

Relationship between online vigilance, boredom proneness and loneliness

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Abstract

This study analyses the relationship between online vigilance, boredom proneness, and loneliness, and examines the mediating role of loneliness in the relationship between online vigilance and boredom proneness. Data were collected from 345 participants in a cross-sectional design and examined using correlation analysis and Hayes' Process Macro. The results indicated a moderate positive relationship between online vigilance and boredom proneness, a weak positive relationship between online vigilance and loneliness, and a strong positive relationship between boredom proneness and loneliness. Mediation analysis revealed that loneliness partially mediates the relationship between online vigilance and boredom proneness. Overall, the findings demonstrate that online vigilance is positively associated with boredom proneness, and that loneliness functions as a significant partial mediator in this relationship.

Keywords: online vigilance, boredom proneness, loneliness

1. Introduction

The fact that digital communication technologies have become an integral component of daily life has led to radical changes in the way individuals establish, maintain and experience social relationships. Particularly, social media and mobile communication tools offer individuals the opportunity to be online constantly, while the effects of this situation on psychological and social adaptation are addressed with increasing interest in the communication and behavioural sciences literature. In this context, loneliness, online vigilance and boredom proneness are seen among the basic concepts that should be evaluated together as characteristic experiences of the digital age.

The literature shows that loneliness is a developmental phenomenon and occurs in different ways at different stages of the life cycle of the individual (Qualter et al., 2015). Especially in childhood and adolescence, the experience of loneliness can be experienced more intensely with the emergence of the need for social belonging and acceptance, and changing social roles, relationship networks and living conditions in adulthood and later ages can reshape the quality of the experience (Hawkley and Cacioppo, 2010). However, the experience of loneliness is not only limited to developmental factors; it is also significantly affected by socio-demographic variables such as cultural context, age and gender. Although studies conducted on a global scale reveal that loneliness is a universal human experience, this experience is experienced at different intensities and within different meaning frames across cultures (Barreto et al., 2021). On the other hand, it

is emphasized that loneliness is associated with depressive symptoms, negativities in the general mental state of the individual, and a decrease in the level of perceived social support (Vanhalst et al., 2012).

The proliferation of digital communication platforms has transformed the relationship between loneliness and online social interactions into a more complex and multifaceted structure. While social networking sites offer individuals the opportunity to maintain their existing social connections and make new ones, they can also reinforce the feeling of loneliness through superficial forms of interaction and intensive social comparison practices (Nowland et al., 2018; Ranaei et al., 2016). Indeed, the findings showing that limiting the use of social media leads to a decrease in loneliness levels indicate that digital interactions do not produce social satisfaction under all circumstances (Hunt et al., 2018). Increased social isolation during the COVID-19 pandemic has made the negative effects of loneliness on the mental state of individuals more visible and controversial (Loades et al., 2020; Wray-Lake et al., 2022).

The involvement of digital communication technologies in daily life radically transforms one's social interaction, space and time practices. One of the most remarkable results of the transformation is the online vigilance developed by individuals regarding their interaction, communication and notifications on online platforms. Online vigilance means continuous monitoring and awareness of online activities which have significant implications across various fields (Maftai & Măirean, 2024, p. 1). Online vigilance refers to the individual differences in the priority given by users in their cognitive orientation towards online connection, their attention to cues and stimuli related to the online environment, their integration of these cues and stimuli, and online communication (Le Roux & Parry, 2022, p. 28). Online vigilance is not only a habit of using technological devices, but also a psychosocial process in which the individual disconnects from the current activity and leads to distraction and the fragmentation of cognitive resources. Online vigilance can be associated with boredom proneness, as it hinders an individual's ability to find satisfaction in their immediate environment. In this context, boredom proneness represents a negative experience that generally occurs in situations perceived as lacking in terms of challenge, interest, and meaning, and it is defined as a source of motivation to change situations or behaviours to remedy these inadequate situations (Struk et al., 2017, p. 1). According to O'Hanlon (1981), boredom proneness is described as "a unique psychophysiological state that has relationships with each other and perception, emotion, cognitive elements and motivation as a whole." Boredom proneness becomes more salient in digital contexts as attention shifts toward continuous streams of online stimulation. When individuals feel bored, they turn to smart devices, spend time in digital media and are interested in what other users do (Yam & Kumcağız, 2020). Individuals use digital media to cope with boredom, but this strategy often intensifies rather than reduces it (Tam & Inzlicht, 2024).

