

Findings

Preliminary analyses included bivariate correlations among variables and examinations of differences in phubbing by gender, age, and education. A serial multiple mediation analysis was then performed to test the direct and indirect effects of general belongingness on phubbing. Findings are reported below.

Bivarate correlations

To examine the relationships among phubbing, general belongingness, leisure boredom, and duration of smartphone use, a Pearson correlation analysis was conducted. Results are presented in Table 3.

Tablo 3. Bivariate correlations (N= 305)

	1	2	3	4
1. Phubbing	1			
2. General Belongingness	-0.38**	1		
3. Leisure Boredom	0.45**	-0.48**	1	
4. Duration of Smartphone Use	0.31**	-0.22**	0.30**	1

** *p<0.01*

As shown in Table 3, phubbing was negatively correlated with general belongingness ($r = –0.38$, $p < .01$; 95% CI [–0.47, –0.27]) and positively with leisure boredom ($r = 0.45$, $p < .001$; 95% CI [0.37, 0.53]). General belongingness was negatively associated with leisure boredom ($r = –0.48$, $p < .001$; 95% CI [–0.56, –0.39]). Smartphone use was positively related to phubbing ($r = 0.31$, $p < .01$; 95% CI [0.19, 0.43]) and leisure boredom ($r = 0.30$, $p < .01$; 95% CI [0.20, 0.39]), and negatively to general belongingness ($r = –0.22$, $p < .01$; 95% CI [–0.33, –0.09]).

Covariates

Phubbing levels differed significantly by gender, age, and education level. Males reported higher phubbing than females ($M_{male} = 3.60$, $SD = 1.10$; $M_{female} = 3.03$, $SD = 1.11$; $t = –4.22$, $p < 0.001$; 95% CI [0.31, 0.85]). ANOVA results showed significant differences by age ($F_{(2, 302)} = 4.39$, $p < 0.01$; 95% CI [1.04, 1.20]), with higher phubbing in participants aged 46+ ($M = 3.55$, $SD = 1.12$) than in those aged 26–45 ($M = 3.03$, $SD = 1.10$). However, there was no significant difference in the 18–25 age group ($M = 3.30$, $SD = 1.16$). Phubbing also differed by education level ($F_{(3, 301)} = 7.08$, $p < 0.001$; 95% CI [1.01, 1.18]), that is, phubbing decreased with higher education. It was highest among those with a primary education ($M = 3.87$, $SD = 1.22$) and lowest among those with graduate degrees ($M = 2.94$, $SD = 1.12$). All three variables were included as covariates in the mediation model.

Serial Multiple Mediation Analysis

The study tested one direct and three indirect effects of general belongingness on phubbing using a serial multiple mediation model. Gender, age, and education level were included as covariates to control for their potential influence. Results are presented in Figure 2.

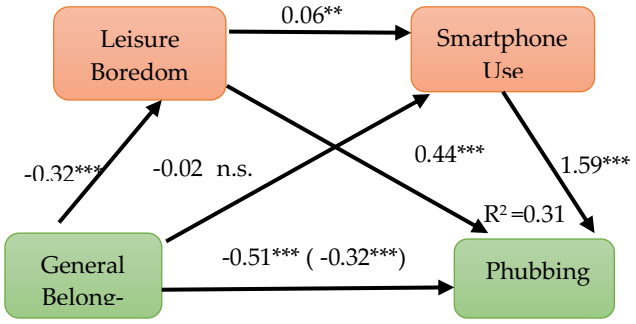

Figure 2. The serial multiple mediation linking general belongingness and phubbing

Notes. *Unstandardized beta coefficients are reported. N = 305, with 5000 bootstrapped samples; Covariate variables: Gender (female=0, male=1), age (18–25=1, 26–45=2, 46 and above=3), education level (primary education=1, high school=2, undrgraduate=3, graduate=4), ***p<.001,** p<.01, *p<.05*

In the serial multiple mediation model, general belongingness negatively predicted leisure boredom ($B = –0.32$, $p < 0.001$; 95% CI [–0.40, –0.25]). However, when leisure boredom was controlled for, the effect of general belongingness on smartphone use became insignificant ($B = –0.02$, $p > 0.05$; 95% CI [–0.04, 0.01]). Leisure boredom positively predicted both smartphone use ($B = 0.06$, $p < 0.01$; 95% CI [0.03, 0.09]) and phubbing ($B = 0.44$,

p < 0.001; 95% CI [0.22, 0.67]). Additionally, smartphone use also positively predicted phubbing (B = 1.59, p < 0.001; 95% CI [0.82, 2.36]). Consistent with Hypothesis 1, general belongingness had a direct negative effect on phubbing (B = –0.51, p < 0.001; 95% CI [–0.66, –0.35]), which remained significant after including mediators (leisure boredom and smartphone use; B = –0.32, p < .001; 95% CI [–0.48, –0.15), indicating partial mediation.

Bootstrapping

The significance of the indirect paths in the model was tested through bootstrapping analysis, and the findings are presented in Table 4.

Table 4. Direct and indirect pathways from general belongingness to phubbing (N= 305)

				95% CI	
Model Pathways	**Boot Effect**	**SE**	**t**	**LLCI**	**ULCI**
Total Effect (c: GA→GB)	**-0.51**	0.08	-6.60**	-0.67	-0.36
Direct Effect (c': GA→GB)	-0.32	0.08	-3.85***	-0.48	-0.15
Tota Indirect Effect	**-0.20**	**0.05**		**-0.30**	**-0.11**
Indirect effect 1 (GA→ LB → GB)	**-0.14**	**0.04**		**-0.24**	**-0.06**
Indirect effect 2 (GA→ DSU → GB)	-0.02	0.02		-0.08	0.02
Indirect effect 3 (GA→ LB → DSU →GB)	**-0.03**	**0.01**		**-0.06**	**-0.01**

Notes. *GP: General Phubbing, GB: General Belongingness, LB: Leisure Boredom, DSU: Duration of Smartphone Use, ***p<.001,** p<.01, *p<.05*

As shown in Table 4, the total indirect effect of general belongingness on phubbing was significant (bootstrap = –0.20, 95% CI [–0.30, –0.11]), as the confidence intervals did not include zero. The indirect effect via leisure boredom alone, was also significant (bootstrap = –0.14, 95% CI [–0.24, –0.06]), supporting Hypothesis 2. In contrast, the indirect effect via smartphone use alone was not significant (bootstrap = –0.02, 95% CI [–0.08, 0.02]), therefore Hypothesis 3 was rejected. The serial path, through both leisure boredom and smartphone use, was significant (bootstrap = –0.03, 95% CI [–0.06, –0.01]), supporting Hypothesis 4. The model accounted for 28% of the variance in phubbing ($F_{(4, 300)} = 28.71$, $p < 0.001$).

