

Received: 18 April 2024

Revision received: 25 May 2024

Accepted: 30 June 2024

Copyright © 2024 JESTP

www.jestp.com

DOI 10.12738/jestp.2024.2.003 ♦ June 2024 ♦ 24(2) ♦ 32-46

Article

Social Networking Addiction: Apathy's Role in Problematic Social Media Use and Perceived Behavioral Control among University Students

Muhammad Awais Bhatti *

Department of Management, College of Business, King
Faisal University, Al-Ahsa 31982, Saudi Arabia
ORCID: <https://orcid.org/0000-0003-4485-1168>
Email: mbhatti@kfu.edu.sa

Ahmad Zakariya

Department of Management Sciences, National University of
Modern Languages, Lahore Campus, Pakistan.
ORCID: <https://orcid.org/0009-0004-2968-9195>
Email: aazakariya@numl.edu.pk

Abstract

The aim of this research is to examine the relationships between university students' problematic use of social media, apathy, and social networking addiction behaviors. It focuses on how perceived behavioral control act as moderators in the relationships. This research contributes to our understanding of the psychological mechanisms underlying problem social media behaviors, and this is vital with the increasing alarm over the ill effects of excessive social media consumption on students' well-being. A questionnaire was utilized that was specifically designed in format to gather data from 234 university students in the context of a quantitative study. Apathy, problematic social media use, perceived control of behavior, and addiction behavior in social networking were all included in the questionnaire adapted from existing research. Partial Least Squares Structural Equation Modeling (PLS-SEM) was utilized in the data analysis process using ADANCO software to measure the relationship between variables and test hypotheses. The findings indicate that social networking addiction behaviors are the primary predictor of social media problematic use, and apathy mediates the relationship. Additionally, the strength of the relationship is moderated by perceived behavioral control, and greater perceived control diminishes the effect of addiction on social media problematic use. All hypotheses were supported. This study extends current understanding of social media addiction by incorporating emotional disengagement (apathy) and self-regulation (perceived behavioral control). The findings highlight important psychological factors to target in interventions aimed at reducing problematic social media use, particularly for university students.

Keywords

Social networking addiction, Apathy, Problematic social media use, Perceived behavioral control, University students

Correspondence to Muhammad Awais Bhatti, Department of Management, College of Business, King Faisal University, Al-Ahsa 31982, Saudi Arabia.
Email: mbhatti@kfu.edu.sa

Citation: Bhatti, M. A., Zakariya, A. (2024). Social Networking Addiction: Apathy's Role in Problematic Social Media Use and Perceived Behavioral Control among University Students. *Educational Sciences: Theory and Practice*, 24(2), 32 - 46.
<http://dx.doi.org/10.12738/jestp.2024.2.003>

Introduction

The increasing penetration of social media in daily life has transformed communication behaviors, social relations, and digital consumption patterns. Although social networking websites offer various benefits, such as connectivity, information sharing, and professional networking, they also possess severe threats if utilized in excess or compulsively (Balcerowska et al., 2023). Problematic social media use has also been identified as a new area of concern in psychological and behavioral studies, which is related to mental issues, decreased productivity, and loneliness (Cannito et al., 2023). Scholars have become more interested in investigating the precursors of PSMU, more precisely the behaviors of social networking addiction, which is conceptualized as repetitive and compulsive usage of social networking sites in place of unfavorable outcomes (Vossen et al., 2024). Apathy, or emotional indifference, lack of motivation, and lack of engagement in goal-directed behaviors, is also common among people with high social media addiction (Lahti et al., 2024). When too much social networking diminishes effective real-life interaction, users feel apathy, which in turn reinforces compulsive use of online platforms (Enwereuzor, 2023). On the other hand, perceived behavioral control, an extension of the Theory of Planned Behavior (Ajzen, 1991), assesses the ability of an individual to regulate their online behavior and inhibit compulsive behavior. Due to their self-regulation and boundary-setting abilities in the online world, high perceived behavioral control individuals will be inclined to eschew risky social media behavior (Aslan, 2023).

Past research has widely discussed social networking addiction behavior and problematic use of social media. There are various studies which suggest that high usage of social networking sites leads to compulsive behavior, hindering everyday life, study performance, and psychological well-being (Miranda et al., 2023). Studies highlight that individuals who are prone to social networking addiction also experience withdrawal symptoms, being unable to stop online activity, and disturbance of social and occupational functioning (Farid et al., 2023). Salience, mood modification, tolerance, withdrawal, and relapse are all symptoms manifestations of behavioral addiction that are characteristic of such addictive behaviors (Mojtabai, 2024). Various studies have demonstrated that frequent users of social media are more likely to have problematic social media use, which includes excessive screen time, emotional dependence on social contacts, and being unable to disengage from online worlds. (Vossen et al., 2024).

Apathy has been identified as a key factor influencing problematic social media use, particularly among individuals exhibiting social networking addiction behaviors. Research suggests that excessive social media use may lead to emotional exhaustion, cognitive disengagement, and motivational deficits, which collectively contribute to apathy (Ewurum et al., 2023). Such an apathetic condition lowers one's self-regulatory capacity so that they would be more disposed to passively indulge in destructive social media consumption instead of proactively controlling their online intake (Kelber et al., 2024). Perceived behavior control has extensively been researched as a moderator variable in addictive online behaviors. Research indicates that those with high perceived behavioral control are more capable of resisting compulsive social networking activities, with stronger self-regulation and goal-directed behavior (Liu & Wang, 2024).

Despite many investigations of social networking addiction behavior and social media problem use, there remain some gaps. First, while some of the previous studies have examined the direct association between social networking addiction and social media problem use, fewer have examined the mediation of the association by indifference (Pishghadam et al., 2023). Apathy as a psychological outcome of excessive social media use has not been examined to a great extent, with the majority of the studies examining impulsivity, boredom, or deficits in emotional regulation (Ewurum et al., 2023). It is necessary to close this gap in order to establish how behaviors of addiction are being actualized into problematic consumption of digital means. Second, although perceived behavior control has been examined as a protective factor for different digital addictions, specifically its moderating effect on social networking addiction behavior and problematic usage of social media has not yet been investigated adequately (Chentsova et al., 2023). Current research mainly focuses on self-efficacy and self-regulation as personal variables but does not explore how perceived behavioral control can act as a buffer against the impact of addiction on problematic use (Ojo et al., 2023). Understanding this moderating effect is essential in order to develop interventions that promote healthier social media use.

1. To examine the impact of social networking addiction behaviors on problematic social media use.
2. To investigate the mediating role of apathy in the relationship between social networking addiction behaviors and problematic social media use.

3. To explore the moderating effect of perceived behavioral control on the relationship between social networking addiction behaviors and problematic social media use.

Both theoretically and in practice, this research is highly relevant. Theoretically, with the addition of perceived behavioral control as a moderator and apathy as a mediator, this research builds upon previous studies on social media addiction. With the addition of these psychological variables, the study contributes to our understanding of behavioral addiction processes within virtual worlds. In encouraging self-regulation, reinforcing perceived behavioral control, and addressing indifferent behavior, the findings can be applied in practice towards developing therapies diminishing deleterious social media consumption.