Boredom proneness may play a role in influencing digital media use and mobile device addiction, being positively associated with internet addiction (Chou et al., 2018; Liang et al., 2022) while mobile phone addiction has been found to be a stronger predictor of boredom proneness (Zhang et al., 2022). The purpose of this study is to examine the relationship between online vigilance, boredom proneness, and loneliness, and to examine the mediating role of loneliness in the relationship between online vigilance and boredom proneness. Although previous studies have analysed the relationships between online vigilance, boredom proneness, and loneliness individually, few have investigated the mediating role of loneliness in this context. This study examines whether loneliness mediates the relationship between online vigilance and boredom proneness, providing insights into the psychological mechanisms underlying online behaviours.

2. Literature Review

2.1. Loneliness

Weiss (1987) addressed loneliness in two separate dimensions, as emotional and social and put one of the most effective classifications in the literature. The multifaceted nature of loneliness, which varies from person to person, has become an increasing field of research in terms of psychology, communication and behavioural sciences. Hawkley and Cacioppo (2010) stated that loneliness is shaped in line with the interactions of the individual with his/her social environment and how he/she perceives these interactions. Qualter et al. (2015) maintain that loneliness has a decisive influence on individuals' behaviours and social orientations. Barreto et al. (2021) found that lonely individuals are more responsive to environmental stimuli. Nowland et al. (2018) state that loneliness manifests itself not only in face-to-face social relationships but also in online behaviours.

Loneliness is a construct shaped by cultural characteristics. It is argued that loneliness, which can be experienced differently in both individualistic and collectivist cultures (Van Staden & Coetzee, 2010), increases with individualism (Barreto et al., 2021; Jiang et al., 2018), whereas it tends to be lower in collectivist cultures (Taniguchi & Kaufman, 2022). While the relative weakness of social ties in individualistic cultures may increase the risk of loneliness, in collectivist cultures loneliness may be experienced more intensely when the high levels of expected relational connectedness are not fulfilled (Markus & Kitayama, 1991; Sawir et al., 2007; Rokach et al., 2002). It is suggested that relationships formed in online environments and intense digital interaction do not always provide social satisfaction, as they may influence individuals' perceptions of loneliness (Canoğulları et al., 2024). Research has demonstrated a significant relationship between increased internet and social media use and levels of loneliness; moreover, in societies characterised by collectivist cultures, loneliness does not disappear but is shaped by the way social relationships are perceived and the depth of these relationships (Özdemir & Özaydın, 2025; Bardak & Akar, 2016). It can be argued that the concept of loneliness is shaped by technological transformations; the increasing use of social media and the internet may weaken relational depth in societies, thereby intensifying feelings of loneliness.

With digitalization, the structure of loneliness has become more complex. James et al. (2017) suggest that digital communication can both increase the sense of connection and increase social dissatisfaction in young adults. Hunt et al. (2018), on the other hand, revealed that limiting the use of social media can reduce the feeling of loneliness. However, the increase in the time spent in digital environments causes individuals to turn to behaviours such as online observation, passive follow-up or vigilance instead of face-to-face relationships (Boursier et al., 2020). Vanhalst et al. (2012) state that the emotional reactions of lonely individuals may be more intense. Ranaeiy et al. (2016) revealed that lonely individuals are more sensitive to social evaluations, especially in digital environments, and act more carefully and vigilantly in their online behaviour. Recent studies have addressed the effects of loneliness on psychological, social and digital outcomes from a holistic perspective. While Loades et al. (2020) emphasize that loneliness increases psychological risks, Wray-Lake et al. (2022) state that loneliness levels increase during the pandemic period and this increase is in a stronger relationship with digital behaviours. In this context, loneliness, when considered alongside digital interactions, online vigilance behaviours, and emotional processes, continues to be a central variable in the current literature.