Discussion and Conclusion

This study examined the serial mediating roles of leisure boredom and smartphone use between belongingness and phubbing in adults. According to preliminary analysis, lower belongingness was associated with higher leisure boredom, greater smartphone use, and more phubbing. Additionally, higher leisure boredom was linked to increased smartphone use and phubbing (see Table 3). These results align with prior research (Al-Saggaf et al., 2019; Lep et al., 2025; Serdar et al., 2022; Sun & Wong, 2024; Wang et al., 2020) and provide empirical support for the proposed mediation model.

The study tested four hypotheses regarding the direct (H1) and indirect (H2-H4) effects of general belongingness on phubbing. H1 was supported, showing that higher general belongingness directly reduces phubbing, consistent with prior theories and research. According to Baumeister and Leary's (1995) '*belonging theory*', unmet belonging needs lead individuals to withdraw from face-to-face interactions and seek alternatives. Chotpitayasunondh and Douglas (2016) reported that unmet needs for belonging and social connection trigger excessive phone use in social settings, which may cause phubbing. Studies also emphasize that individuals who are unable to meet their need for belonging through real-life relationships experience feelings of social exclusion. For this reason, they tend to seek social connections in virtual environments – such as social media – in an effort to regain a sense of belonging (e.g. Akıncı & Durmuş, 2024; Al-Saggaf & O'Donnell, 2019; David & Roberts, 2020). This can lead to phubbing by ignoring others in social situations where their need to belong is not satisfied.

This finding can also be explained in terms of the '*escape theory*' (Heatherton & Baumeister, 1991), which suggests that lack of belonging leads to '*aversive self-awareness*' which in turn, feelings of inadequacy and exclusion. To avoid these negative

emotions, individuals may narrow their attention and focus on concrete, immediate stimuli, such as their smartphones. In this context, phubbing may serve as an escape or coping strategy for dealing with negative emotions. *'Social identity theory'* posits that feeling part of social groups strengthens our social identity and increases our self-esteem (Haslam et al., 2000). Lee and Robbins (1998) propose that social connectedness represents an internal sense of belonging. They suggest that individuals with low levels of connectedness struggle to manage their needs and emotions effectively, have low self-esteem and lack a sense of social identity. This results in low levels of trust in interpersonal relationships. Such individuals may avoid or distance themselves from social opportunities that could foster a stronger sense of social connectedness. According to Lee and Robbins (2000), these individuals often appear distant, reluctant to establish intimacy, and struggle to establish genuine and empathetic social bonds with others. As a result, individuals who do not feel a sense of belonging in real-life social environments may turn to virtual platforms such as social media or the internet via smartphones instead of face-to-face communication, potentially leading to phubbing.

Conversely, individuals with a strong sense of connectedness—or in other words, a heightened sense of belonging—easily participate in social environments, feel accepted, and trust others. This, in turn, contributes to the formation of social environments characterized by mutual care, respect, and empathy, ultimately strengthening interpersonal relationships. Indeed, research findings show that individuals with high empathy skills find it easy to maintain social relationships and form healthy social bonds, and are less likely to engage in phubbing (Öztekin & Yıldırım, 2025; Uncu et al., 2024). The current finding is also consistent with the results of similar studies in the related literature (David & Roberts, 2020; Al-Saggaf & O'Donnell, 2019; Roberts & David, 2016).

The second hypothesis (H2) proposed that leisure boredom mediates the relationship between general belongingness and phubbing. The findings confirmed H2, showing that lower belongingness leads to greater leisure boredom, which in turn increases phubbing.

A review of the literature shows that general boredom proneness is a strong predictor of phubbing behavior (e.g., Al-Saggaf et al., 2019; Duradoni, 2023; Gao et al., 2023; Kara & Gürbüz, 2022). However, studies specifically examining the link between leisure boredom and phubbing are limited (Hasanuddin et al., 2024; Gürbüz et al., 2023; Wazkia & Primanita, 2023). Still, research indicates that leisure boredom is associated with excessive smartphone use (Kil et al., 2021; Allaby & Shannon, 2020; Lepp et al., 2025), internet and mobile phone addiction (Wang et al., 2020; Kara & Gürbüz, 2022), and social media addiction (Huang, 2014). These digital addictions are also strongly linked to phubbing (e.g., Karadağ et al., 2015; Al-Saggaf & O'Donnell, 2019). Thus, previous findings support the connection between leisure boredom and phubbing. There is also evidence supporting the mediating role of leisure boredom in the relationship between sense of belonging and phubbing. For instance, Gao et al. (2023) found that individuals with higher loneliness levels are more prone to boredom, experience greater boredom during leisure time, and turn to their phones as a coping mechanism, making them more susceptible to phubbing. Similarly, those with high leisure boredom and FOMO are also more prone to phubbing (Gürbüz et al., 2023; Ding & Si, 2024). Research further suggests that a low sense of belonging increase FOMO, which in turn, may raise phubbing tendencies (Alabri, 2022). A reduced sense of belonging has been reported to lower the motivation to spend leisure time meaningfully, which may lead to greater boredom and increased smartphone use for quick relief—especially through phubbing in social contexts (Iso-Ahola & Weissinger, 1990; Chotpitayasunondh & Douglas, 2018). In fact, individuals who are more sensitive to boredom are more likely to develop smartphone addiction and tend to use friendship or dating applications (Wang et al., 2020; Lepp et al., 2025).

Furthermore, inadequate leisure management and planning skills, coupled with low leisure satisfaction, are said to increase boredom. Combined with increased smartphone use, this may promotes phubbing behaviour (Van Tilburg & Igou, 2017; Kil et al., 2021). Therefore, socially disconnected individuals, are also more likely to engage in phubbing

due to their lower ability or motivation to create or participate in leisure activities. In conclusion, the findings that leisure boredom functions as a mediating mechanism in the relationship between a sense of belonging and phubbing are consistent with both theoretical explanations and empirical evidence.

