

The Structural Relationship Model of Cyberspace Addiction and Rejection Sensitivity: Examining the Mediating Role of Emotional Self-Efficacy

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ABSTRACT

The present study aimed to examine the structural relationship between rejection sensitivity and cyberspace addiction, with an emphasis on the mediating role of emotional self-efficacy. In terms of purpose, this was a basic research study, and in terms of methodology, it employed a descriptive-correlational design. The statistical population consisted of students at the University of Mohaghegh Ardabili during the 2024–2025 academic year. Based on the number of parameters in the hypothesized model, 300 students were selected through cluster random sampling. Data were collected using the Internet Addiction Test (Young, 1998), the Emotional Self-Efficacy Scale (Beverley et al., 1997), the Depression Anxiety Stress Scales (Lovibond & Lovibond, 1995), and the Rejection Sensitivity Questionnaire (Downey & Feldman, 1996). Structural equation modeling was performed using SPSS version 24 and AMOS version 24. The results showed that rejection sensitivity had a significant positive direct effect on internet addiction. Emotional self-efficacy also had a negative direct effect on internet addiction and partially mediated the relationship between rejection sensitivity and internet addiction. The model fit indices (GFI = .96, RMSEA = .075) indicated that the proposed model had an acceptable fit to the data.

Keywords: cyberspace addiction, rejection sensitivity, emotional self-efficacy, structural equation modeling

1. Introduction

The rapid integration of digital technologies into education, communication, entertainment, and social interaction has fundamentally changed the everyday lives of university students. Internet-based platforms provide immediate access to information, academic resources, interpersonal networks, and recreational opportunities; however, excessive and poorly regulated use can develop into a maladaptive behavioral pattern characterized by loss of control, preoccupation, unsuccessful attempts to reduce use, neglect of responsibilities, and continued engagement despite adverse consequences. Although conceptual debate remains regarding whether excessive internet or smartphone use should always be classified as a behavioral addiction, researchers generally agree that problematic patterns of technology use can produce substantial functional impairment and psychological distress (Panova & Carbonell, 2018; Yang et al., 2021). In the present study, the term *internet addiction* refers to persistent and dysregulated internet use that interferes with academic performance, social functioning, emotional well-being, and daily responsibilities. This phenomenon is particularly relevant among university students because they are simultaneously exposed to academic demands, developmental transitions, expanding social networks, and extensive reliance on online technologies.

University students constitute a population at elevated risk of problematic internet use because academic and social activities increasingly require continuous online engagement. Digital platforms are used for attending classes, conducting research, communicating with peers and instructors, maintaining social relationships, and seeking entertainment or emotional relief. Consequently, the boundary between necessary and excessive use may become difficult to identify. Previous research has shown that internet addiction among students is associated with psychological distress, academic alienation, impaired social functioning, and difficulties in adapting to university life (Qarahkhani et al., 2023; Tsai et al., 2020). A systematic review and meta-analysis further demonstrated that problematic internet use is related to a range of unfavorable mental health outcomes, including depressive symptoms, anxiety, stress, and reduced psychological well-being (Cai et al., 2023). These findings indicate that internet addiction should not be understood merely as excessive screen time; rather, it represents a multidimensional psychological and

behavioral problem embedded in the individual's emotional, cognitive, and interpersonal functioning.

The psychological consequences of uncontrolled digital engagement may be particularly serious when online activity functions as a primary means of escaping negative emotions or compensating for unmet social needs. Excessive social media use has been associated with depression, anxiety, and psychological distress, especially among adolescents and young adults who are highly sensitive to peer evaluation and social comparison (Keles et al., 2020). Problematic internet use may offer temporary relief from loneliness, anxiety, or dissatisfaction, but repeated reliance on online environments for emotion regulation can reinforce avoidance and reduce opportunities to develop adaptive coping skills. During periods of social restriction and psychological pressure, such as the COVID-19 pandemic, technology use became even more central to social and emotional functioning, thereby highlighting the role of psychosocial mechanisms in determining whether internet use remains adaptive or becomes problematic (Morelli et al., 2020; Yang et al., 2021). Digital technology can enhance well-being when it facilitates learning, engagement, and meaningful connection, yet its effects depend on the motives, intensity, and regulatory capacities underlying its use (Shao et al., 2024). Accordingly, identifying the psychological processes that transform ordinary internet use into compulsive or maladaptive use is essential.

One interpersonal factor that may contribute to internet addiction is rejection sensitivity. Rejection sensitivity refers to a cognitive-affective disposition characterized by anxious expectations of rejection, heightened perception of rejection cues, and intense emotional or behavioral reactions to real or anticipated exclusion. Individuals with high rejection sensitivity may interpret ambiguous social situations as threatening, expect others to disapprove of or abandon them, and react with withdrawal, hostility, reassurance seeking, or emotional distress. Recent psychometric research has supported rejection sensitivity as a measurable and coherent construct in adults, emphasizing its relevance to psychopathology and interpersonal functioning (Ramadas et al., 2025). Because acceptance and belonging are central psychological needs, individuals who consistently anticipate rejection may experience persistent interpersonal insecurity. This insecurity can influence the way they form relationships, regulate emotions, and select environments in which to seek validation and social connection.