2.2. Online Vigilance

Mobile devices have become an indispensable part of daily life with features such as touch screens, mobile applications, mobile internet, access to social media, entertainment and educational opportunities (Çakır & Oğuz, 2017; Haug et al., 2015). With the spread of mobile devices, individuals have easier and faster access to information in their daily lives; instant messages and notifications constantly direct the attention of individuals to online environments. Access to the internet and the use of digital technologies were previously seen as requiring scheduling, planning, and the organization of specific technical equipment (Ling, 2018, p. 13). However, recent years have seen a complete reversal of this situation, with uninterrupted online connectivity and digital technologies becoming indispensable elements in the daily lives of many individuals worldwide (Freytag et al., 2021, p. 134).

Online vigilance can affect the well-being and emotional state of individuals and the quality of interpersonal relationships (Reinecke et al., 2018). Marciano et al. (2022) stated that individuals' exposure to online content, screen time, and social media use increased, particularly during the COVID-19 pandemic. However, research shows that the use of social media to relieve boredom increases over time (Stockdale & Coyne, 2020).

Online vigilance manifests itself via three primary dimensions in user psychology. The first dimension involves the development of a cognitive tendency towards constant and accessible online connectivity at any time. Second, by constantly paying attention to stimuli and cues to the online environment, these factors are included in a way that shows continuity in the intellectual and emotional processes of the individual. The last dimension is the emergence of a tendency to prioritize online communication forms over offline behaviours (Johannes et al., 2021, p. 3). On the other hand, Klimmt et al. (2018, p. 19) state that the concept of online vigilance consists of three basic components: focusing on online communication, reacting to online communication, that is, sensitivity, and monitoring one's online environments constantly. Online vigilance is the persistent thinking of individuals about online messages and interactions, even if they do not use communication devices, as a permanent cognitive connection to online communication (Van Gaeveren et al., 2024; Tanis et al., 2015; Smith, 2015).

Keum and Li (2023) stated that constant vigilance in online environments may be significantly associated with higher levels of loneliness. Online vigilance refers to constant vigilance or alertness of individuals against possible threats in online environments. When people perceive threats in digital environments, they tend to approach online interactions with heightened suspicion and caution. Thus, such a cognitive tendency can cause individuals to avoid social interactions, which leads to increased levels of loneliness (Maftei & Măirean, 2024).

2.3. Boredom Proneness

According to O'Hanlon (1981), boredom proneness can lead the person to change the activity which they are engaged in or their environment, and it can disappear when the conditions change. When individuals become bored with their situation, so as to reduce boredom, they try to add meaning to their lives by restructuring their lives (Mannell, 1984). In this context, Yan et al. (2025) stated that individuals with a high level of boredom proneness are more likely to use certain online applications and mobile devices to combat these troubles.

Boredom proneness is said to arise when an individual's values and goals are not fulfilled by their current circumstances (Latham & Locke, 1991). According to Soylu and Siyez (2014, p. 83), boredom is a disturbing condition in which the individual experiences a lack of stimulus for an activity and the absence of meaning attributed to that activity. Moreover, existentialist theories state that the proneness to boredom arises when people fail to participate in activities due to lack in life or when they stop participating in these activities and do not encounter a satisfactory activity (Fahlman et al., 2013; Fisher, 1993). Studies indicate that when individuals learn through experience that the use of digital media is effective in reducing boredom, they are more likely to resort to this coping strategy in future boring situations, leading to a reliance on digital media use (Balci & Saritaş, 2025).

Boredom proneness is the condition associated with feelings of restriction, frustration, increased dissatisfaction, monotony and repetition, and the concepts of distraction, hopelessness, depression, mobile device use addiction and loneliness are also significantly associated with boredom proneness (Yan et al., 2025, p. 242; Harris, 2000, pp. 577-578). Boredom proneness and loneliness are strongly related (Conroy et al., 2010), and in this context, loneliness may increase boredom proneness by reducing social interaction.