The third hypothesis (H3) of the study proposed that smartphone use mediates the relationship between general sense of belonging and phubbing. However, findings showed that duration of smartphone use was not a significant mediator, and H3 was rejected. This hypothesis was based on the assumption that individuals with a low sense of belonging are less satisfied with face-to-face social interactions and may therefore withdraw from real-life social environments. Individuals with low belongingness might turn to virtual platforms, especially social media, via smartphones to meet their social needs, potentially increasing phubbing. In this study, 63% of participants ranked social media use as their primary purpose of using a smartphone, and they reported an average daily usage time of over four hours (M = 4.36; see Table 1). According to the literature, daily smartphone use of four hours or more is considered a risk factor for phubbing (Atalay, 2023; Alhazmi et al., 2018; Bulut & Nazir, 2020; Toker & Tuncay, 2020). Therefore, the sample group can be seen at risk for both smartphone addiction and phubbing. Existing studies showed that social media is mainly accessed via smartphones (Sha et al., 2019; Marino et al., 2021), and excessive smartphone use is a risk factor for both addiction and phubbing (e.g., Atalay, 2023; Karadağ et al., 2015, Toker & Tuncay, 2020), and all these variables are strongly interconnected (Bulut & Nazir, 2020; Verma et al., 2019). However, the finding of this study suggested that a sense of general belonging indirectly influences smartphone use through leisure boredom (see Figure 2). When leisure boredom intervenes, the link between belonging and smartphone use becomes insignificant, highlighting leisure boredom's key role in the pathway to phubbing. Thus, the lack of a mediating role of daily smartphone use between belonging and phubbing—independent of leisure boredom—appears understandable. In conclusion, the findings suggested that increased smartphone use linked to lower belonging has limited power to explain phubbing alone and is better explained through mediators.

Additionally, researchers have noted that phubbing is triggered not by total amount of time spent on smartphones, but by frequent short-interval phone checking (Guazzini et al., 2021). Therefore, examining this behavior's role between belonging needs and phubbing could clarify the relationship.

After examining the individual mediating roles of leisure boredom and smartphone use in the relationship between general sense of belonging and phubbing, the H4 hypothesis—proposing a serial multiple mediation effect of these two variables—was also tested. The results showed that leisure boredom and smartphone use sequentially mediated this relationship, and thus, H4 was supported. According to this finding, as adults' general sense of belonging decreases, their leisure boredom increases, which in turn leads to longer smartphone use and, consequently, a rise in phubbing behavior.

This finding is notable when considered alongside the previous one. Leisure boredom alone serves as a significant mediator in the relationship between sense of belonging and phubbing, while smartphone use only mediates this relationship through leisure boredom. The data indicate that the decrease in general sense of belonging has a weak direct explanatory power on the increase in smartphone use, and this increase becomes meaningful only through another mediating variable, leisure boredom. Thus, leisure boredom plays a key role between sense of belonging and phubbing. Although intensive smartphone use is known to be one of the main determinants of phubbing behavior (Karadağ et al., 2015), the fact that a lack of sense of belonging can lead to various psychological outcomes may weaken this variable's explanatory power for phubbing behavior through smartphone use alone. The fact that the relationship between a sense of belonging and phubbing remains significant even when leisure boredom and smartphone use are included in the model suggests that other psychological factors may also influence this relationship.

As previously stated, the literature indicates that a sense of belonging is directly related to smartphone use, phubbing, and other digital addictions (Roberts & David, 2016; Akinci & Dursun, 2024). However, this relationship is often mediated by variables such as feelings of exclusion, fear of missing out (FOMO), difficulty regulating emotions, feelings of social exclusion, and the desire to form social bonds (Roberts & David, 2020; Przybylski et al., 2013; Elhai et al., 2016; Chotpitayasunondh & Douglas, 2016). Similarly, this study found that a decrease in the sense of belonging increases leisure boredom, which in turn leads to increased smartphone use and phubbing behavior in a sequential manner.

Moreover, recent studies examining the relationship between phubbing, social exclusion, and weakened feelings of belonging have revealed that phubbing behavior can create a reinforcing cycle through mutual interactions. This interaction model is often referred to as the "phubbing vicious cycle," in which smartphone use functions as a tool for emotional regulation and social escape. This dynamic perpetuates the cycle of phubbing behavior (Chotpitayasunondh & Douglas, 2018; Nuñez & Radtke, 2023). Based on the findings of the present study, it can be proposed that the interaction among the variables in the model creates the following vicious cycle:

Weakening of General Sense of Belonging → Increase in Leisure Boredom → Need to Escape (Emotional Regulation / Seeking Distraction) → Turning to Smartphone (e.g., social media use) → Phubbing Behavior (Neglecting Close Social Circle) → Deterioration/Exclusion in Social Relationships → Further Decrease in Sense of Belonging → The cycle returns to the beginning and progressively reinforces itself

In conlusion, these findings highlight that the relationship between a sense of belonging and phubbing is indirect and that psychological mediators should be considered in this process. Theoretical frameworks (e.g., escape theory), empirical studies, and the findings of this study suggest examining this behavior within multiple mediation/moderation models due to its complex, vicious cyclical nature.

Implications for Practionnaires

According to this study, adults' sense of belonging influences phubbing directly and indirectly through leisure boredom and smartphone use, with leisure boredom as the strongest mediator. To reduce phubbing and strengthen belonging, several recommendations are offered:

Awareness programs focusing on time management, hobbies, and social participation may help reduce excessive reliance on smartphones and prevent phubbing. Indeed, researchers emphasize that encouraging individuals to spend their leisure time meaningfully can enhance self-worth, foster a sense of belonging, support psychological well-being, and facilitate cultural adaptation (Kim et al., 2021).

Encouraging activities that support the development of healthy social bonds—such as art, sports, and volunteering—and ensuring access to these activities are also important areas of intervention. Within the framework of university curricula, courses like "Community Service Practices" can offer opportunities for social interaction through informational and recreational group activities tailored to various age groups. In doing so, individuals can meet their basic relational needs through real-life social relationships and reinforce their sense of belonging.

Institutions such as schools, universities, and community centers—supported by local authorities and NGOs—can organize interest-based recreational programs to encourage participation and social bonding. Society-wide public awareness campaigns can also be set up. Public campaigns, seminars, podcasts, or social media content that highlight the negative effects of belongingness deficits and digitalization on social relationships can help reach a broader audience. Additionally, targeted interventions can be developed for schools, workplaces, and community spaces to foster healthier social connections and raise awareness.