Online environments may be especially attractive to rejection-sensitive individuals because they provide greater

control over self-presentation, communication timing, and interpersonal exposure. In digital interactions, users can edit messages, selectively disclose personal information, avoid immediate face-to-face responses, and disengage from uncomfortable exchanges. These features may reduce short-term anxiety associated with possible rejection; however, they can also encourage avoidance of direct social interaction and increase dependence on online reassurance. Research has demonstrated a positive association between rejection sensitivity and internet addiction among adolescents, with personality-related difficulties helping explain this relationship (Fontana et al., 2018). Similarly, rejection sensitivity has been implicated in problematic smartphone use through its associations with insecure attachment and reduced self-esteem (Hasani et al., 2022). These findings suggest that individuals who fear rejection may increasingly rely on online communication as a safer alternative to in-person relationships, thereby reinforcing compulsive internet use.

The association between rejection sensitivity and problematic internet use may also operate through loneliness, reduced self-control, and maladaptive online self-disclosure. Fan et al. showed that rejection sensitivity and loneliness formed part of a mediational pathway linking self-control to problematic internet use among college students (Fan et al., 2022). When individuals are highly vigilant to signs of rejection, they may withdraw from interpersonal situations, experience fewer satisfying relationships, and consequently use the internet to compensate for unmet belonging needs. Research on online self-disclosure has likewise indicated that rejection sensitivity, self-regulation, social anxiety, and internet addiction are interrelated in shaping both adaptive and maladaptive forms of online disclosure (Molavi et al., 2018). Although digital communication may initially reduce the perceived threat of rejection, continued reliance on it may prevent corrective interpersonal experiences and strengthen beliefs that face-to-face relationships are unsafe or unmanageable.

Family and developmental contexts may further intensify the relationship between rejection sensitivity and internet addiction. Exposure to interpersonal conflict, criticism, or emotional insecurity may increase the expectation of rejection and encourage adolescents or young adults to seek comfort in online environments. Research has shown that rejection sensitivity mediates the association between interparental conflict and adolescent internet addiction, while school connectedness can modify this process (Tao et

al., 2020). This evidence supports the view that rejection sensitivity is not simply an isolated personality characteristic but a relationally shaped vulnerability that can influence behavioral coping patterns. In addition, longitudinal findings have linked rejection sensitivity to maladaptive outcomes through social anxiety and regulatory emotional self-efficacy, demonstrating that difficulties in managing emotions may explain how rejection-related vulnerability translates into psychological harm (Zhao et al., 2024). Thus, rejection sensitivity may contribute to internet addiction both directly, through avoidance and compensatory internet use, and indirectly, through impaired confidence in emotional regulation.

Emotional self-efficacy represents a particularly important mechanism in this process. Emotional self-efficacy refers to an individual's belief in their capacity to identify, understand, express, facilitate, and regulate emotional experiences effectively. It is not equivalent to actual emotional ability; rather, it concerns perceived competence in managing emotions across challenging situations. Individuals with strong emotional self-efficacy are more likely to approach emotional problems actively, tolerate negative affect, apply adaptive regulation strategies, and maintain goal-directed behavior under stress. By contrast, individuals with low emotional self-efficacy may perceive emotional experiences as uncontrollable and may rely on avoidance, suppression, impulsive behavior, or external sources of relief. Research has shown that beliefs about the ability to manage positive emotions are associated with positive affect, reduced negative affect, and greater life satisfaction across age and gender groups (Caprara et al., 2022). These findings underline the broader role of emotional self-efficacy in psychological adjustment and subjective well-being.

Emotional self-efficacy may protect against internet addiction by reducing the need to use digital activities as a means of mood modification or emotional escape. When individuals believe they can cope with distress, loneliness, anxiety, or interpersonal disappointment, they are less likely to depend on online activity for immediate relief. Conversely, low confidence in emotional regulation may increase the appeal of social media, gaming, or continuous browsing as readily available strategies for distraction and avoidance. Evidence indicates that emotional dysregulation contributes to internet addiction through problematic social media use, suggesting that online platforms may become instruments for managing emotional discomfort when adaptive regulation is insufficient (Quaglieri et al., 2022).

Similarly, emotional self-regulation has been found to predict addiction to cyberspace and engagement in high-risk behaviors among students (Ghadampour et al., 2019). These results support a regulatory model in which problematic internet use develops partly because individuals lack confidence in their ability to manage affective states independently of digital stimulation.

The importance of emotional self-efficacy is further demonstrated by intervention research. Emotion-focused efficacy therapy has been found to reduce internet dependence and psychological vulnerability among students with internet addiction, indicating that strengthening confidence in emotional functioning may decrease maladaptive internet use (Beirami et al., 2021). Emotion-regulation training has similarly produced reductions in internet addiction among female students, supporting the modifiability of the emotional processes underlying problematic use (Kheiripour et al., 2023). Integrated cognitive-behavioral and metacognitive interventions have also reduced dependence on virtual social networks by targeting maladaptive beliefs, regulatory deficits, and repetitive patterns of online engagement (Sadeghzadeh et al., 2019). Collectively, these intervention studies suggest that internet addiction is responsive to psychological approaches that improve emotional awareness, self-regulation, cognitive control, and perceived coping competence.