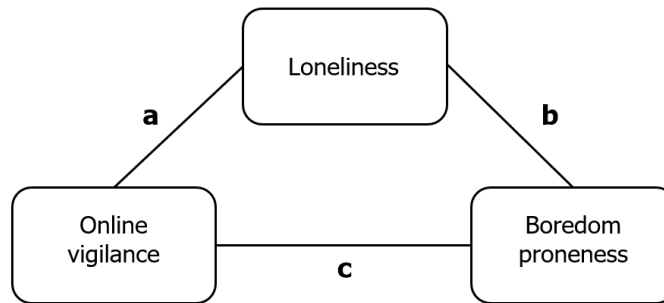
3. Methodology

The research is a cross-sectional survey and these kinds of survey studies, which are relatively fast to implement (Connelly, 2016), are effective in examining the relationships between variables (Liu, 2008). In this context, we carried out a cross-sectional study to determine the relationship between dependent, independent and mediator variables. The participants of the study consisted of individuals living in Türkiye. The questionnaire form was distributed via social media platforms, specifically Instagram and WhatsApp, between January 20 and January 31, 2026. We analysed the data obtained from a total of 345 participants using various techniques. Model 4 of the Process Macro was used in the mediating variable analysis. Mediation analysis aims to assess the extent to which a causal variable X affects an outcome Y via one or more mediators (Hayes, 2012). Although not the only approach to examining causal mechanisms, it is widely applied in social and behavioural research (Igartua & Hayes, 2021). We used Hayes' Process Macro to efficiently test whether loneliness mediates the effect of online vigilance on boredom proneness, allowing for clear evaluation of both direct and indirect effects. In conducting the study, we used convenience sampling technique. Participants can be easily and quickly reached in convenience sampling technique (Taherdoost, 2016). On the other hand, this survey technique has limitations regarding its ability to represent the population and the generalizability of the results (Golzar et al., 2022). Three scales were used in the study. The statements regarding online vigilance were adapted from the study of Reinecke et al. (2018), the statements regarding boredom proneness were adapted from the study of Struk et al. (2017), and the statements regarding loneliness were adapted from the study of Wu and Yao (2008). The Online Vigilance Scale consists of 12 items. The scale consists of three dimensions: "salience", "reactability" and "monitoring." Boredom proneness and loneliness scales consist of 8 items. The scales were first translated into Turkish by four researchers, all authors of the present study, and then back-translated into English using a back-translation technique, thus the final Turkish versions of the scales were established. In addition, four demographic questions were asked to the participants (age, gender, monthly income status and educational status). Two items in the loneliness scale were reverse coded (I am an outgoing person / I can find companionship when I want it). The scales were rated on a 5-point Likert scale. The pilot study was

carried out with 40 participants who were reached online. In this context, reliability analyses of the scales were made and the statements in the scales were revised after the pilot application. Ethics approval was obtained from the İnönü University Scientific Research and Publication Ethics Committee for Social and Human Sciences (Session Date: January 15, 2026; Session Number: 1; Decision Number: 26).

The Cronbach's Alpha values of the online vigilance, boredom proneness, and loneliness were .939, .871, and .840, respectively. Since the Alpha values were above 0.7, all three scales were reliable (Cortina, 1993). We also applied a normality test to examine the compliance of the research data with the normality assumption. The mean and standard deviation values of the variables were as follows: online vigilance (3.11, SD= .917), boredom proneness (2.83, SD= .878), loneliness (2.47, SD= .816). Skewness and kurtosis values ranged between -1 and +1, thus the data were normally distributed, and evaluated as suitable for parametric analyses. The model of the research is shown in Figure 1.

Figure 1: Research model



Source: Own elaboration

The following hypotheses were developed for the study:

- H1. There is a positive and significant relationship between online vigilance and boredom proneness.
- H2. There is a positive and significant relationship between online vigilance and loneliness.
- H3. There is a positive and significant relationship between boredom proneness and loneliness.
- H4. Loneliness mediates the relationship between online vigilance and boredom proneness.

4. Findings

This section covers demographic findings, One-way ANOVA and independent samples t-tests, correlation analyses, and mediation analysis.