Within the scope of guidance and counseling services, psychoeducational programs can be developed to support individuals in coping with leisure boredom. These programs should aim to enhance emotional regulation skills and equip individuals with healthy coping strategies. In addition, developing leisure skills—such as planning, trying new activities, and initiating social interactions—is

also essential. Awareness-raising training sessions and workshops on balancing technology use can help individuals avoid becoming overly dependent on digital tools and instead use their leisure time in more satisfying ways.

Finally, digital awareness training should be provided, including topics such as digital detox, screen time management, and healthy technology use, to promote balanced digital habits and thereby prevent phubbing.

Limitations of the Study and Suggestions for Future Research

This study has several limitations. First, the cross-sectional design restricts causal inference. Future longitudinal studies could more accurately capture how relationships among variables evolve over time. Another limitation relates to the context in which phubbing and general belongingness occur. In this study, both were assessed broadly and without relational specificity. Researchers recommend investigating phubbing in various contexts, including romantic, parent-child, and peer relationships (Akbağ & Sayıner, 2021; Sayıner & Akbağ, 2023). Similarly, examining sense of belonging within different relational contexts –e.g., using the actor-partner interdependence model – may provide a deeper understanding of the relationships between the variables. Additionally, this study included duration of smartphone usage as a mediating variable due to its association with phubbing and smartphone addiction risk. However, examining individuals who have been clinically diagnosed with smartphone addiction may yield more precise findings. Another limitation of this study is its focus on the antecedents of phubbing. However, a more comprehensive understanding of the phenomenon could be gained by future research addressing both the causes and outcomes of phubbing together. On the other hand, this study examined the relationships between variables while statistically controlling for gender, age, and education level. Future research could employ multi-group analyses to investigate demographic differences more thoroughly. Finally, the finding that a sense of belonging influences smartphone use through leisure boredom and sequentially leads to phubbing suggests that additional psychological factors—such as loneliness, difficulties in emotion regulation, social connectedness, and social anxiety—should also be examined as potential mediators and moderators to better explain the underlying dynamics of this relationship.

References

Akbağ, M., & Sayıner, B. (2021). Dijital teknolojinin yansımaları: Ebeveyn teknoferansı ve sosyotelizmi. *Humanistic Perspective, 3*(3), 753-778. https://doi.org/10.47793/hp.996220

Akinci, H., & Durmuş, A. (2024). Does smartphone addiction impact happiness? exploring the mediating roles of belongingness and fear of missing out: a cross-sectional survey from Turkey. *Psychology, Health & Medicine*, 1–21. https://doi.org/10.1080/13548506.2024.2447008

Al-Saggaf, Y. (2021). Phubbing, fear of missing out and boredom. *Journal of Technology in Behavioral Science*, *6*(2), 352-357. https://doi.org/10.1007/s41347-020-00148-5

Al-Saggaf, Y., & O'Donnell, S. B. (2019). Phubbing: Perceptions, reasons behind, predictors, and impacts. *Human Behavior and Emerging Technologies*, *1*(2), 132-140. https://doi.org/10.1002/hbe2.137

Al-Saggaf, Y., MacCulloch, R., & Wiener, K. (2019). Trait boredom is a predictor of phubbing frequency? *Journal of Technology Behavioral Science, 4*, 245-252. https://doi.org/10.1007/s41347-018-0080-4

Alabri, A. (2022). Fear of missing out (FOMO): The effects of the need to belong, perceived centrality, and fear of social exclusion. *Human Behavior and Emerging Technologies, 2022*(1), 4824256.https://doi.org/10.1155/2022/4824256

Allen, K., Kern, M. L., Vella-Brodrick, D., Hattie, J., & Waters, L. (2016). What schools need to know about fostering school belonging: A meta-analysis. *Educational Psychology Review*, *30*(1), 1–34. https://doi.org/10.1007/s10648-016-9389-8

Alhazmi, A. A., Alzahrani, S. H., Baig, M., Salawati, E. M. , & Alkatheri, A. (2018). Prevalence and factors associated with smartphone addiction among medical students at King Abdulaziz

University, Jeddah. *Pakistan Journal of Medical Sciences. 34*(4), 984-988. https://doi.org/10.12669/pjms.344. 15294.

Alt, D., & Boniel-Nissim, M. (2018). Parent–adolescent communication and problematic Internet use: The mediating role of Fear of Missing Out (FoMO). *Journal of Family Issues, 39*(13), 3391–3409. https://doi.org/10.1177/0192513X18783493

An, J., Payne, L. L., Lee, M., & Janke, M. C. (2023). Understanding boredom and leisure in later life: A systematic review. *Innovation in Aging, 7*(8). 1-14. https://doi.org/10.1093-/geroni/igad109

Atalay, H. (2023). *Üniversite öğrencilerinin sosyotelizm davranışı, sosyal medya bağımlılığı ile ilişki doyumu düzeyleri arasındaki ilişkinin incelenmesi*. (Unpublished Master's Thesis), Lokman Hekim University.

Aydoğdu, F. & Koçtürk, N. (2023). Ebeveyn sosyotelizminin ergenlerdeki olumsuz yansımaları: Sistematik bir derleme. *Çocuk ve Gençlik Ruh Sağlığı Dergisi, 30*(1). https://doi.org/10.4274/-tjcamh.galenos.2022.05925

Bakır, V., & Dïlmaç, B. (2023). Examining the relationship between phubbing and mental health among university students: A mixed study. *Research on Education and Psychology, 7*(3), 602–621. https://doi.org/10.54535/rep. 1331114

Balta, S., Emirtekin, E., Kircaburun, K. *et al.* (2020). Neuroticism, trait fear of missing out, and phubbing: the mediating role of state fear of missing out and problematic ınstagram use. *International Journal of Mental Health and Addiction, 18,* 628–639 https://doi.org/10.1007/s11469-018-9959-8

Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin, 117*(3), 497–529. https://doi.org/10.1037/ 0033-2909.117.3.497

Baumeister, R. F. (1990). Suicide as escape from self**.** *Psychological Review, 97*(1), 90–113. https://doi.org/10.1037/0033-295X.97.1.90

Biolcati, R., Mancini, G., & Trombini, E. (2018). Proneness to boredom and risk behaviors during adolescents' free time. *Psychological Reports, 121*(2), 303-323. https://doi.org/10.1177-/0033294117724447 .