Regulatory emotional self-efficacy may also serve as an explanatory bridge between adverse interpersonal experiences and internet addiction. Recent research has shown that dissatisfaction of basic psychological needs and insufficient social support are associated with problematic internet use through reduced regulatory emotional self-efficacy among emerging adults (Celikkaleli & Ata, 2025). This finding is directly relevant to rejection sensitivity because individuals who anticipate rejection often perceive their needs for belonging, autonomy, and competence as frustrated. Repeated perceptions of social threat may undermine confidence in the ability to manage fear, sadness, shame, or anger, thereby increasing reliance on the internet as an external regulatory tool. In a related study, emotional abuse was associated with internet addiction through sequential pathways involving emotional dysregulation and regulatory emotional self-efficacy (Liu et al., 2025). These findings suggest that low emotional self-efficacy is not merely correlated with problematic internet use but may constitute a mechanism through which emotionally threatening experiences lead to compulsive online behavior.

The relationship between rejection sensitivity and emotional self-efficacy is theoretically plausible because rejection-sensitive individuals frequently experience strong negative affect in interpersonal situations. They may have difficulty distinguishing actual rejection from ambiguous social feedback, and their emotional reactions may include anxiety, shame, anger, sadness, or withdrawal. If these reactions are repeatedly perceived as overwhelming, the individual's confidence in managing emotions may progressively decline. Empirical evidence has shown that regulatory emotional self-efficacy indirectly links rejection sensitivity with trait anxiety, alongside shyness, indicating that beliefs about emotional regulation are central to the psychological consequences of rejection-related concerns (Wu et al., 2020). Research on adolescent emotional functioning has also demonstrated that positive and negative emotion-regulation processes are closely associated with anxiety and depression (Young et al., 2019). Consequently, emotional self-efficacy may determine whether anticipated rejection is managed through adaptive reflection and communication or through avoidance and excessive internet engagement.

Emotional regulation is multifaceted and includes the ability to identify emotions, understand their causes, use emotional information to guide thinking, and regulate emotional intensity and expression. Deficits in any of these domains may increase vulnerability to maladaptive coping. Individuals who cannot accurately identify or understand their emotions may experience undifferentiated distress and seek rapid distraction through internet use. Those who lack confidence in regulating emotions may perceive online activities as more manageable than direct interpersonal problem solving. Contemporary research in psychiatric and mental health contexts continues to emphasize the relationship between emotional difficulties and problematic patterns of digital engagement (Shin et al., 2024). Moreover, therapeutic and preventive findings suggest that strengthening emotional awareness and regulation can reduce excessive online behavior, especially when internet use is maintained by negative reinforcement and avoidance (Beirami et al., 2021; Kheiripour et al., 2023).

Despite increasing research on internet addiction, rejection sensitivity, and emotional regulation, several gaps remain. Many studies have examined direct associations between rejection sensitivity and problematic internet or smartphone use, whereas fewer have tested an integrated structural model in which emotional self-efficacy explains part of this relationship. Existing findings support links

between rejection sensitivity and internet addiction (Fan et al., 2022; Fontana et al., 2018), between rejection sensitivity and regulatory emotional self-efficacy (Wu et al., 2020; Zhao et al., 2024), and between emotional self-efficacy or emotional regulation and problematic internet use (Celikkaleli & Ata, 2025; Liu et al., 2025). However, these relationships have often been investigated separately, in adolescent samples, or within cultural contexts that may differ from those of Iranian university students. Because cultural expectations regarding interpersonal acceptance, family relationships, emotional expression, and technology use may shape these constructs, examining their structural relationships in an Iranian student population is warranted.

A structural equation modeling approach is particularly suitable for examining these relationships because it enables the simultaneous estimation of direct and indirect pathways among latent psychological constructs. Such an approach can determine whether rejection sensitivity predicts internet addiction independently and whether emotional self-efficacy partially accounts for this association. It also permits emotional self-efficacy to be represented through interconnected dimensions such as emotion identification, emotion understanding, emotion facilitation, and emotion regulation. This multidimensional perspective is consistent with evidence that emotional functioning is associated with psychological adaptation, life satisfaction, and the management of distress (Caprara et al., 2022; Young et al., 2019). Clarifying these pathways may also inform interventions by indicating whether programs should focus primarily on reducing rejection-related cognitions, strengthening emotional self-efficacy, or addressing both processes simultaneously.

Understanding the mediating role of emotional self-efficacy has practical implications for student mental health services. If rejection sensitivity influences internet addiction partly by weakening students' confidence in managing emotions, interventions that merely restrict internet access may produce limited or temporary effects. More comprehensive programs could help students identify rejection-related interpretations, tolerate interpersonal uncertainty, strengthen emotion-regulation beliefs, and develop alternative coping and communication strategies. Evidence from cognitive-behavioral, metacognitive, emotion-efficacy, and emotion-regulation interventions supports the potential effectiveness of such approaches (Beirami et al., 2021; Ghadampour et al., 2019; Kheiripour et al., 2023; Sadeghzadeh et al., 2019). By targeting the psychological functions served by excessive internet use,

rather than focusing exclusively on usage duration, prevention and treatment programs may achieve more sustainable outcomes.

Accordingly, the present study aimed to examine the structural relationship between rejection sensitivity and internet addiction among university students, with emotional self-efficacy as a mediating variable.

2. Methods and Materials

2.1. Study Design and Participants

The present study was basic in terms of purpose and descriptive-correlational in terms of methodology, using structural equation modeling. The statistical population consisted of students at the University of Mohaghegh Ardabili during the 2024–2025 academic year. Cluster random sampling was employed. First, the university's faculties were selected as sampling clusters, and students were then randomly selected from each faculty. Kline (2010) recommended recruiting 5–10 participants for each parameter to be estimated. The hypothesized model included 44 parameters; therefore, the required sample size was estimated to range from 220 to 440 participants. Accordingly, 300 participants were selected to ensure adequate sample size.