4.1. Demographics

232 of the participants were female and 113 were male. In terms of age, 230 of the participants were in the age range of 18-29, 68 were in the age range of 30-39, 36 were in the age range of 40-49, 4 were in the age range of 50-59 and 7 were in the age range of 60 and over. In terms of educational status, the

undergraduate education degree ranks first with 59.7%, followed by the associate degree with 18.6%. In the monthly income distribution, the income group of 20.000 TL and below ranks first with 41.2%.

4.2. Online Vigilance, Boredom Proneness, Loneliness and Demographic Variables

One-way ANOVA and independent samples t-tests were performed to examine whether the variables of online vigilance, boredom proneness, and loneliness varied across demographic characteristics.

Table 1: Online vigilance, boredom proneness, loneliness and demographic variables

	Gender	n	$\bar{X}$	t	p
Online vigilance	Female	232	3.08	-1.108	.269
	Male	113	3.20		
Boredom proneness	Female	232	2.84	.164	.870
	Male	113	2.82		
Loneliness	Female	232	2.46	-.562	.575
	Male	113	2.51		
	Age	n	$\bar{X}$	F	p
Online vigilance	18-29	230	3.13	2.461	.045
	30-39	68	3.27		
	40-49	36	2.91		
	50-59	4	2.02		
	≥60	7	3.05		
Boredom proneness	18-29	230	2.91	2.335	.055
	30-39	68	2.72		
	40-49	36	2.75		
	50-59	4	2.03		
	≥60	7	2.27		
Loneliness	18-29	230	2.55	2.880	.023
	30-39	68	2.35		
	40-49	36	2.49		
	50-59	4	1.88		
	≥60	7	1.73		
	Education	n	$\bar{X}$	F	p
Online vigilance	Primary	8	2.23	3.945	.004
	High school	29	2.93		
	Associate	64	2.98		
	Undergraduate	206	3.16		
	Graduate	38	3.44		
Boredom proneness	Primary	8	2.53	.703	.591
	High school	29	2.63		
	Associate	64	2.83		
	Undergraduate	206	2.87		
	Graduate	38	2.86		
Loneliness	Primary	8	2.03	1.800	.128
	High school	29	2.31		
	Associate	64	2.40		
	Undergraduate	206	2.56		
	Graduate	38	2.37		
	Income	n	$\bar{X}$	F	p
Online vigilance	≤ 20.000 TL	142	3.17	1.098	.358
	20.001-30.000 TL	55	3		
	30.001-40.000 TL	30	2.86		
	40.001-50.000 TL	32	3.21		
	≥ 50.001 TL	86	3.17		
Boredom proneness	≤ 20.000 TL	142	3	2.443	.047
	20.001-30.000 TL	55	2.75		
	30.001-40.000 TL	30	2.73		

Loneliness	40.001-50.000 TL	32	2.74	1.522	.195
	≥ 50.001 TL	86	2.67		
	≤ 20.000 TL	142	2.58		
	20.001-30.000 TL	55	2.53		
	30.001-40.000 TL	30	2.48		
	40.001-50.000 TL	32	2.39		
	≥ 50.001 TL	86	2.32		

Source: Own elaboration

Independent samples t-tests indicated no significant gender differences in online vigilance ($t = -1.108$, $p = .269$), boredom proneness ($t = .164$, $p = .870$), or loneliness ($t = -.562$, $p = .575$), suggesting that gender was not a significant factor in these variables. No significant age differences were found in boredom proneness. However, online vigilance differed significantly by age ($F = 2.461$, $p = .045$), with a difference between the 30-39 and 50-59 age groups ($MD = 1.254$, $p = .042$). Loneliness also varied significantly across age groups ($F = 2.880$, $p = .023$), with a difference between the 18-29 and 50-59 groups ($MD = .672$, $p = .044$).

With respect to education, boredom proneness and loneliness did not differ significantly, whereas online vigilance showed a significant effect ($F = 3.945$, $p = .004$). Post hoc comparisons revealed differences between primary and undergraduate ($MD = .935$, $p = .032$) and between primary and graduate education levels ($MD = 1.207$, $p = .007$). Finally, online vigilance and loneliness did not vary significantly by income, whereas boredom proneness showed a significant difference ($F = 2.443$, $p = .047$). This difference was observed between the ≤ 20.000 TL and ≥ 50.001 TL income groups ($MD = .334$, $p = .049$).