The Compensatory Internet Use Theory (CIUT) and the Theory of Planned Behavior (TPB) have been the main sources of strength for studies. CIUT holds the view that individuals utilize excessive Internet use as a compensation for painful emotional experiences, and that is why problematic Internet use due to indifference is emerging as an alternative for social network addiction behavior. TPB explains its moderating function in curbing maladaptive social media use by emphasizing the role that perceived behavioral control plays in regulating behaviors (Ajzen, 1991). The combination of these theories provides a comprehensive explanation of the psychological processes of maladaptive social media use and is in line with the aim of the study.

Literature Review

Social networking dependence is a prevalent problem in the age of the internet, and compulsive habits of usage hinder daily life activity (Balcerowska et al., 2023). It is revealed by the studies that heavy usage of social networking sites gives rise to psychological and behavioral dependencies, which consequently produce a range of negative outcomes, including compromised cognitive control, poor academic or work performance, and social rejection (Lahti et al., 2024). Addiction to social media is largely responsible to instant gratification factors, fear of missing out (FOMO), and reward processes embedded in the algorithms of the platforms (Cannito et al., 2023). Past research has found that individuals who have addictive behaviors in social networking also have greater impulsivity, greater emotional distress, and poor self-regulation (Kwak & Kim, 2023).

Problematic social media use is cross-culturally recognized as a manifestation of digital dependence, in which excessive use disrupts a person's health, interpersonal functioning, and everyday life (Mojtabai, 2024). Social networking addiction behavior and problematic social media use often have a mediated relationship with each other through psychological processes like anxiety, depression, and compromised self-control (Hylkilä et al., 2023). It is established that socially media-dependent individuals are unable to disconnect from the digital culture, and they also feel withdrawal-like symptoms when being disconnected from social media (Kelber et al., 2024). Problematic social media use has its impact beyond subjective distress to cover cognitive functioning, decision-making, and actual social relationships (Leijse et al., 2023). Therefore, comprehension of such behavior and psychological processes is crucial to develop effective interventions in order to reverse the destructive impact of social networking addiction (López-Gil et al., 2023).

Addictive social network behaviors have progressively become associated with deviant use of social media as individuals display compulsive tendencies that interfere with regular life and psychological well-being (Liu et al., 2023). Social network addiction has typically been defined as excessive and compulsive use of social network platforms, typically spurred by psychological motivations of instant pleasure and social affirmation (Marino et al., 2023). Akin to this involves compulsive checking, overconsumption, and self-regulatory problems, creating negative psychological as well as social consequences (She et al., 2023). Pathological usage of social networking sites refers to excessive use of social networking websites that intrudes into daily function, emotional wellness, and cognition (Stangl et al., 2023). A number of studies have established that people with severe social networking addiction will tend to have worse social relationships, less productivity, and distressing psychology, reinforcing maladaptive patterns of use (Weinstein, 2023).

Empirical research provides substantial evidence supporting the relationship between social networking addiction behaviors and problematic social media use (Leijse et al., 2023). Studies have consistently found that compulsive social media engagement is associated with increased levels of stress, emotional dysregulation, and impulsivity, all of which contribute to problematic usage patterns (Lahti et al., 2024). The psychological stimulation offered by social networking sites—like alerts, algorithmically filtered content presentation, and cyber social approval—enforces addictive behaviors and extends duration of engagement, thereby facilitating higher rates of problematic social media usage among highly dependent individuals (Hylkilä et al., 2023). As the

empirical observations confirm, it can be inferred that social networking addiction facilitates problematic social media usage through the formation of compulsive behavior patterns, the decline of self-regulation, and increasing digital dependence (Vossen et al., 2024). Hence, it can be hypothesized that:

H1: Social networking addiction behaviors have a significant impact on problematic social media use.

Apathy is now often linked to more troublesome digital behaviors, such as excessive social media use (Enwereuzor, 2023). People experiencing apathy avoid doing anything meaningful and are characterized by a lack of interest, motivation, or emotional engagement. Apathetic individuals become passive and routine when it comes to Internet use, craving easy entertainment or diversion from actual-life responsibilities (Ewurum et al., 2023). When people have not got sufficient intrinsic motivation or emotional interest in offline activities, they want to utilize social media for engagement even when they are aware of its adverse effects (Balcerowska et al., 2023). Problematic social media use has been established as excessive and uncontrolled usage of social networking websites, and it is very common among individuals with apathetic behaviors as they are less likely to be self-regulating or constantly checking their screen time (Pishghadam et al., 2023).

The use of apathy in internet abuse and addiction has been brought to the fore by recent research. Apathetic individuals, based on several studies, tend to overuse media, and they employ social networking sites as a means of wasting time rather than as a means of communication (Singh et al., 2023). The lack of offline motivation also lends credence to overuse of the digital, forming a cycle that utilizes social media to fill emotional and psychological voids (Chentsova et al., 2023). The passive pattern of use is typical of problematic social media use since it encourages dependency on digital socialization while restricting offline interaction with meaning (Kelber et al., 2024). Based on empirical evidence for the association between apathy and excess use of social media, it is predicted that:

H2: Apathy has a positive impact on problematic social media use.

Empirical studies have more and more centered on the psychological processes of the interaction among social networking addiction behavior and problematic social media use, and indifference has been discovered to be a robust mediating factor (Moretta et al., 2023). Apathy, or a lack of emotional sensitivity, motivation, or interest, has been found to be a key element in sustaining compulsive digital conduct by interfering with self-regulation and impulse control (Pishghadam et al., 2023). They are probably going to be apathetic since excessive use of the internet usually results in emotional exhaustion, disconnection from actual activities, and meaninglessness (Ewurum et al., 2023). Earlier studies have proven that apathy is associated with greater passive use of media, where individuals tend to opt for easy entertainment or digital distraction in place of significant interaction (Mojtabai, 2024).

On the basis of this empirical basis, apathy can be predicted to mediate the connection between social networking addiction behaviors and social media problem use (Pishghadam et al., 2023). People who are likely to develop addiction-prone behaviors towards social networking sites are apathetic because of the cognitive and affective fatigue resulting from prolonged screen exposure (Lewin et al., 2023). This apathy reduces their ability to regulate themselves and think rationally, and so they will be more likely to engage in dysfunctional social networking (Ewurum et al., 2023). Highly apathetic people, therefore, will struggle with stopping addictive social networking behaviors because their motivation breaks down attempts at moderating the use of digital technology. This enables maladaptive social media use through passive browsing, prolonged usage, and a lack of ability to logout of virtual environments (Vossen et al., 2024). With evidence having been discovered in apathy being the primary psychological process in this behaviour pathway, the following hypothesis is put forward:

H3: Apathy mediates the relationship between social networking addiction behaviors and problematic social media use.

Perceived behavioral control, or an individual's belief about their ability to regulate and govern their behavior, has been well documented as an important moderator of compulsive online behaviors (Aslan, 2023). Individuals with high perceived behavioral control are found to exercise self-control and effectively regulate their internet use, hence reducing the potential for overuse of social media (Ajzen, 1991). Empirical evidence indicates that perceived behavioral control serves as a buffer that enables individuals to defy compulsive urges, delay gratification, and engage in a symmetrical approach for consumption in cyberspace (Farid et al., 2023). Conversely, those with low levels of perceived behavioral control find it hard to control impulses and are therefore more susceptible to addiction to social networking and its debilitating consequences (Liu & Wang, 2024).