The inclusion criteria were being between 18 and 40 years of age, willingness to participate in the study, and not taking specific psychiatric medications. The exclusion criteria were the presence of severe psychiatric disorders, such as schizophrenia or bipolar disorder during a manic episode; active substance or alcohol dependence; invalid response patterns; and incomplete completion of the questionnaires.

2.2. Measures

The Internet Addiction Test was developed by Kimberly Young in 1998 and is one of the established instruments for assessing internet addiction. The IAT consists of 20 items, to which respondents indicate their level of agreement using a five-point Likert scale ranging from 1 (rarely) to 5 (always). The scale assesses four principal dimensions: personal and social problems, effects on occupational and academic functioning, time management problems, and emotional dependence. The reliability and validity of this scale have been confirmed in various international and Iranian studies. In Young's (1998) initial studies, a Cronbach's alpha coefficient of .93 was reported, indicating high reliability. Young (1998) also established the content

validity of the instrument based on the criteria for behavioral addiction.

Wei et al. (2025) examined the psychometric properties of Young's Internet Addiction Test among Chinese university students. The findings indicated that the scale had satisfactory reliability, with Cronbach's alpha and test-retest reliability coefficients exceeding .70. Its three-factor structure was also supported through exploratory and confirmatory factor analyses. Furthermore, sufficient evidence was obtained for convergent, discriminant, and criterion-related validity, supporting the use of the IAT for assessing internet addiction among university students. In Iran, Amiri (2018) reported Cronbach's alpha coefficients of .87 and .88 for the Persian version, indicating satisfactory reliability in the Iranian population. The results of exploratory and confirmatory factor analyses also supported the factorial structure of the questionnaire and demonstrated that the short form of Young's Internet Addiction Test possesses satisfactory psychometric properties in the Iranian population (Amiri, 2018). In the present study, Cronbach's alpha for the scale was .82.

The Rejection Sensitivity Questionnaire was developed by Downey and Feldman in 1996 and consists of 18 items assessing an individual's sensitivity to social rejection. Responses are scored using a six-point Likert scale ranging from 1 (strongly disagree) to 6 (strongly agree). The RSQ assesses three principal dimensions: negative expectations regarding social interactions, emotional reactions to potential rejection, and anticipation of others' behavior. The reliability and validity of the scale have been supported in both international and Iranian studies. In their initial studies, Downey and Feldman (1996) reported alpha coefficients ranging from .85 to .91 and confirmed the three-dimensional structure of the scale through factor analysis. Ramadas et al. (2025) evaluated the psychometric properties of the French version of the Rejection Sensitivity Questionnaire. The findings indicated that the instrument had satisfactory reliability, and its stability was confirmed over a two-week test-retest interval. Sufficient evidence was also obtained for the construct, convergent, and discriminant validity of the

scale. Exploratory and confirmatory factor analyses supported its factorial structure, while correlations with anxiety and depression measures and comparisons with a cognitive emotion-regulation measure further supported its validity (Ramadas et al., 2025). In the present study, Cronbach's alpha for the total scale was .81, indicating satisfactory reliability.

The Emotional Self-Efficacy Scale is a 32-item instrument developed by Beverley et al. (2008) based on Salovey and Mayer's (1997) four-branch model of emotional intelligence. The scale is used in research on emotional intelligence and self-efficacy. The internal consistency of the items was reported to be .96 based on Cronbach's alpha. In the present study, Cronbach's alpha was .87, indicating high reliability. The test-retest reliability coefficient of the scale was .85 in a sample of 207 participants over a two-week interval. The validity of the Emotional Self-Efficacy Scale was also reported to be satisfactory based on its correlations with related constructs. In Iran, Khodayarifard et al. (2012) examined the reliability and validity of the Persian version of the Emotional Self-Efficacy Scale. Exploratory factor analysis indicated a unidimensional structure, and confirmatory factor analysis supported the fit of the single-factor model.

2.3. Data Analysis

Following the calculation of descriptive statistics, the data were analyzed using structural equation modeling in SPSS version 24 and AMOS version 24.

3. Findings and Results

The study sample consisted of 300 participants. The participants' mean age was 21.77 years, with a standard deviation of 2.973 years. Of the participants, 75% were female and 25% were male. In addition, 54% of the participants were from the Faculty of Psychology and Educational Sciences, 31.5% were from the Faculty of Literature, and 14.5% were from the Faculty of Agriculture.

Table 1

Descriptive Statistics for the Study Variables

Variable	Mean	Standard Deviation	Minimum	Maximum	Skewness	Kurtosis
Internet addiction	17.85	10.713	6	70	-2.21	1.675
Emotional self-efficacy	37.253	15.023	9	71	0.098	-0.702
Rejection sensitivity	230.00	40.00	90	360	-0.50	1.00
Using emotions to facilitate thinking	9.20	3.80	2	19	0.050	-0.600

Emotion regulation	9.60	3.90	2	20	0.070	-0.650
Understanding emotions	9.40	3.70	2	18	0.100	-0.720
Identifying emotions	9.10	3.60	2	18	0.080	-0.740

The descriptive analysis indicated that the psychological variables, including internet addiction, emotional self-efficacy, and the emotional self-efficacy dimensions of using emotions to facilitate thinking, emotion regulation, understanding emotions, and identifying emotions, had relatively high mean scores. The reasonable standard deviations indicated variability in the participants' experiences. The examination of data normality based on skewness and kurtosis showed that most variables had skewness and kurtosis values within acceptable ranges. Only

internet addiction exhibited a moderately negative skewness value of -2.21 ; nevertheless, this value still permitted the use of parametric statistical tests. Therefore, the study data were considered relatively normally distributed and suitable for statistical analyses such as correlation and regression.