Błachnio, A., & Przepiorka, A. (2019). "Be aware! If you start using facebook problematically you will feel lonely: Phubbing, loneliness, self-esteem, and facebook ınтrusion. A cross-sectional study. *Social Science Computer Review, 37*(2), 270–278.

Błachnio, A., Przepiorka, A., & Pantic, I. (2016). Internet addiction and phubbing: The mediating role of social skills. *Computers in Human Behavior, 61*, 501–507.

Browne, V., & Cudeck, R. (1993). Alternative ways of assessing model fit. In K. A. Bollen., & J. S. Long (Eds.), *Testing Structural Equation Models* (pp. 136-162). Sage.

Bulut, S. & Nazir, T. (2020). Phubbing phenomenon: A wild fire, which invades our social communication and life. *Open Journal of Medical Psychology, 9*(1), 1-6. https://doi.org/10.4236/ojmp. 2020.91001

Butt, A. K., Arshad, T. (2021). The relationship between basic psychological needs and phubbing: Fear of missing out as the mediator. *PsyCh Journal, 10*(6), 916-925. https://doi.org/10.1002/pchj.483.

Büyüköztürk, Ş. (2021). *Sosyal bilimler için veri analizi el kitabı:* istatistik*, araştırma deseni, SPSS uygulamaları ve yorum.* Pegema Yayıncılık.

Caldwell, L. L., Darling, N., Payne, L. L., & Dowdy, B. (1999). "Why are you bored?": An examination of psychological and social control causes of boredom among adolescents. *Journal of Leisure Research, 31*(2), 103-121. https://doi.org/10.1080/00222216.1999.11949853

Chotpitayasunondh, V., & Douglas, K. M. (2016). How "phubbing" becomes the norm: The antecedents and consequences of snubbing via smartphone. *Computers in Human Behavior, 63*, 9–18. https://doi.org/10.1016/j.chb. 2016. 05.018

Chotpitayasunondh, V., & Douglas, K. M. (2018a). Measuring phone snubbing behavior: Development and validation of the generic scale of phubbing (GSP) and the generic scale of being phubbed (GSBP). *Computers in Human Behavior, 88*, 5-17. https://doi.org/10.1016/ j.chb.2018.06.020

Chotpitayasunondh, V., & Douglas, K. M. (2018b). The effects of "phubbing" on social interaction. *Journal of Applied Social Psychology, 48*(6), 304-316. https://doi.org/10.1111/jasp.12506

Creswell, J. W. (2017). Nicel veri toplama (H. Ekşi, Ed.), *Eğitim araştırmaları nicel ve nitel araştırmanın planlanması, yürütülmesi ve değerlendirilmesi* (M. Kaya Başman, Çev.) içinde (s.187-227). *Edam Yayıncılık*.

Çizmeci, E. (2017). Disconnected, though satisfied: Phubbing behavior and relationship satisfaction. *The Turkish Online Journal of Design, Art and Communication, 7*(2), 364-375. https://doi.org/10.7456/10702 100/018

Davey, S., Davey, A., & Lal, S. (2018). Smartphone addiction and its association with phubbing among young adults. *International Journal of Mental Health and Addiction*, *16*(4), 1018–1032.

David, M. E., & Roberts, J. A. (2021a). Investigating the impact of partner phubbing on romantic jealousy and relationship satisfaction: The moderating role of attachment anxiety. *Journal of Social and Personal Relationships*, *38*(12), 3590–3609. https://doi.org/10.1177/ 0265407 521996454

David, M. E., & Roberts, J. A. (2021b). Smartphone use during the COVID-19 pandemic: Social versus physical distancing. *International Journal of Environmental Research and Public Health*, *18*(3), 1034. https://doi.org/10.3390-/ijerph18031034

David, M. E., & Roberts, J. A. (2017). Phubbed and alone: Phone snubbing, perceived social exclusion, and attachment to social media. *Journal of the Association for Consumer Research, 2*(2), 155–163

Ding, H., & Si, S. (2024). Boredom proneness and phubbing: Fear of missing out as a mediator. *Social Behavior and Personality: An international journal*, *52*(4), e13000. https://doi.org/10.2224/sbp.13000

Duarte, F. (2025, February). Time spent using smartphones (2025 statistics). *Exploding Topics*. https://explodingtopics.com/blog/smartphone-usage-stats

Duradoni, M., Raimondi, T., Buttà, F., & Guazzini, A. (2023). Moving beyond an addiction framework for phubbing: Unraveling the infuence of intrinsic motivation, boredom, and online vigilance. *Human Behavior and Emerging Technologies, 1*, e6653652. https://doi.org/10.1155-/2023/ 6653652

Duru, E. (2015). Genel aidiyet ölçeğinin psikometrik özellikleri: Geçerlik ve güvenirlik çalışması. *Türk Psikolojik Danışma ve Rehberlik Dergisi, 5*(44), 37-47.

Eastwood, J. D., Frischen, A., Fenske, M. J., & Smilek, D. (2012). The unengaged mind: Defining boredom in terms of attention. *Perspectives on Psychological Science, 7*(5), 482–495. https://doi.org/10.1177/17456 91612456044

Elhai, J. D., Levine, J. C., Dvorak, R. D., & Hall, B. J. (2017). Problematic smartphone use: A conceptual overview and systematic review of relations with anxiety and depression psychopathology. *Journal of Affective Disorders, 207*, 251–259. https://doi.org/10.1016/j.jad.2016.08.030

Elhai, J. D., Levine, J. C., Dvorak, R. D., & Hall, B. J. (2016). Fear of missing out, need for touch, anxiety and depression are related to problematic smartphone use. *Computers in Human Behavior, 63*, 509–516. https://doi.org/10.-1016/j.chb. 2016.05.079

Ergün, N., Göksu, İ., & Sakız, H. (2019). Effects of phubbing: Relationships with psychodemographic variables. *Psychological Reports*, *123*(5), 1578–1613. https://doi.org/10.1177-/0033294119889581

Fancourt, D., Aughterson, H., Finn, S., Walker, E., & Steptoe, A. (2021). How leisure activities affect health: a narrative review and multi-level theoretical framework of mechanisms of action. *The Lancet Psychiatry*, *8*(4), 329-339. https://doi.org/10.1016/S2215-0366(20)30384-9

Faul, F., Erdfelder, E., Buchner, A., & Lang, A. G. (2009). Statistical power analyses using G* Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods*, *41*(4), 1149-1160. https://doi.org/10.-3758/BRM.41.4.1149

Faul, F., Erdfelder, E., Lang, A.-G., & Buchner, A. (2007). G*Power Software Version 3. https://www.psychologie.hhu.de/arbeitsgruppen/allge me ine-psychologie-und-arbeitspsychologie/gpower

Field, A. (2024). *Discovering statistics using IBM SPSS statistics* (6th ed.). Sage.