Based on such empirical observations, it is postulated that perceived behavioral control plays a mediating role between social networking addiction activities and problem usage of social media (Moretta et al., 2023). High perceived behavioral control users are most likely to be active regulators of their online behaviors, reducing the level and magnitude of addictive behavior, and arresting its development into problematic usage (Ojo et al., 2023). This implies that even if someone shows addiction-like behavior towards social networking, high perceived behavioral control can allow them to identify patterns of excessive use and take corrective measures before they become a problem (Stangl et al., 2023). As perceived behavioral control is a governing mechanism that affects digital consumption behaviors, its moderation effect would be able to dilute the direct influence of social networking addiction activities on problematic social media use (Weinstein, 2023). Accordingly, it is hypothesized that:

H4: Perceived behavioral control moderates the relationship between social networking addiction behaviors and problematic social media use, such that higher perceived behavioral control weakens this relationship.

Theoretical Framework Supporting the Research

The theoretical bases on which understanding is possible in respect of how the behaviors of social networking addiction correlate with apathy, negative social media behavior, and perceived control's moderation would be placed under the bases of the TPB and CIUT. CIUT further implies that people apply too much of online conduct as a mechanism of coping with negative affect or psychological distress such as apathy, loneliness, or anxiety. This conforms to the interpretation that persons suffering from social networking addiction may create apathy because of emotional burnout and lower motivation levels, thereby advance passive interaction and maladaptive utilization of social media (Cannito et al., 2023). The reward processes of social media websites further amplify the cycle to create a sense of gratification from compulsive use despite detrimental outcomes (Leijse et al., 2023). Additionally, TPB also predicts that perceived control over behavior determines individuals' control over their actions (Ajzen, 1991). In such a case, high perceived behavioral control individuals can better avoid indulgence in social networking despite the addiction predispositions, while those with low perceived behavioral control will be prone to engage in risky social media behavior (Shanka & Gebremariam Kotecho, 2023). The intersection between these theories explains how social networking addiction behavior contributes to problem social media use through boredom, with perceived behavioral control as a moderator that decreases the association. The combination of CIUT and TPB thus provides a general framework (Figure 1) to explain the psychological and behavioral processes involved in problem social media use.

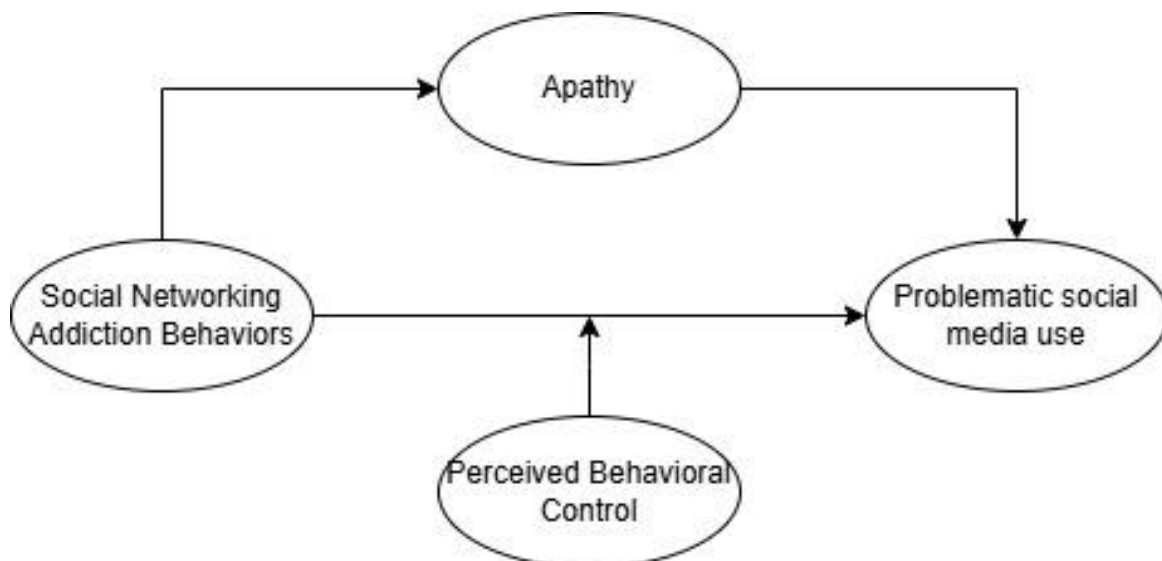


Figure 1: *Conceptual Framework.*

Methodology

The present study examined the relationship between problematic use of social media, apathy, perceived behavioral control and social networking addiction behavior among university students. Convenience sampling

was used to select a sample of 234 university students for the quantitative study. Participants were selected from a broad range of academic fields to ensure a representative sample of university students. Participants were selected since they are highly active on the internet and thus are the perfect subjects to focus on the behavioral and psychological aspects of social media addiction.

Data were collected by means of a structured questionnaire (Table 1) with pre-tested scales for the purpose of measuring the primary constructs of interest. The measures utilized in this study came from previous literature to ensure the reliability and validity of the measure instruments. The primary variables included social networking addiction behavior, apathy, negative social media usage, and perceived behavior control. This self-report questionnaire specifically crafted was used to record the participants' own behaviors and attitudes towards their social media use habits and psychological traits.

Table 1: *Questionnaire Profile*

Variables	No of Questions	Taken from
Social networking addiction behaviors	09	(Yu & Luo, 2021)
Apathy	04	(Foltz et al., 2016)
Perceived behaviors control	04	(Woo et al., 2023)
Problematic social media use	06	(Shensa et al., 2017)

After collecting data, analysis was carried out through ADANCO software, which is a computer program that is widely applied in Partial Least Squares Structural Equation Modeling (PLS-SEM). PLS-SEM was employed because it has the ability to analyze complex relationships between several constructs and deliver comprehensive analysis of the measurement and structural models. Measurement model validity and reliability were evaluated, and path analysis was performed to confirm hypothesized hypotheses. The fit of the model was assessed by standard measures such as R^2 , RMSE, and Q^2 , which helped in studying the quality and predictability of the model. This was enabled by a robust investigation of how the variables interacted as per the hypotheses.

Results

Validity and estimates of reliability of the primary variables under study are reported in Table 2. Internal consistency is estimated using Dijkstra-Henseler's rho (ρ_A) and Jöreskog's rho (ρ_c), convergent validity is estimated using Average Variance Extracted (AVE), and Cronbach's alpha (α) is a measure of reliability. The reliability for all the variables is robust, with Social Networking Addiction Behaviors (SNAB) showing high consistency in all the measures ($\rho_A = 0.943$, $\rho_c = 0.942$, $\alpha = 0.942$), indicating high internal consistency.