The correlations among the study variables are presented in Table 2. The correlation matrix for rejection sensitivity, internet addiction, and emotional self-efficacy was examined to assess the assumptions of linearity and the absence of multicollinearity among the variables.

Table 2

Correlation Matrix of the Study Variables

Variable	1	2	3	4	5	6
1. Internet addiction	1					
2. Rejection sensitivity	.45**	1				
3. Using emotions to facilitate thinking	-.15*	-.20*	1			
4. Emotion regulation	-.16*	-.19*	.82**	1		
5. Understanding emotions	-.13	-.38**	.60**	.58**	1	
6. Identifying emotions	-.18*	-.18*	.65**	.64**	.60**	1

The correlation matrix showed that the assumption of linearity was supported for most relationships among the predictor variable of rejection sensitivity, the mediating variables of using emotions to facilitate thinking, emotion regulation, and identifying emotions, and the criterion variable of internet addiction. The significant correlation coefficients ranged from approximately $r = .13$ to $r = .60$, $p < .05$. However, the nonsignificant relationship between internet addiction and understanding emotions, $r = -.13$, $p = .070$, may indicate a violation of the linearity assumption for this specific relationship. Furthermore, the strong correlation between using emotions to facilitate thinking and emotion regulation, $r = .81$, indicated a potential violation of the

assumption of no multicollinearity. The correlations among the other variables were no greater than .65 and were therefore considered acceptable with respect to multicollinearity.

In structural equation modeling studies, three to five indices are commonly used to evaluate model fit. In the present study, the chi-square statistic, chi-square-to-degrees-of-freedom ratio, root mean square error of approximation, goodness-of-fit index, incremental fit index, normed fit index, parsimonious normed fit index, adjusted goodness-of-fit index, non-normed fit index, and comparative fit index were examined.

Table 3

Model Fit Indices

Fit Index	χ^2	df	χ^2/df	p	RMSEA	GFI	IFI	NFI	AGFI	NNFI	CFI
Obtained value	11.25	5	2.250	.039	.075	.96	.96	.94	.93	.95	.96

Table 3 presents the model fit indices. The chi-square value, $\chi^2 = 11.25$, with 5 degrees of freedom, and the root mean square error of approximation, $RMSEA = .075$, indicated satisfactory consistency between the model and the

data obtained from the study population. The chi-square-to-degrees-of-freedom ratio, $\chi^2/df = 2.250$, also confirmed the satisfactory fit of the model according to the criteria proposed by Giles (2002).

Several fit indices were used to evaluate the consistency of the model with the data. The findings showed that the goodness-of-fit index, GFI = .96; incremental fit index, IFI = .96; normed fit index, NFI = .94; adjusted goodness-of-fit index, AGFI = .93; non-normed fit index, NNFI = .95; and comparative fit index, CFI = .96, all indicated satisfactory to nearly excellent model fit.

These indices indirectly supported the assumption of linear relationships among the predictor variables, including rejection sensitivity, depression, anxiety, and stress; the mediating variables, including using emotions to facilitate thinking, emotion regulation, and identifying emotions; and the criterion variable of internet addiction. An exception was the nonsignificant relationship between internet addiction and understanding emotions, $r = -.125$, $p = .070$, which may indicate a violation of the linearity assumption for this

relationship. In addition, the high correlation between using emotions to facilitate thinking and emotion regulation, $r = .810$, suggested a violation of the assumption of no multicollinearity. Nevertheless, the satisfactory overall model fit indicated that this issue did not exert a substantial negative effect on the results.

Based on the fit criteria and indices presented in Table 3, the proposed model demonstrated satisfactory fit. Therefore, the mediation model examining the relationship between rejection sensitivity and internet addiction through emotional self-efficacy adequately fitted the data. The path coefficients among the variables and their statistical significance indicated that these variables had substantial explanatory power in relation to internet addiction. Figure 1 presents the fitted structural model and demonstrates that the model achieved an acceptable level of fit.