4.3. Correlation Analyses

Table 2 shows the findings regarding the relationship between online vigilance, boredom proneness and loneliness. Correlation coefficients are evaluated as low-level below 0.40, moderate level between 0.40-0.60, and high-level above 0.60 (Obilor & Amadi, 2018, p. 12).

Table 2: Correlation analyses for the relationship between online vigilance, boredom proneness and loneliness

		Online vigilance	Boredom proneness	Loneliness
Online vigilance	Pearson Correlation	1	.526	.250
	Sig. (2-tailed)		.001	.001
Boredom proneness	Pearson Correlation		1	.689
	Sig. (2-tailed)			.001
Loneliness	Pearson Correlation			1

Source: Own elaboration

Correlation analyses indicate a positive, significant, and moderate relationship between online vigilance and boredom proneness ($r = .526$). Online vigilance and loneliness also show a positive but low and significant correlation ($r = .250$). Additionally, boredom proneness and loneliness are positively, significantly, and strongly correlated ($r = .689$). H1, H2, and H3 were supported within this framework.

4.4. Mediation Analysis

To determine the mediating role of loneliness in the relationship between online vigilance and boredom proneness, Model 4 of the Hayes Process Macro was used. In Model 4, online vigilance was defined as the independent variable (X), loneliness as the mediator variable (M), and boredom proneness as the dependent variable (Y) (Hayes, 2018, p. 585).

Table 3: Mediation analysis

	B	SE	t	p	LLCI	ULCI
Path a	.223	.047	4.790	p < .001	.131	.314
Path b	.639	.038	16.980	p < .001	.565	.713
Path c' (direct effect)	.361	.033	10.781	p < .001	.295	.427
Total effect (c)	.504	.044	11.454	p < .001	.417	.590
Indirect effect (axb)	.142	.034	-	-	.077	.208

Source: Own elaboration

It was determined that online vigilance positively and significantly influenced loneliness (path a) ($B = .223$, 95% CI [.131; .314], $t = 4.790$, $p = .001$). However, online vigilance explained 6.3% ($R^2 = .063$) of the variance on loneliness. Before loneliness was included in the model, online vigilance positively and significantly influenced boredom proneness (pathway c) ($B = .504$, 95% CI [.417; .590], $t = 11.454$, $p = .001$). In addition, online vigilance explained 27.7% of the variance on boredom proneness ($R^2 = .277$). When the combined effects of online vigilance and loneliness on boredom proneness were examined, the direct effect of online vigilance on boredom proneness (c' path) ($B = .361$, 95% CI [.295; .427], $t = 10.781$, $p = .001$) was found to be significant. Similarly, loneliness (path b) ($B = .639$, 95% CI [.565; .713], $t = 16.980$, $p = .001$) positively and significantly affected boredom proneness. Online vigilance and loneliness together explained 60.8% of the variance in boredom proneness ($R^2 = .608$). The indirect effect was also significant as it didn't include LLCI and ULCI 0. The effect of online vigilance on boredom proneness was partly indirect through loneliness. In other words, approximately 28% of the total effect occurred indirectly through loneliness. As online vigilance increased, both loneliness and boredom proneness increased. In this context, when loneliness was included in the model, the direct effect of online vigilance on boredom proneness did not lose its meaning, but the strength of its effect decreased. This finding shows that loneliness has a partial mediator variable role and H4 was accepted.

5. Discussion and conclusions

Digital content has become a part of daily life. Particularly with the increase in the number of users of social media platforms, content is shared intensively on these platforms. In fact, as of 2025, the average daily social media usage time of internet users worldwide is 141 minutes (statista.com, 2025). Among social media use, video watching, and messaging frequency, it is suggested that social media use is a statistically significant predictor of online vigilance (Le Roux & Parry, 2022). On the other hand, digital content is not

only limited to social media, but also includes content found on websites. The intensity of online content and attention to these contents have given rise to the concept of online vigilance. This concept refers to the constant vigilance of the individual online. It is emphasized that individuals who are heavily engaged with online content have a lower level of emotional well-being (Johannes et al., 2018) and that online vigilance is negatively related to mental health (Petkovski et al., 2025).