Table 2: *Variables reliability and validity*

	Dijkstra-Henseler's rho (ρ_A)	Jöreskog's rho (ρ_c)	Cronbach's alpha(α)	Average variance extracted (AVE)
Social networking addiction behaviors	0.943	0.942	0.942	0.645
Apathy	0.856	0.854	0.854	0.594
Perceived behaviors control	0.819	0.818	0.818	0.528
Problematic social media use	0.914	0.909	0.911	0.626

The AVE for SNAB is 0.645, which is above the widely accepted cutoff of 0.50, again reflecting its convergent validity. Apathy ($\rho_A = 0.856$, $\rho_c = 0.854$, $\alpha = 0.854$) and Problematic Social Media Use (PSMU) ($\rho_A = 0.914$, $\rho_c = 0.909$, $\alpha = 0.911$) also exhibit high internal consistency, with AVEs of 0.594 and 0.626, respectively, affirming their convergent validity. Perceived Behavioral Control (PBC), measuring 0.819 (ρ_A), 0.818 (ρ_c), and 0.818 (α) for reliability coefficients, shows good internal consistency, while its 0.528 AVE falls short of the optimal 0.60 benchmark but within acceptable parameters for exploratory studies. The findings as a whole identify that all constructs in the model (Figure 2) are indeed reliable and valid enough to provide a solid foundation for further analyses.

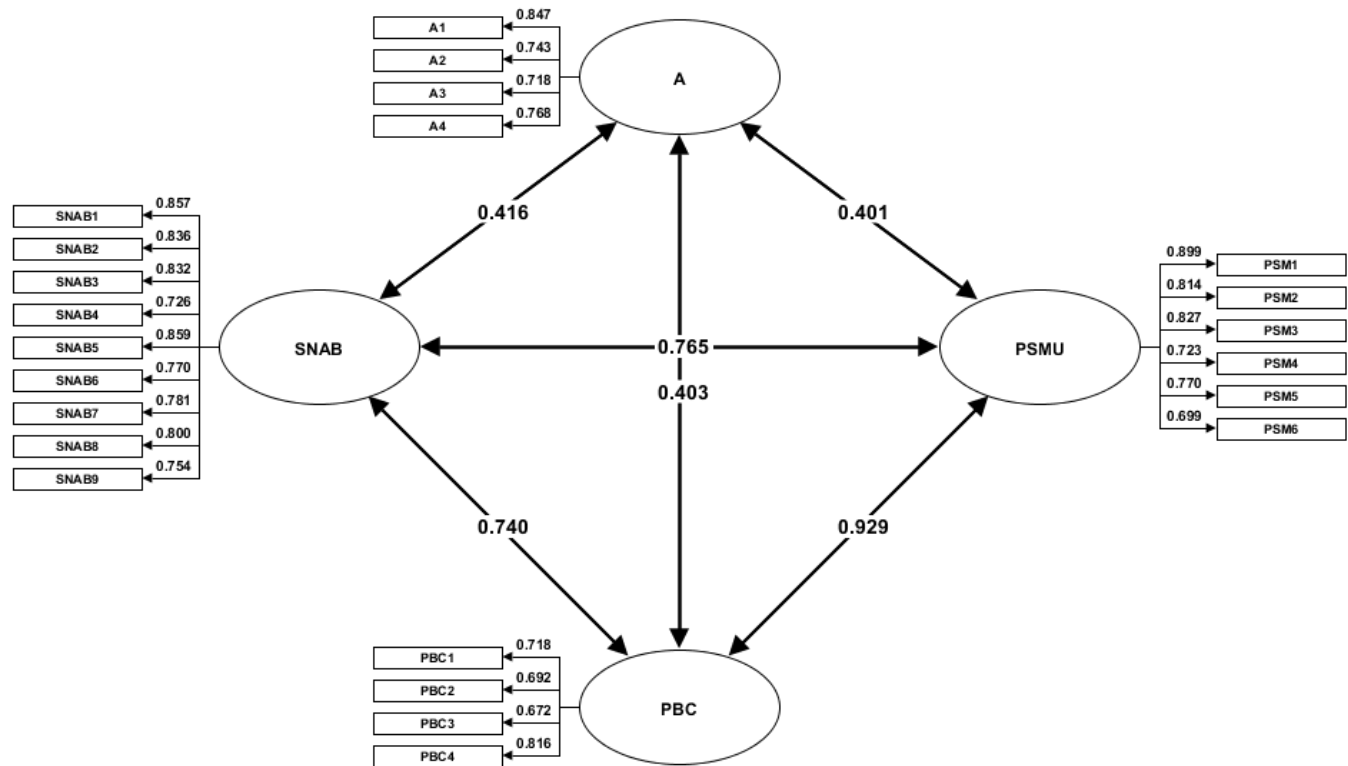


Figure 2: Estimated Model.

Table 3 provides the measurement item fitness statistics for each variable, showing the loadings of individual indicators. For Social Networking Addiction Behaviors (SNAB), all items exhibit satisfactory loadings, with items SNAB1 (0.857), SNAB5 (0.859), and SNAB3 (0.832) showing particularly strong associations, while item SNAB4 (0.727) has the weakest loading but still falls within an acceptable range above 0.7. These loadings reveal that the items are clear measures of the latent construct. The same is the case for Apathy, where items A1 (0.848) and A4 (0.768) are the strongest, while A3 (0.718) has a lower loading but is still sufficient for measurement purposes. The Perceived Behavioral Control (PBC) items show a spread of loadings, with PBC4 (0.816) being the highest and PBC3 (0.672) the lowest, suggesting that some indicators of perceived behavioral control may be less representative of the construct, though still reliable for the analysis. The Problematic Social Media Use (PSMU) items display good loadings with the highest being PSM1 (0.899) and PSM2 (0.814), which indicates good correspondence of the measurement items with the underlying construct. In general, the measurement items demonstrate a good fitness, implying the constructs are well measured, and the model can be trusted for further analysis.

Table 3: Measurement Items Fitness Statistics.

Indicator	Social networking addiction behaviors	Apathy	Perceived behaviors control	Problematic social media use
SNAB1	0.857			
SNAB2	0.836			
SNAB3	0.832			
SNAB4	0.727			
SNAB5	0.859			
SNAB6	0.770			
SNAB7	0.781			
SNAB8	0.800			
SNAB9	0.754			

Table 3: Measurement Items Fitness Statistics.(cont...)

Indicator	Social networking addiction behaviors	Apathy	Perceived behaviors control	Problematic social media use
A1		0.848		
A2		0.743		
A3		0.718		
A4		0.768		
PBC1			0.718	
PBC2			0.692	
PBC3			0.672	
PBC4			0.816	
PSM1				0.899
PSM2				0.814
PSM3				0.827
PSM4				0.723
PSM5				0.770
PSM6				0.698

Table 4 indicates the HTMT values, which indicate discriminant validity of the constructs. When the HTMT values are below the threshold value of 0.85, then it is discriminant validity because it indicates the constructs are sufficiently different from each other. Social Networking Addiction Behaviors (SNAB) and Apathy (0.415), SNAB and Perceived Behavioral Control (0.732), and SNAB and Problematic Social Media Use (0.763) all indicate HTMT values below 0.85 in this table, validating that these constructs differ from each other. The values between Apathy and Perceived Behavioral Control (0.399) and Apathy and Problematic Social Media Use (0.399) also lie well below the cut-off, validating their discriminant validity. Moreover, the discriminant validity between Perceived Behavioral Control and Problematic Social Media Use (0.820) is marginally higher but less than 0.85, which implies a sufficient degree of discriminant validity. The findings support that the constructs are sufficiently different from one another so that the model can effectively measure the relationships between them without the fear of multicollinearity or redundant constructs.

Table 4: Discriminant Validity (HTMT).