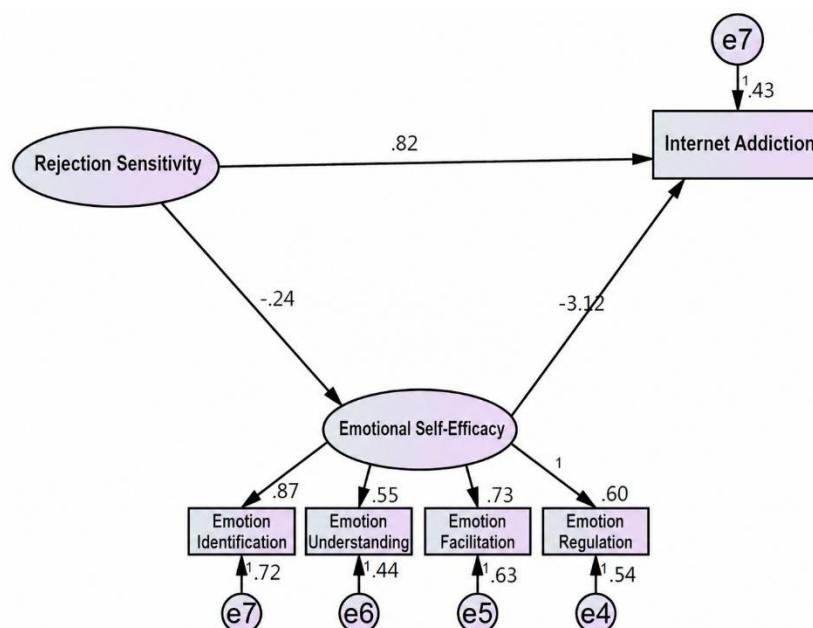
Table 4

Analysis of the Direct Effects Among the Study Variables

Path	Standardized Coefficient (β)	Standard Error (SE)	<i>t</i>	<i>p</i>	Interpretation
Rejection sensitivity → Internet addiction	.82	.20	4.00	< .001	Positive and significant effect
Emotional self-efficacy → Internet addiction	-3.12	1.08	-2.89	< .001	Negative and significant effect
Rejection sensitivity → Emotional self-efficacy	-.24	.80	-3.06	< .001	Negative and significant effect

Figure 1

Standardized coefficients of the measurement model.



The results showed that the path from rejection sensitivity to emotional self-efficacy was negative and statistically significant, $\beta = -.24$, $t = -3.06$, $p < .001$, indicating that greater rejection sensitivity was associated with lower emotional self-efficacy.

Furthermore, rejection sensitivity had a positive and significant effect on internet addiction, $\beta = .82$, $t = 4.00$, $p < .001$.

Table 5

Bootstrap Results for the Indirect Effects of the Study Variables

Indirect Path	Indirect Effect	Standard Error	Upper Bound	Lower Bound
Rejection sensitivity → Emotional self-efficacy → Internet addiction	-.11	.00	-.01	-.31

As shown in Table 5, the indirect effect of rejection sensitivity on internet addiction through emotional self-efficacy was statistically significant, indirect effect = $-.11$, $p < .01$. This finding indicates that emotional self-efficacy functions as a mediating variable in the relationship between rejection sensitivity and internet addiction. Based on the presented results, both the direct and indirect effects were statistically significant.

4. Discussion

The present study examined the structural relationship between rejection sensitivity and internet addiction, with emotional self-efficacy considered as a mediating mechanism among university students. The findings indicated that rejection sensitivity had a positive and statistically significant direct effect on internet addiction. Rejection sensitivity also had a significant negative effect on emotional self-efficacy, whereas emotional self-efficacy had a significant negative effect on internet addiction. In addition, the bootstrap analysis confirmed that emotional self-efficacy significantly mediated the relationship between rejection sensitivity and internet addiction. Because both the direct and indirect effects remained statistically significant, emotional self-efficacy functioned as a partial mediator. The overall structural model demonstrated satisfactory fit, suggesting that the proposed relationships were consistent with the observed data. These findings support an integrated interpersonal-emotional explanation of internet addiction in which vulnerability to perceived rejection increases problematic internet use both directly and indirectly by weakening individuals' confidence in their capacity to understand and regulate emotional experiences.

The path from emotional self-efficacy to internet addiction was also negative and statistically significant, $\beta = -3.12$, $t = -2.89$, $p < .001$. Overall, the findings indicated that rejection sensitivity influenced internet addiction both directly and indirectly through reductions in emotional self-efficacy.

The positive direct relationship between rejection sensitivity and internet addiction is consistent with previous evidence showing that individuals who anxiously anticipate rejection may increasingly rely on online environments to satisfy interpersonal needs while avoiding the perceived risks of face-to-face interaction. Fontana et al. found that rejection sensitivity was positively associated with internet addiction during adolescence and that maladaptive personality-related characteristics contributed to this relationship (Fontana et al., 2018). Fan et al. likewise showed that rejection sensitivity formed part of the psychological pathway leading to problematic internet use among university students, particularly when accompanied by loneliness and reduced self-control (Fan et al., 2022). These findings align with the present results and indicate that rejection-sensitive students may perceive cyberspace as a comparatively controllable social environment in which communication can be delayed, edited, selectively managed, or terminated without immediate confrontation. Consequently, internet use may gradually become a compensatory strategy for obtaining social reassurance and reducing the emotional threat associated with possible rejection.

The finding can also be interpreted within the framework of the cognitive-affective processing of rejection. Individuals with elevated rejection sensitivity tend to detect possible exclusion rapidly, interpret ambiguous interpersonal cues negatively, and respond with intense anxiety, anger, shame, or withdrawal. The internet may temporarily reduce these uncomfortable reactions by allowing users to avoid direct social exposure and maintain a sense of interpersonal connection without confronting the full complexity of in-person relationships. Molavi et al.

demonstrated that rejection sensitivity, social anxiety, self-regulation, online self-disclosure, and internet addiction are interconnected among students (Molavi et al., 2018). Similarly, Hasani et al. identified rejection sensitivity as a mediating factor in the relationship between attachment style and smartphone addiction (Hasani et al., 2022). Therefore, students who expect rejection may increasingly substitute online interactions for direct interpersonal experiences, reinforcing avoidance and ultimately increasing dependence on internet-based communication and entertainment.