Gao B., Liu Y., Shen Q., Fu C., Li W., Li X. (2023). Why cannot I stop phubbing? Boredom proneness and phubbing: A multiple mediation model. *Psychology Research and Behavior Management*, 16(1), 3727–3738. https://doi.org/10.-2147/PRBM.S423371

Geng, J., Lei, L., Ouyang, M., Nie, J., & Wang, P. (2021). The influence of perceived parental phubbing on adolescents' problematic smartphone use: A two-wave multiple mediation model. *Addictive behaviors*, *121*, 106995. https://doi.org/10.101 6/j.addbeh.2021.106995

Guazzini, A., Raimondi, T., Biagini, B., Bagnoli, F., & Duradoni, M. (2021). Phubber's emotional activations: The association between panas and phubbing behavior. *Future Internet*, *13*(12), 1-12. https://doi.org/ 10.3390/fi13120311

Gupta, N., Nagar, K. (2024). Why do individuals engage in phubbing? An empirical study integrating fear of missing out, boredom proneness, smartphone use. *European Economic Letters (EEL)*, 14(1), 2008–2021. https://doi.org-/10.52783/eel.v14i1.1133

Gürbüz, B., Demirel, M., & Yalçın, C. (2023, May). *Disconnected in the digital age: Understanding phubbing, perception of leisure boredom and fear of missing out*. Paper presented at the International Recreation and Spor Management Congress, Antalya, Türkiye. Abstract retrived from https://rekcad.org/wp-content/uploads/2023/08/rekcad_4_book_abstract.pdf

Hair, J. F., Babin, B. J., Anderson, R. E., & Black, W. C. (2019). *Multivariate data analysis* (8th ed.). Pearson Prentice.

Haslam, S. A., Powell, C., & Turner, J. (2000). Social identity, self-categorization, and work motivation: rethinking the contribution of the group to positive and sustainable organisational outcomes. *Applied Psychology*, *49*(3), 319-339. https://doi.org/10.1111/1464-0597.00018

Hasanuddin, S., Koanda, N., & Saudi, A. N. A. (2024). Pengaruh Leisure Boredom terhadap Perilaku Phubbing pada Remaja Akhir di Kota Makassar. *Jurnal Psikologi Karakter*, *4*(2), 601-609. https://doi.org/10.56326/jpk.v4i2.5451

Hayes, A. F. (2022). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach* (Vol. 3). The Guilford Press.

Heatherton, T. F., & Baumeister, R. F. (1991). Binge eating as escape from self-awareness. *Psychological Bulletin, 110,* 86-108. https://doi.org/10.1037/ 0033-2909.110.1.86

Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling, 6,* 1-55. http://dx.doi.org/10.1080/ 0705519909540118

Huang, H. (2014). *Social media generation in urban China: A study of social media use and addiction among adolescents.* Springer-Verlag Publishing/Springer Nature. https://doi.org/10.-1007/978-3-642-45441-7

Iso-Ahola, S. E., & Baumeister, R. F. (2023). Leisure and meaning in life. *Frontiers in Psychology, 14,* 1-11. https://doi.org/10.3389/fpsyg. 2023.107 4649

Iso-Ahola, S. E., & Weissinger, E. (1990). Perceptions of boredom in leisure: Conceptualization, reliability and validity of the leisure boredom scale. *Journal of Leisure Research, 22*(1), 1-17. https://doi.org/10.1080/00222216. 1990.11969811

Iso-Ahola, S.E. (1980). *The social psychology of leisure and recreation*. W.C. Brown.

Ivanova, A., Gorbaniuk, O., Błachnio, A., Przepiórka, A., Mraka, N., Polishchuk, V., & Gorbaniuk, J. (2020). Mobile phone addiction, phubbing, and depression among men and women: A moderated mediation analysis. *Psychiatric Quarterly*, *91*, 655-668. https://doi.org/10.-1007/s11126-020-09723-8

Jiang, Q., Li, Y., & Shypenka, V. (2018). Loneliness, individualism, and smartphone addiction among international students in China. *Cyberpsychology, Behavior, and Social Networking*, *21*(11), 711-718. https://doi.org/10.1089/cyber. 2018.0115

Lepp, A., Yim, B., & Barkley, J. E. (2025). Smartphone hookup app use (eg tinder) and college student's risky sexual behavior: A model including leisure boredom, sensation seeking, and the moderating role of gender. *Computers in Human Behavior*, *166* 108581. https://doi.org/ 10.1016/j.chb.2025.108581

Kang, H. (2021). Sample size determination and power analysis using the G*Power software. *Journal of Educational Evaluation for Health Professions*, *18 (17)*, 1-12. https://doi.org/10.3352/jeehp.2021.18.17

Kara , F. M., & Gürbüz, B. (2022). Perception of boredom in leisure: Relationship with ınternet addiction and perceived social competence. *Sportif Bakış: Spor ve Eğitim Bilimleri Dergisi*, *9*(2), 200–216. https://doi.org/10.-33468/sbsebd.282

Kara, F. M., Gürbüz, B., Kiliç, S. K., & Öncü, E. (2018). An investigation of physical education pre-service teachers' leisure boredom, life satisfaction and social connectedness. *Journal of Computer and Education Research*, *6*(12), 342–357. https://doi.org/10.18009/jcer. 466740

Karadağ, E., Tosuntaş, Ş. B., Erzen, E., Duru, P., Bostan, N., Şahin, B. M., Çulha, İ., ve Babadağ, B. (2016). The virtual world's current addiction: phubbing. *Addicta: The Turkish Journal on Addictions*, *3*(2). 223-269. https://doi.org10.15805/ addicta. 2016.3. 0013

Karadağ, E., Tosuntaş, Ş. B., Erzen, E., Duru, P., Bostan, N., & Şahin, B. K. (2015). Determinants of phubbing, which is the modern type of social interaction: A structural equation model. *Human Behavior and Emerging Technologies*, *1*(3), 208–216. https://doi.org/10.1556/2006.4.20-15.005

Karaman, H. B., & Arslan, C. (2024). The mediating role of social media addiction and phubbing in basic psychological needs in relationships and relationship satisfaction. *Frontiers in Psychology*, *15*, 1-11. https://doi.org/10.3389/fpsyg. 2024.1291638

Karasar, N. (2000). *Bilimsel araştırma yöntemi: Kavramlar, ilkeler ve teknikler* (10. basım). Nobel Yayın Dağıtım.