Construct	SNAB	A	PBC	PSMU
Social networking addiction behaviors				
Apathy	0.415			
Perceived behaviors control	0.732	0.399		
Problematic social media use	0.763	0.399	0.820	

Table 5 offers some of the most important goodness-of-fit statistics for the model, such as the coefficient of determination (R^2), adjusted R^2 , Q^2 predict, RMSE, and MAE. The R^2 (0.173) and adjusted R^2 (0.1706) suggest a relatively weak explanatory power for apathy, meaning that although the model explains some of the variance in apathy, there may be other factors not represented in the model that play a large role in its variance. Nonetheless, the Q^2 predict of 0.341 implies a medium-to-large predictive significance, which implies that the model can predict apathy to a certain extent.

Table 5: Model Goodness of Fit Statistics.

Construct	Coefficient of determination (R^2)	Adjusted R^2	Q^2 predict	RMSE	MAE
Apathy	0.173	0.1706	0.341	0.056	0.048
Problematic social media use	0.879	0.878			

The values for RMSE (0.056) and MAE (0.048) are low, implying that the model is fitting the data very well in error rates, and these values imply that the predictions made by the model for apathy are fairly accurate. For social media use problem, the R^2 of 0.879 and adjusted R^2 of 0.878 reflect a good explanatory power whereby

the model accounts for almost 88% of variance in social media use problem, which is impressive. The absence of predictive statistics for social media use problem here could be an indication that its prediction was secondary to the concern of the fit statistics. However, the model's good fit (Figure 3) and predictive validity emphasize its general robustness.

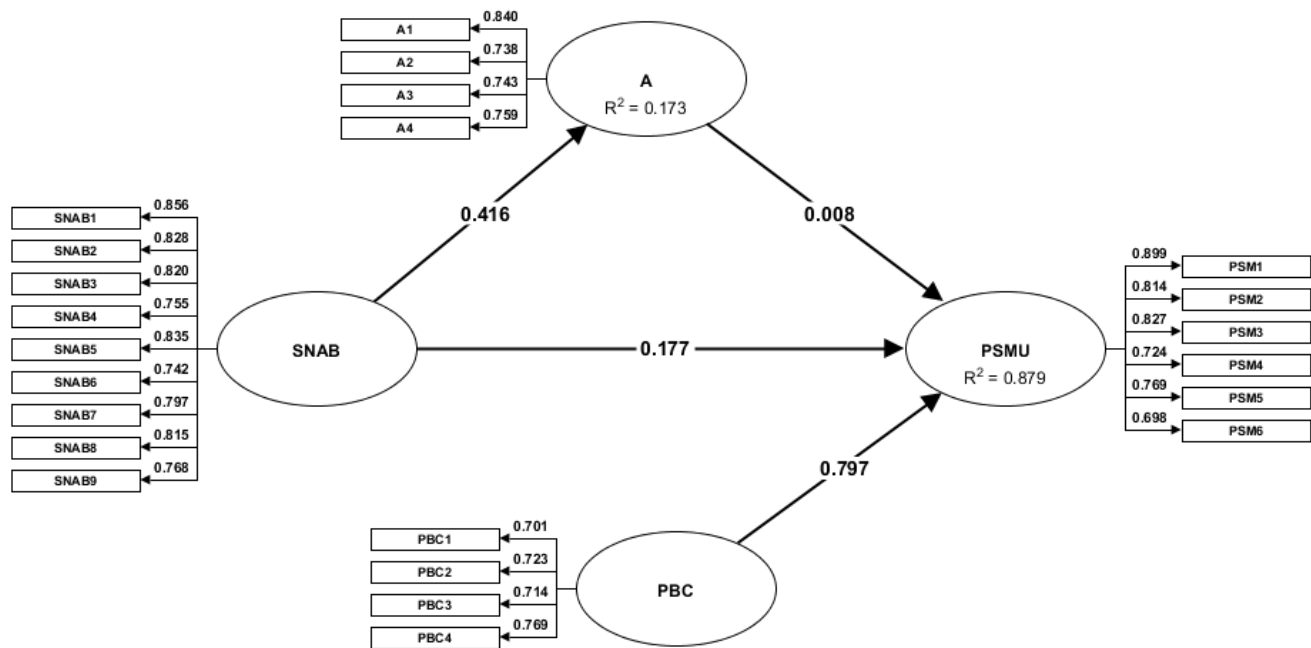


Figure 3: Structural Model for Path Analysis

The results of the route analysis, which confirm the assumptions in the study, are shown in Table 6. With 0.179 ($p = 0.036$), indicating a positive but small effect, the first hypothesis—that social networking addiction behaviors have a significant impact on problematic social media use—holds. The second hypothesis—that indifference has a large effect on compulsive social media use—has very strong support with 0.401 ($p = 0.000$), indicating a large and significant correlation. Apathy is a part of the process by which addiction behaviors have an effect on problematic social media use, and the third hypothesis, which stipulates that apathy mediates social networking addiction behaviors and problematic social media use, has been established with a mediation coefficient of 0.316 ($p = 0.000$). Lastly, coefficient -0.166 ($p = 0.000$) supports the fourth hypothesis, which states that perceived behavioral control is a moderator between social networking addiction behaviors and problematic social networking use.

Table 6: Path Analysis

Hypothesis	Coefficients	Standard Errors	t-values	p-values
Social networking addiction behaviors has a significant impact on Problematic social media use	0.179	0.085	2.094	0.036
Apathy has a significant impact on Problematic social media use	0.401	0.069	5.829	0.000
Apathy mediates the relationship between Social networking addiction behaviors and Problematic social media use	0.316	0.064	6.492	0.000
Perceived behaviors control moderates the relationship between Social networking addiction behaviors and Problematic social media use	-0.166	0.054	14.158	0.000

The implication is that higher perceived behavioral control diminishes the adverse effect of social networking addiction on problematic use. Firm confirmation of the support for the acceptability of the four

hypotheses stems from the very small p-values (all less than 0.05) and extremely large t-values (all greater than 2), which further affirm the stability of the results.

Discussion

The chapter of discussion explores the complex interplay between social networking addictive behavior, apathy, and problematic social media use, and gives a holistic explanation of the psychological processes behind excessive online engagement. By carrying out the empirical analysis through this study, this research sought to illuminate the dynamic interplay of many factors leading to compulsive social media use. Through the examination of the four hypotheses, this research has identified significant findings regarding the manner in which social networking addiction behaviors not only have direct effects on problematic social media use but also interact with psychological factors such as apathy and perceived behavioral control to influence user behavior. These results have important implications for both theoretical models and applied interventions that seek to counteract the negative consequences of digital addiction, underscoring the necessity of more sophisticated models that take into account not just the behaviors themselves but also the mediating and moderating factors that perpetuate and intensify harmful social media use.