Boredom is a common emotion and the tendency towards it varies among individuals (Farmer & Sundberg, 1986). Whelan et al. (2020) suggest a strong relationship exists between boredom proneness and information and communication overload. Loneliness, which is called the modern epidemic (Bound Alberti, 2018), is a debilitating and widespread condition that can affect an individual's entire life (Killeen, 1998). Within the framework of online vigilance, boredom proneness and loneliness, this study focused on the relationship between the three structures and aimed to evaluate the mediating role of loneliness in the relationship between online vigilance and boredom proneness.

Findings indicate a positive, significant, and moderate relationship between online vigilance and boredom proneness. This suggests that higher levels of boredom proneness are associated with increased online vigilance. Nevertheless, the relationship between online vigilance and loneliness is positive, significant and low. A strong, positive, and significant relationship was found between boredom proneness and loneliness, indicating that higher levels of boredom proneness are associated with increased feelings of loneliness. The mediation analysis revealed that increases in online vigilance were associated with higher levels of both loneliness and boredom proneness. Additionally, loneliness was found to partially mediate the relationship between online vigilance and boredom proneness. This study finds that online vigilance and boredom proneness are connected, mainly through loneliness. Being constantly online is associated with greater loneliness, which in turn is linked to higher boredom proneness.

The research findings align with previous studies on the subject. It has been stated that boredom proneness and online vigilance are significantly and positively related (Lv & Wang, 2023); similarly, a significant and positive relationship exists between loneliness and online vigilance (Maftai & Măirean, 2024), as well as between loneliness and boredom proneness (Li et al., 2021). The study also demonstrated a significant positive relationship among all three variables, suggesting that as individuals' boredom proneness and feelings of loneliness increase, their online vigilance behaviours likewise increase. The positive association between online vigilance and negative mental health makes it understandable why all three negative variables are positively correlated with each other.

The findings of the study indicate that individuals' digital content consumption habits may be associated with feelings of loneliness and boredom, as well as influence online vigilance behaviours. The results offer several implications for promoting conscious internet use. For instance, programs aimed at reducing individuals' states of online vigilance may help alleviate feelings of boredom and loneliness. Additionally, offline activities can play a significant role in reducing these feelings by strengthening face-to-face interactions among individuals. Various strategies can be developed to enhance users' well-being. In this context, the development of digital awareness programs may contribute to decreasing feelings of boredom and loneliness. As this study used a cross-sectional design, these implications are preliminary and should be tested in longitudinal or experimental research before informing intervention design.

This study examined the relationship between online vigilance, boredom proneness and loneliness within the same model, using survey data. The primary limitation of the study is the use of convenience sampling, which constrains the generalizability of the findings. In addition, as the study was conducted within a specific cultural context and does not include cross-cultural comparisons, the findings should be interpreted within the cultural characteristics of the sample. Future research could adopt qualitative designs or, alternatively, employ experimental methodologies. In particular, the relationship between loneliness and boredom proneness and media content consumption practices can be examined comparatively with studies focusing on different cultures.

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Conflict of interest

The authors declare no conflict of interest.

Ethical statement

This study was conducted in accordance with İnönü University ethical standards and approved by Scientific Research and Publication Ethics Committee for Social and Human Sciences (Session Date: January 15, 2026; Session Number: 1; Decision Number: 26).

Declaration of AI usage

No generative AI tools were used in the preparation of this manuscript.

Data availability

The data supporting the findings of this study are available upon request.

Author contributions

	Özgür Kılınç	Maşide Karaca	Fazilet Bakış Altundağ	Sadık Çalışkan
Conceptualization	X	X	X	X
Data curation	X	X	X	X
Formal analysis	X			
Investigation	X	X	X	
Methodology	X	X		
Supervision	X	X	X	X
Writing - original draft	X	X	X	X
Writing - review & editing	X	X	X	X

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