Kepios. (2025, February). *Digital 2025: Global overview report*. *DataReportal*. https://datareportal.com/reports/digital-2025-april-global-statshot

Khan, M. N., Shahzad, K., & Bartels, J. (2022). Examining boss phubbing and employee outcomes through the lens of affective events theory. *Aslib Journal of Information Management*, *74*(5), 877-900. https://doi.org/10.1108-/AJIM-07-2021-0198

Kil, N., Kim, J., Park, J., & Lee, C. (2021). Leisure boredom, leisure challenge, smartphone use, and emotional distress among U.S. college students: Are they interrelated? *Leisure Studies*, *40*(6), 779–792. https://doi.org/10.1080-/02614367.202 1.1931414

Kim, J., Park, S., Kim, M., Kim, Y., & Kim, J. (2021). A qualitative investigation of leisure engagement and health benefits among North Korean adolescent refugees. *Journal of Adolescent Research*, *39*(3), 667–689. https://doi.org/10.-1177/07435584211 046260

Kline, R. B. (2016). *Principles and practice of structural equation modeling* (4th ed.). The Guilford Press.

Kumar, N. (2025, April 7). Smartphone usage statistics 2025 (Worlwide data). *Demandsage.* https://www.demandsage.com/smartphone-usage-statistics/

Larsen, H., Wiers, R. W., Su, S., & Cousijn, J. (2023). Excessive smartphone use and addiction: When harms start outweighing benefits. *Addiction*, *118*(4), 586-588. https://doi.org/10.-1111/add.16060

Lee, R. M. & Robbins, S. B. (2000). Understanding social con-nectedness in college women and men. *Journal of Counseling and Development*, 78, 484-491.

Lee, R. M., & Robbins, S. B. (1998). The relationship between social connectedness and anxiety, self-esteem, and social identity [Editorial]. *Journal of Counseling Psychology, 45*(3), 338–345. https://doi.org/10.1037/0022-0167.45.3.338

Mahar, A. L., Cobigo, V., & Stuart, H. (2013). Conceptualizing belonging. *Disability and Rehabilitation, 35*, 1026–1032. https://doi.org/10.3109/09638288.2012. 717584

Malone, G. P., Pillow, D. R., & Osman, A. (2012). The general belongingness scale (GBS): Assessing achieved belongingness. *Personality and Individual Differences, 52*, 311–316. https://doi.org/10.1016/j.paid. 2011.10.027

Marino, C., Canale, N., Melodia, F., Spada, M. M., & Vieno, A.(2021). The overlap between problematic smartphone use and problematic social media use: A systematic review. *Current Addiction Reports, 8*, 469–480. https://doi.org/10.1007/s40429-021-00398-0

Marshall, C. A., Davidson, L., Li, A., Gewurtz, R., Roy, L., Barbic, S., ... & Lysaght, R. (2019). Boredom and meaningful activity in adults experiencing homelessness: A mixed-methods study. *Canadian Journal of Occupational Therapy*, *86*(5), 357-370. https://doi.org/10.1177/0008417419833402

Mir, R. Z. (2020). Phubbing behavior and romantic relationshıp: Mechanism of mental health among married couples. *Foundation University Journal of Psychology*, *4*(1), 103–137. https://doi.org/10.33897/ fujp.v4i1.70

Nagarajappa, R., Naik, D., & Ramesh, G. (2020). Emerging consequences of phubbing among

adults. *Indian Journal of Forensic Medicine & Toxicology*, *14*(4), 8132-8136. https://doi.org/-10.37506/ijfmt.v14i4. 12936

Nuñez, T. R., & Radtke, T. (2023). Is socially disruptive smartphone use detrimental to well-being? A systematic meta-analytic review on being phubbed. *Behaviour & Information Technology*, *43*(7), 1283–1311. https://doi.org/10.-1080/0144929X.2023.2209213

Orhan-Göksün, D. (2019). Sosyotelist olma ve sosyotelizme maruz kalma ölçeklerinin Türkçe'ye uyarlanması. *Afyon Kocatepe Üniversitesi Sosyal Bilimler Dergisi, 21*(3), 657-671. https://doi.org/10.32709/ akusosbil.505642

Özteke Kozan, H. İ., Kavaklı, M., Ak, M., & Kesici, Ş. (2019). The associations among smartphone addiction, general belongingness and happiness: A structural equation modelling. *Turkısh Journal Clınıcal Psychıatry*, *22*(4), 436-444. https://dx.doi.org/10.5505/kpd.2019.87587

Öztekin, G. G., & Yıldırım, M. (2025). The relationship between phubbing and social relationships among Turkish college students: mediating roles of self-control and empathy. *Australian Psychologist*, 1–13. https://doi.org/10.1080/00050067.2025.2499625

Parmaksız, İ. (2021). Predictive effect of phubbing and life satisfaction on depression symptoms in adults. *Bağımlılık Dergisi*, *22*(3), 236–247. https://doi.org/10.51982/bagimli.888038

Przybylski, A. K., Murayama, K., DeHaan, C. R., & Gladwell, V. (2013). Motivational, emotional, and behavioral correlates of fear of missing out. *Computers in human behavior*, *29*(4), 1841-1848. https://doi.org/10.1016/j.chb.2013.02.014

Roberts, J. A., & David, M. E. (2020). The social media party: Fear of missing out (FoMO), social media intensity, connection, and well-being. *International Journal of Human–Computer Interaction*, *36*(4), 386-392. https://doi.org/10.1080/10447318.2019.1646517

Roberts, J. A., & David, M. E. (2016). My life has become a major distraction from my cell phone: Partner phubbing and relationship satisfaction among romantic partners. *Computers in Human Behavior, 54*, 134–141. https://doi.org/10.1016/j.chb.2015.07.058

Sayıner, B., & Akbağ, M. (2023). Sosyotelizm: Farklı bağlamlarda bir değerlendirme. *Akademik Hassasiyetler, 10*(21), 80-115. https://doi.org/-10.58884/ akademik-hassasiyetler.1224292

Serdar, E., Demirel, M., & Demirel, D. H. (2022). The relationship between leisure boredom, leisure satisfaction, and smartphone addiction: A study on university students. *International Journal of Technology in Education*, *5*(1), 30–42. https://doi.org/10.46328/ijte.235

Sha, P., Sariyska, R., Riedl, R., Lachmann, B., & Montag, C. (2019). Linking internet communication and smartphone use disorder by taking a closer look at the Facebook and WhatsApp applications. *Addictive Behaviors Reports, 9*, 100148. https://doi.org/10.1016/j.abrep.2018.100148

Schermelleh-Engel, K., Moosbrugger, H., & Müller, H. (2003). Evaluating the fit of structural equation models: Tests of significance and descriptive goodness-of-fit measures. *Methods of Psychological Research, 8*(2), 23–74.