The results of this study support that social networking addiction behaviors positively influence problematic social media use, supporting existing studies on digital addiction and compulsive internet behavior. Support of this hypothesis is evidence that those exhibiting excessive and uncontrollable social networking activity are more likely to participate in problematic social network use, as defined by compulsive use, fixation with online communication, and inability to limit screen exposure. Such findings concur with recent studies which have found evidence for a powerful connection between cyber dependency and social networking addiction and the observation by researchers that frequent usage of social media is intruding on usual everyday functioning, study performance, and psychological wellbeing (Cannito et al., 2023). This is evidenced by the inherent support mechanisms of social media, such as personalized information streams, algorithmic recommendations, and immediate feedback in the form of likes and comments, which render it more difficult for people to exit virtual spaces (Lewin et al., 2023). The current study also offers empirical evidence against prior research by showing that social networking addictive behaviors predict problematic social media use and reinforce the inability to limit online engagement despite the negative consequences thereof. The implication here is that problematic social media use is a product of addictive behaviors that result in compulsive maladaptive online conduct and not a product of a habituation engagement phenomenon (Lahti et al., 2024). In addition, the findings affirm that psychological dependence—when one feels emotional distress, withdrawal symptoms, and an irresistible urge to remain in contact—is the primary reason for excessive social media use, even at the cost of one's social, educational, or working life (Lewin et al., 2023). By affirming that social networking addiction behaviors have a major influence on problematic social media use, this research contributes to the growing literature on digital addiction and emphasizes the need for interventions that ensure responsible and reflective social media use.

The second hypothesis, that apathy positively contributes to problematic social media use, was also confirmed, further supporting the contribution of psychological disengagement to compulsive social networking behavior. This result is in line with earlier studies that suggest apathy, which is the emotional indifference, lack of motivation, and disengagement in cognition, contributes to excessive digital use by limiting one's self-regulation capability of their online activities (Pishghadam et al., 2023). When people feel apathy, they will find social media as a passive coping behavior, where they do repetitive scrolling and heavy content consumption with no purposeful interaction or real thinking (Enwereuzor, 2023). The results of this study further support that apathy not only sustains unhealthy social media use but also exacerbates its negative impacts by fueling digital escapism, whereby individuals avoid real-life responsibilities and social contact for engaging virtual communities (Lewin et al., 2023). In addition, the results indicate that apathy decreases impulse control so that it is harder for one to control the use of social media even if they are aware of its harmful consequences on their health (Mojtabai, 2024). This study contributes to the evidence base that demonstrates indifference as a consequence of excessive social media use and a precursor state of compulsive internet use, resulting in disengagement and digital dependence in a cycle. The impact of emotional and motivational psychological deficits in problematic social media use is also significantly affected by these findings and supports the need for therapy for psychological deficits, as opposed to behavioral control. By validating indifference as a valid predictor of problematic social media use, this study emphasizes the significance of psychological well-being as a predictor of internet use. It

also theorizes that active treatments need to be employed in reversing the adverse effects of problematic social media interaction and that these are self-regulation training, mindfulness interventions, and digital detoxification programs.

Evidence for the third hypothesis that apathy mediates the link between social networking addiction behaviors and problematic social media use was gained in this research, offering insightful knowledge of psychological processes of digital addiction. The results indicate that subjective levels of social networking addiction behaviors are associated with greater feelings of apathy, which subsequently contribute to problematic social media use. This finding is supported by the Compensatory Internet Use Theory, wherein individuals turn to the internet as a way to cope with states of negativity or dissatisfaction in everyday life (Cannito et al., 2023). Apathy, which manifests itself through emotional disaffection and withdrawal, most likely arises when individuals become increasingly isolated from real-life existence through an excessive reliance on social media. This affective detachment weakens their motivation to engage in productive or rewarding activities, thus they find themselves passively watching material on social media as a way of coping. In this case, social networking addiction behaviors are an antecedent of apathy, and apathy is a very important mediator that transforms compulsive use of social media into problematic use (Kelber et al., 2024). These results advance present knowledge by illustrating that apathy is not simply a function of excessive use of the Internet but also an intervening factor in increasing the harmful impact of social networking addiction behavior on the mental and social well-being of users. This association is of particular relevance in understanding the progression from informal usage to addiction usage, and interventions aimed at curtailing social networking addiction should seek to change both the addiction itself and the idle habits perpetuating it. The results underscore the necessity of interventions targeting emotional regulation and motivation enhancement as a means of countering the adverse effects of social media addiction by interrupting the apathy process leading to chronic use.

The fourth hypothesis, which stated that perceived behavioral control moderates the interaction between social networking addiction behaviors and problematic social media use, was also confirmed by this study, illuminating the role of self-regulation in digital consumption habits. The results show that the high perceived behavioral control group has a better capacity to negate the adverse outcomes of social networking addiction, hence failing to form risky social media use. Perceived behavior control, the most important element of the Theory of Planned Behavior (Ajzen, 1991), is a measure of the perceived control over his or her behavior and ability to make sensible choices, even when there may be temptation or external pressures. With social networking addiction, individuals who have high perceived behavioral control are less likely to experience problems caused by compulsive use of social networks as they possess the ability and self-efficacy to set boundaries, time-manage, and resist impulsive desires to use digital media. On the other hand, individuals with low perceived behavioral control are unable to control their activities online and thus experience higher tendency towards problematic usage of social media. The moderator effect identified through this study indicates that perceived behavioral control is a protective mechanism that buffers against the influence of social networking addiction to result in problematic use. This is consistent with earlier studies that have focused on self-efficacy and self-regulation being imperative in controlling addictive activity (Kelber et al., 2024). This study upholds the relevance of perceived behavioral control in countering negative social media use, with emphasis on interventions like digital literacy interventions, time management skills, and mindfulness training. By placing perceived behavioral control as a moderating variable, the findings underscore the role of self-regulation in reducing social networking addiction as well as its adverse impacts. Additionally, the study builds apathy as a mediating variable in problematic use, emphasizing the affective and cognitive complexities in digital dependence. These findings add depth to current research on digital addiction and call for multi-faceted interventions targeting addictive behavior as well as psychological considerations.

Implications

Theoretical contributions of this study are significant as it explains the intricate inter-relations between social networking addiction behavior, apathy, and problem use of social media, and including perceived behavioral control's moderate effect. By combining significant psychological factors like apathy and perceived control, the present study contributes to social media addiction research and its impact on the behavior of users. More specifically, the present findings provide further evidence to the application of the TPB to social media usage in the sense of reference to explaining how perceived control mediates the intensity of association between

addictive behavior and problematic use. Second, the mediating role of apathy emphasizes the affective and cognitive aspects of addiction, indicating that emotional disengagement is crucial in the translation of addiction into problematic behavior. This is in line with the self-regulation theory, which suggests that those who are highly exposed to addictive behaviors can have difficulty controlling themselves, thus becoming disengaged and ignoring the adverse effects of social media. The findings also necessitate an expansion of social cognitive theory by highlighting the interaction between personal control beliefs (perceived behavioral control) and emotional states (apathy) in influencing social media usage patterns. In essence, this research not only confirms the relevance of existing theories but also proposes a more integrated framework to study social media addiction, emotional disengagement, and user behaviors, offering new avenues for future research in this domain.