The present findings are also compatible with research showing that rejection sensitivity can transmit the effects of adverse relational experiences to problematic internet use. Tao et al. reported that rejection sensitivity mediated the association between interparental conflict and adolescent internet addiction, with school connectedness operating as a protective contextual factor (Tao et al., 2020). This suggests that rejection sensitivity may develop or intensify in response to repeated experiences of criticism, conflict, emotional insecurity, or inconsistent interpersonal support. Once established, this sensitivity may shape how individuals respond to later academic and social challenges. University students who interpret ordinary interpersonal difficulties as evidence of rejection may experience persistent psychological distress and increasingly turn to internet use for emotional escape. This interpretation is consistent with evidence that academic alienation and psychological distress predict internet addiction among students (Qarahkhani et al., 2023). Thus, the direct effect observed in the present study may reflect the combined influence of interpersonal avoidance, compensatory connection seeking, and escape from rejection-related distress.

The results further showed that rejection sensitivity had a significant negative effect on emotional self-efficacy. This finding indicates that students who were more sensitive to rejection had less confidence in their ability to identify, understand, facilitate, and regulate emotional experiences. This result is consistent with the study by Wu et al., which demonstrated that regulatory emotional self-efficacy indirectly explained the association between rejection sensitivity and trait anxiety (Wu et al., 2020). Zhao et al. also found that regulatory emotional self-efficacy and social anxiety served as explanatory processes linking rejection sensitivity to maladaptive psychological outcomes in adolescents (Zhao et al., 2024). These findings suggest that repeatedly anticipating rejection may undermine perceived emotional competence. When individuals experience strong emotional reactions to ambiguous interpersonal events and

cannot regulate those reactions effectively, they may conclude that emotions are uncontrollable and that they lack the capacity to cope successfully.

One explanation for this result is that rejection-sensitive individuals may become excessively attentive to external evaluation while paying insufficient attention to the accurate identification and constructive processing of their internal emotional states. Instead of recognizing that distress may arise from an interpretation of rejection, they may experience their feelings as immediate evidence that rejection has actually occurred. Such a pattern may impair emotional clarity and reduce confidence in emotion regulation. Ramadas et al. supported the psychometric validity of rejection sensitivity as a multidimensional interpersonal vulnerability involving anxious expectations and heightened reactions to possible rejection (Ramadas et al., 2025). Research on emotion regulation has also shown that difficulties in managing positive and negative emotions are closely linked to anxiety and depression during adolescence (Young et al., 2019). Accordingly, persistent rejection-related vigilance may gradually weaken emotional self-efficacy by exposing individuals to repeated emotional arousal without sufficient experiences of successful regulation.

The negative association between emotional self-efficacy and internet addiction constituted another major finding. Students with stronger beliefs in their capacity to manage emotions reported lower levels of internet addiction. This finding is consistent with studies demonstrating that emotional dysregulation and poor emotional self-management contribute to excessive or uncontrolled internet use. Quaglieri et al. showed that emotional dysregulation was related to internet addiction through problematic social media use among young adults (Quaglieri et al., 2022). Ghadampour et al. similarly found that emotional self-regulation predicted addiction to cyberspace and high-risk behavioral tendencies among students (Ghadampour et al., 2019). These studies support the proposition that internet use may become problematic when it functions as an external mechanism for changing or escaping unpleasant internal states. Students with low emotional self-efficacy may rely on online activity to reduce anxiety, loneliness, sadness, boredom, or interpersonal discomfort because they do not believe that they can manage these experiences through internal regulatory strategies.

Conversely, high emotional self-efficacy may function as a protective psychological resource. Individuals who believe they can identify and regulate their emotional responses are

more likely to tolerate temporary distress, delay impulsive behavior, use problem-solving strategies, and maintain goal-directed action. Caprara et al. found that self-efficacy beliefs in managing emotions were associated with greater positive affect and life satisfaction and with lower negative affect across different age groups (Caprara et al., 2022). Such individuals may use the internet purposefully without becoming dependent on it for mood regulation. The present findings therefore suggest that emotional self-efficacy may distinguish adaptive technology use from compulsive use. The critical issue may not be the amount of time spent online alone, but whether digital engagement is used flexibly for specific goals or rigidly as the primary strategy for controlling emotional discomfort. This interpretation also corresponds with the conceptual caution that not all frequent smartphone or internet use necessarily constitutes addiction (Panova & Carbonell, 2018).

The protective role of emotional self-efficacy is further supported by intervention studies. Beirami et al. reported that emotion efficacy therapy reduced internet dependence and psychological vulnerability in students with internet addiction (Beirami et al., 2021). Kheiripour et al. also found that an emotion-regulation training protocol was effective in reducing internet addiction among female students (Kheiripour et al., 2023). In addition, integrated cognitive-behavioral and metacognitive training has been shown to reduce dependence on virtual social networks (Sadeghzadeh et al., 2019). These intervention findings complement the present structural results by suggesting that emotional self-efficacy is not merely a correlate of problematic internet use but a modifiable therapeutic target. Strengthening emotional awareness, emotional tolerance, self-regulation, and confidence in coping may reduce the need to use the internet as an avoidant or compensatory behavior.