Shen, X., & Xie, X. (2024). How parental phubbing decreases adolescent core self-evaluation through basic psychological need satisfaction: Evidence from longitudinal mediation analysis and longitudinal network analysis. *Journal of Social and Personal Relationships*, *41*(10), 3031-3060. https://doi.org/10.1177/02654 075241262536

Soper, D. S. (2025). *A-priori sample size calculator for hierarchical multiple regression [software].* Available from https://www.danielsoper.com/statcalc

Soylu, Y., ve Siyez, D. M. (2014). Boş zaman can sıkıntısı ölçeğinin Türkçe'ye uyarlanması. *Ege Eğitim Dergisi, 15*(1), 85-95. https://doi.org/10.12984/eed.63750

Stevens, J. P. (2009). *Applied multivariate statistics for the social sciences* (5th ed.). Routledge.

Sun, J., & Wong, N. (2024). "I can't believe I phubbed up our friendship!": Examining relationships between loneliness, problematic smartphone use, friend phubbing, and life satisfaction. *Human Behavior and Emerging Technologies, 2024* (1), 1–10. https://doi.org/10.1155/2024/5558587

Tabachnick, B. G., & Fidell, L. S. (2019). *Using multivariate statistics* (7th ed.). Pearson.

Tam, K.Y.Y., & Inzlicht, M. (2024). People are increasingly bored in our digital age. *Communications Psychology, 2,* 1-9. https://doi.org/10.1038/s44271-024-00155-9

T'ng, S. T., Ho, K.H., & Low, S. K. (2018). Are you "phubbing" me? The determinants of phubbing behavior and assessment of measurement ınvariance across sex differences. *International and Multidisciplinary Journal of Social Sciences, 7*(2), 159-190. https://doi.org/10.17583/rimcis. 2018.3318

Toker, B. & Tuncay, N. (2020). Phubber-phubbee model: An analysis of phubbing behaviours. *Journal of Educational and Instructional Studies in the World, 10*(2), 19-27.

van Tilburg, W. A. P., & Igou, E. R. (2017). Can boredom help? Increased prosocial intentions in response to boredom. *Self and Identity*, *16*(1), 82–96. https://doi.org/10.1080/15298868.2016.1218925

van Tilburg, W. A. P., & Igou, E. R. (2012). On boredom: Lack of challenge and meaning as distinct boredom experiences. *Motivation and Emotion, 36*, 181–194. https://doi.org/10.1007/s11031-011-9234-9

Verma, S., Kumar, R. & Yadav, S. K. (2019). The determinants of phubbing behaviour: A millenials perspective. *International Journal of Innovative Technology and Exploring Engineering. 8*(12S), 806-812. https://doi.org/10.35940/ijitee.L1184. 10812S19

Wang, Y., Yang, H., Montag, C., & Elhai, J. D. (2022). Boredom proneness and rumination mediate relationships between depression and anxiety with problematic smartphone use severity. *Current Psychology, 41*, 5287–5297. https://doi.org/10.1007/s12144-020-01052-0

Wang, Z., Yang, X., & Zhang, X. (2020). Relationships among boredom proneness, sensation seeking and smartphone addiction among Chinese college students: Mediating roles of pastime, flow experience and self-regulation. *Technology in Society, 62*, 101319. https://doi.org/10.1016/j.techsoc.2020. 101319

Wazkia, H., & Primanita, R. Y. (2023). Pengaruh leisure boredom terhadap. *Journal of Social Science Research, 3* (4), 4689-4698. https://j-innovative.org/index.php/ Innovative

We Are Social. (2024, Şubat). *Dijital 2024 Türkiye raporu: Türkiye'nin nüfus, internet, sosyal medya, mobil, e-ticaret ve dijital pazarlama göstergeleri.* İnternet Araştırmaları Koordinatörlüğü (çev.) https://www.guvenliweb.org.tr/ dokuman-detay/we-are-social-subat-2024-raporu.

Weybright, E. H., Caldwell, L. L., Ram, N., Smith, E. A., & Wegner, L. (2015). Boredom prone or nothing to do? Distinguishing between state and trait leisure boredom and its association with substance use in South African adolescents. *Leisure Sciences 37*(4), 311-331. https://doi.org/10.1080/01490400.2015.1014530

Wegner, L. (2011). Through the lens of a peer: Understanding leisure boredom and risk behaviour in adolescence. *South African Journal of Occupational Therapy, 41*(1), 19-23.

Uncu, U., Güneş, D., Kılınç, N. Ö. & Güneş, M. E. (2024). A study evaluating the relationship between phubbing levels and empathic attitudes of college students. *Health Sciences Quarterly,* 4(1), 53-60. https://doi.org/10.26900/hsq.2180

Yam, F. C., ve İlhan, T. (2020). Modern çağın bütünsel teknolojik bağımlılığı: Phubbing. *Psikiyatride Güncel Yaklaşımlar, 12*(1), 1-15. https://doi.org/10.18863/pgy.55129

Zhan, S., Shrestha, S., & Zhong, N. (2022). Romantic relationship satisfaction and phubbing: The role of loneliness and empathy. *Frontiers in Psychology*, *13*, 1-12. https://doi.org/10.3389/psyg.2022. 9673 39

Zhang, Y., Li, S. & Yu, G. (2022). The longitudinal relationship between boredom proneness and mobile phone addiction: Evidence from a cross-lagged model. *Current Psychology, 41*, 8821–8828. https://psycnet.apa.org/doi/10.1007/s12144-020-01333-8