The implications for practice from this research are large, especially for the creation of interventions to decrease maladaptive social media use and treat the causes of addiction. The results emphasize the need to address social networking addiction behaviors and their emotional effects, like apathy, in order to effectively counteract the harm done by excessive social media consumption. For mental health professionals, educators, and policymakers, this study suggests that interventions should not only focus on the addictive behaviors themselves but also address emotional disengagement, as apathy was found to mediate the relationship between addiction and problematic use. Programs designed to increase emotional engagement with the real world and promote healthier digital habits may prove effective in alleviating social media-related problems. Moreover, the role of perceived behavioral control in moderating the relationship between addiction and problematic use indicates that empowering individuals to feel more in control of their social media engagement could be a key component in reducing addiction. Practical strategies, such as workshops, online tools, or counseling services aimed at enhancing self-regulation skills and promoting responsible usage, could significantly help individuals manage their social media behaviors. This study also indicates that social media platforms and organizations may have a proactive role to play in creating features that can enhance self-awareness and control, for instance, usage time reminders, break reminders, or even more personal content curation that supports healthier pattern engagement. Finally, the results of this research provide useful implications for developing holistic, multi-faceted interventions addressing the emotional as well as the behavioral dimensions of social media addiction.

Limitations and Future Research Directions

Despite the significant contribution of this research to the understanding of the connection between addiction behavior to social networking, apathy, and problematic use of social media, there are several limitations that must be taken into consideration. First and foremost among these is the cross-sectional design of the study, which limits the potential for demonstrating any causative relationships between the variables. Though the hypotheses were confirmed, cross-sectional data means that effects cannot be seen to be in one direction or the other, and future research involving longitudinal designs would be useful in the measurement of change over time and the establishment of stronger evidence of causality. The study used self-report measures, which are prone to social desirability and poor-quality self-reporting biases. Participants may underreport unwanted social behavior or overreport self-perceived control over social media use, and that can result in findings bias. Future research can include behavior data, i.e., actual use patterns or psychological testing, and self-reporting methods to arrive at a more objective and comprehensive picture of problematic social media use. Moreover, the sample employed for the present study was for a specific group or region, and that may not necessarily reflect the entire diversity of social media users. If the sample is made diverse in terms of age groups, cultural contexts, and socio-economic status, the findings can be generalized more, and more can be known about how these variables manifest in different groups.

In the future, more research could extend the current work to examine other variables that affect the link between social networking addiction and problematic social media use. For instance, research on the predictive value of personality traits, like impulsivity and neuroticism, may uncover important individual differences in susceptibility to social media addiction. Moreover, studies on the social support and peer influence as mediating and moderating factors may uncover additional factors influencing users' social media behavior, as well as their behavioral and emotional responses. Another avenue for future research is assessing the effectiveness of interventions aimed at decreasing problem social media use. Experimental studies assessing the effectiveness of various intervention strategies—like digital detox programs, mindfulness training, or apps aimed at promoting healthier interactions—has the potential to provide valuable insight into how to combat social media addiction.

Moreover, examining the role of technological innovations on social media platforms, like algorithms for personalized content and gamification features, would be critical to the understanding of the dynamic nature of social media engagement. Finally, future research could cautiously explore the construct of perceived behavioral control, probing its interactions with other psychological constructs like self-esteem, self-efficacy, or social comparison, to better understand their influence on individuals' social media behavior. By addressing these gaps and exploring new research avenues, researchers have the potential to expand our knowledge of social media addiction and develop more effective countermeasures to its negative consequences.

Conclusion

Overall, this study presents a thorough investigation of the complex dynamic between social networking addiction behavior, apathy, and problem social media use, uncovering essential data concerning how these components are interconnected and influence user action. The outcomes establish that social networking addiction behaviors are central to problem social media use, and apathy serves as an important mediator in the dynamic. Furthermore, perceived control over behavior serves as a moderator of the strength of such a relationship, such that individuals with higher perceived control over their social media usage will be less likely to experience the adverse consequences of addiction. These results contribute to the existing literature on social media addiction by introducing emotional disengagement and self-regulation as key psychological processes, hence presenting a broader account of the implicated factors. The practical applications of the research are that not only do interventions cure addictive behavior, but also treat emotional engagement and empowerment via enhancement of perceived control. In spite of the limitations of this study, like being cross-sectional and self-report based, this research offers an important vehicle for future research, including investigating causal relationships, maximizing sample diversity, and assessing intervention strategies' efficiency. Lastly, this research is a crucial juncture towards comprehending social media addiction complexity and offers pragmatic recommendations for relieving its implications on people's lives.

Acknowledgement

This work was supported by the Deanship of Scientific Research, Vice Presidency for Graduate Studies and Scientific Research, King Faisal University, Saudi Arabia [KFU242996].

References

- Ajzen, I. (1991). The theory of planned behavior. *Organizational behavior and human decision processes*, 50(2), 179-211. [https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T)
- Aslan, H. (2023). The influence of halal awareness, halal certificate, subjective norms, perceived behavioral control, attitude and trust on purchase intention of culinary products among Muslim costumers in Turkey. *International Journal of Gastronomy and Food Science*, 32, 100726. <https://doi.org/10.1016/j.ijgfs.2023.100726>
- Balcerowska, J. M., Sawicki, A., Brailovskaia, J., & Zajenkowski, M. (2023). Different aspects of narcissism and Social Networking Sites addiction in Poland and Germany: The mediating role of positive and negative reinforcement expectancies. *Personality and Individual Differences*, 207, 112172. <https://doi.org/10.1016/j.paid.2023.112172>
- Cannito, L., Ceccato, I., Annunzi, E., Bortolotti, A., D'Intino, E., Palumbo, R., D'Addario, C., Di Domenico, A., & Palumbo, R. (2023). Bored with boredom? Trait boredom predicts internet addiction through the mediating role of attentional bias toward social networks. *Frontiers in human neuroscience*, 17, 1179142. <https://doi.org/10.3389/fnhum.2023.1179142>
- Chentsova, V. O., Bravo, A. J., Mezquita, L., Pilatti, A., Hogarth, L., & Team, C.-C. A. S. (2023). Internalizing symptoms, rumination, and problematic social networking site use: a cross national examination among young adults in seven countries. *Addictive behaviors*, 136, 107464. <https://doi.org/10.1016/j.addbeh.2022.107464>

- Enwereuzor, I. K. (2023). Don't overstay your welcome! When workplace intrusions spark job apathy. *Current Psychology*, 42(29), 25569-25583. <https://doi.org/10.1007/s12144-022-03624-8>
- Ewurum, N., Obi-Aso, N., & Emoh, F. (2023). Predictors of student apathy amongst generation Z: excavating the roots. *Journal of African Real Estate Research*, 8(2), 1-20. <https://doi.org/10.15641/jarer.v8i2.1366>
- Farid, M. S., Cavicchi, A., Rahman, M. M., Barua, S., Ethen, D. Z., Happy, F. A., Rasheduzzaman, M., Sharma, D., & Alam, M. J. (2023). Assessment of marketing mix associated with consumer's purchase intention of dairy products in Bangladesh: Application of an extended theory of planned behavior. *Heliyon*, 9(6). <https://doi.org/10.1016/j.heliyon.2023.e16657>
- Foltz, C. B., Newkirk, H. E., & Schwager, P. H. (2016). An empirical investigation of factors that influence individual behavior toward changing social networking security settings. *Journal of theoretical and applied electronic commerce research*, 11(2), 1-15. <https://doi.org/10.4067/S0718-18762016000200002>
- Hylkilä, K., Männikkö, N., Castrén, S., Mustonen, T., Peltonen, A., Konttila, J., Männistö, M., & Kääriäinen, M. (2023). Association between psychosocial well-being and problematic social media use among Finnish young adults: A cross-sectional study. *Telematics and Informatics*, 81, 101996. <https://doi.org/10.1016/j.tele.2023.101996>
- Kelber, M. S., Shank, L. M., Boyd, C., Bellanti, D. M., Morgan, M. A., Libretto, S., Edwards-Stewart, A., Parisi, K., & Evatt, D. P. (2024). A systematic review of problematic social media use and occupational functioning. *Current Psychology*, 1-9. <https://doi.org/10.1007/s12144-024-06826-4>
- Kwak, M.-J., & Kim, D.-J. (2023). Investigating psychological and motivational predictors of problematic smartphone use among Smartphone-based social networking service (SNS) users. *Addictive Behaviors Reports*, 18, 100506. <https://doi.org/10.1016/j.abrep.2023.100506>
- Lahti, H., Kulmala, M., Hietajärvi, L., Lyyra, N., Kleszczewska, D., Boniel-Nissim, M., Furstova, J., van den Eijnden, R., Sudeck, G., & Paakkari, L. (2024). What Counteracts Problematic Social Media Use in Adolescence? A Cross-National Observational Study. *Journal of Adolescent Health*, 74(1), 98-112. <https://doi.org/10.1016/j.jadohealth.2023.07.026>
- Leijse, M. M., Koning, I. M., & van den Eijnden, R. J. (2023). The influence of parents and peers on adolescents' problematic social media use revealed. *Computers in Human Behavior*, 143, 107705. <https://doi.org/10.1016/j.chb.2023.107705>
- Lewin, K. M., Kaur, A., & Meshi, D. (2023). Problematic social media use and impulsivity. *Current Addiction Reports*, 10(3), 553-562. <https://doi.org/10.1007/s40429-023-00495-2>
- Liu, G. L., & Wang, Y. (2024). Modeling EFL teachers' intention to integrate informal digital learning of English (IDLE) into the classroom using the theory of planned behavior. *System*, 120, 103193. <https://doi.org/10.1016/j.system.2023.103193>
- Liu, Q., Hu, Q., & Qi, D. (2023). Online psychological need satisfaction and social networking addiction: A longitudinal study among Chinese adolescents. *Child and Adolescent Social Work Journal*, 40(6), 867-881. <https://doi.org/10.1007/s10560-021-00814-4>
- López-Gil, J. F., Chen, S., Jiménez-López, E., Abellán-Huerta, J., Herrera-Gutiérrez, E., Royo, J. M. P., Mesas, A. E., & Tárraga-López, P. J. (2023). Are the use and addiction to social networks associated with disordered eating among adolescents? Findings from the ehdl study. *International Journal of Mental Health & Addiction*. <https://doi.org/10.1007/s11469-023-01081-3>
- Marino, C., Manari, T., Vieno, A., Imperato, C., Spada, M. M., Franceschini, C., & Musetti, A. (2023). Problematic social networking sites use and online social anxiety: The role of attachment, emotion dysregulation and motives. *Addictive behaviors*, 138, 107572. <https://doi.org/10.1016/j.addbeh.2022.107572>
- Miranda, S., Trigo, I., Rodrigues, R., & Duarte, M. (2023). Addiction to social networking sites: Motivations, flow, and sense of belonging at the root of addiction. *Technological Forecasting and Social Change*, 188, 122280. <https://doi.org/10.1016/j.techfore.2022.122280>
- Mojtabai, R. (2024). Problematic social media use and psychological symptoms in adolescents. *Social psychiatry and psychiatric epidemiology*, 59(12), 2271-2278. <https://doi.org/10.1007/s00127-024-02657-7>
- Moretta, T., Buodo, G., Santucci, V. G., Chen, S., & Potenza, M. N. (2023). Problematic social media use is statistically predicted by using social media for coping motives and by positive reinforcement processes

- in individuals with high COVID-19-related stress levels. *Journal of Psychiatric Research*, 158, 104-113. <https://doi.org/10.1016/j.jpsychires.2022.12.036>
- Ojo, K. E., Ferreira, S., Salazar, J., Bergstrom, J., & Woosnam, K. M. (2023). Recreational travel behavior and COVID-19: Insights from expected utility and the theory of planned behavior. *Tourism Economics*, 29(3), 643-663. <https://doi.org/10.1177/13548166211059642>
- Pishghadam, R., Ebrahimi, S., Rajabi Esterabadi, A., & Parsae, A. (2023). Emotions and success in education: From apathy to transpathy. *Journal of Cognition, Emotion & Education*, 1(1), 1-16. <https://doi.org/10.22034/cee.2023.172495>
- Shanka, M. S., & Gebremariam Kotecho, M. (2023). Combining rationality with morality—integrating theory of planned behavior with norm activation theory to explain compliance with COVID-19 prevention guidelines. *Psychology, health & medicine*, 28(2), 305-315. <https://doi.org/10.1080/13548506.2021.1946571>
- She, R., han Mo, P. K., Li, J., Liu, X., Jiang, H., Chen, Y., Ma, L., & fai Lau, J. T. (2023). The double-edged sword effect of social networking use intensity on problematic social networking use among college students: The role of social skills and social anxiety. *Computers in Human Behavior*, 140, 107555. <https://doi.org/10.1016/j.chb.2022.107555>
- Shensa, A., Escobar-Viera, C. G., Sidani, J. E., Bowman, N. D., Marshal, M. P., & Primack, B. A. (2017). Problematic social media use and depressive symptoms among US young adults: A nationally-representative study. *Social science & medicine*, 182, 150-157. <https://doi.org/10.1016/j.socscimed.2017.03.061>
- Singh, A. B., Mishra, A. K., Vijay, M., Karanth, V., & Mittal, K. (2023). Prevalence and correlates of social networking addiction and its association with adult ADHD and stress among students of a medical college. *Indian Journal of Community and Family Medicine*, 9(1), 65-71. https://doi.org/10.4103/ijcfm.ijcfm_56_21
- Stangl, F. J., Riedl, R., Kiemeswenger, R., & Montag, C. (2023). Negative psychological and physiological effects of social networking site use: The example of Facebook. *Frontiers in Psychology*, 14, 1141663. <https://doi.org/10.3389/fpsyg.2023.1141663>
- Vossen, H. G. M., van den Eijnden, R. J. J. M., Visser, I., & Koning, I. M. (2024). Parenting and Problematic Social Media Use: A Systematic Review. *Current Addiction Reports*, 11(3), 511-527. <https://doi.org/10.1007/s40429-024-00559-x>
- Weinstein, A. M. (2023). Problematic social networking site use-effects on mental health and the brain. *Frontiers in psychiatry*, 13, 1106004. <https://doi.org/10.3389/fpsyg.2022.1106004>
- Woo, S.-K., Pai, C.-J., Chiang, Y.-T., & Fang, W.-T. (2023). Predicting the protective behavioral intentions for parents with young children living in taipei city and new taipei city using the theory of planned behavior for air polluted with PM2. 5. *International journal of environmental research and public health*, 20(3), 2518. <https://doi.org/10.3390/ijerph20032518>
- Yu, L., & Luo, T. (2021). Social networking addiction among Hong Kong university students: its health consequences and relationships with parenting behaviors. *Frontiers in Public Health*, 8, 555990. <https://doi.org/10.3389/fpubh.2020.555990>