The significant indirect effect of rejection sensitivity on internet addiction through emotional self-efficacy represents the central contribution of the present study. This finding indicates that rejection-sensitive students may be more vulnerable to internet addiction partly because they have lower confidence in their ability to manage emotional reactions. In other words, anticipated rejection may generate distress, but the likelihood that this distress leads to compulsive internet use may depend on whether the individual feels capable of regulating it. This interpretation is strongly supported by Celikkaleli and Ata, who found that regulatory emotional self-efficacy mediated the effects of basic psychological need dissatisfaction and inadequate social support on problematic internet use in emerging adults

(Celikkaleli & Ata, 2025). Rejection-sensitive students commonly experience interpersonal situations as threatening and may perceive their need for belonging as frustrated. When this perceived social threat is accompanied by low emotional self-efficacy, online activity may become a readily accessible means of relief, reassurance, or avoidance.

The mediating result also corresponds with the sequential model reported by Liu et al., in which emotional abuse predicted internet addiction through emotional dysregulation and regulatory emotional self-efficacy (Liu et al., 2025). Although the antecedent examined in that study differed from rejection sensitivity, both findings emphasize that interpersonal-emotional vulnerability may influence internet addiction through beliefs about emotional regulation. Rejection sensitivity can expose individuals to frequent subjective experiences of interpersonal threat even when objective rejection is absent. These repeated experiences may intensify dysregulation and reduce confidence in coping. The individual may then seek immediate emotional modification through social media, online entertainment, gaming, or continuous browsing. Because these behaviors provide short-term relief, they may be negatively reinforced and repeated, eventually contributing to loss of control and functional impairment.

The partial rather than complete mediating role of emotional self-efficacy is also theoretically important. It indicates that rejection sensitivity continues to predict internet addiction even after emotional self-efficacy is taken into account. Therefore, other mechanisms are likely to contribute to the relationship. Previous studies suggest that loneliness, social anxiety, self-esteem, self-control, attachment insecurity, personality dysfunction, and maladaptive self-disclosure may represent additional pathways (Fan et al., 2022; Fontana et al., 2018; Hasani et al., 2022; Molavi et al., 2018). A rejection-sensitive student may use the internet not only because of difficulty regulating emotions but also because online environments offer opportunities for belonging, identity presentation, reassurance seeking, and avoidance of immediate evaluation. Accordingly, emotional self-efficacy appears to be one significant component of a broader network of cognitive, emotional, and interpersonal processes underlying internet addiction.

The present findings should also be interpreted in relation to the established association between problematic internet use and psychological distress. A systematic review and meta-analysis found meaningful associations between problematic internet use and multiple adverse mental health

outcomes (Cai et al., 2023). Keles et al. likewise concluded that social media use is associated with depression, anxiety, and psychological distress among adolescents, although the direction and mechanisms of these relationships may vary (Keles et al., 2020). Students with high rejection sensitivity and low emotional self-efficacy may be especially vulnerable because online activity can simultaneously relieve and intensify distress. While internet use may temporarily reduce loneliness or anxiety, excessive engagement may disrupt sleep, academic work, physical activity, and direct relationships, thereby producing additional stress and reinforcing continued use. This reciprocal pattern may help explain why internet addiction often persists despite negative consequences.

At the same time, the results do not imply that digital technology is inherently harmful. Digital tools may promote learning, communication, social support, and subjective well-being when they are used purposefully and in a regulated manner. Shao et al. found that digital technology use could influence adolescent well-being through positive processes such as flow and learning engagement (Shao et al., 2024). Broader population research has similarly shown that the psychosocial effects of technology depend on patterns of use and the mechanisms through which technology is integrated into everyday life (Yang et al., 2021). The findings of the present study therefore highlight the importance of individual differences. Internet use may remain adaptive for students with sufficient emotional and interpersonal resources, whereas rejection-sensitive students with low emotional self-efficacy may be more likely to use the internet rigidly as an emotional coping mechanism.

The acceptable fit of the structural model provides support for examining internet addiction through an integrated framework rather than through isolated predictors. The model suggests that interpersonal vulnerability and emotional self-beliefs operate together in explaining problematic online behavior. This perspective is compatible with recent psychiatric and psychological research emphasizing the role of emotional difficulties in problematic digital engagement (Shin et al., 2024). It also extends previous research by demonstrating that emotional self-efficacy can partially account for the association between rejection sensitivity and internet addiction in university students. From a theoretical perspective, the results integrate rejection sensitivity theory with emotional self-efficacy and compensatory internet-use models. From a clinical perspective, they suggest that effective prevention and treatment should address both rejection-related

expectations and perceived deficiencies in emotional regulation.

Overall, the study findings indicate that rejection sensitivity is a risk factor for internet addiction, whereas emotional self-efficacy serves as a protective factor. Rejection-sensitive students may experience greater interpersonal threat, stronger negative affect, and more frequent motivation to escape into online environments. When they also lack confidence in their emotional capacities, the probability of using the internet as a primary regulatory strategy may increase. The observed mediation effect therefore provides a plausible explanation for how an interpersonal cognitive-affective vulnerability is translated into maladaptive behavior. This explanation is consistent with evidence that emotional regulation and self-efficacy are central mechanisms connecting adverse relational experiences, psychological distress, and problematic internet use (Celikkaleli & Ata, 2025; Liu et al., 2025; Wu et al., 2020). The results consequently support the development of multidimensional approaches that strengthen emotional competence while also modifying negative expectations regarding interpersonal rejection.

The present study had several limitations. Its cross-sectional and correlational design prevents definitive causal conclusions regarding the direction of the relationships among rejection sensitivity, emotional self-efficacy, and internet addiction. The exclusive use of self-report questionnaires may have increased the likelihood of common-method variance, socially desirable responding, and inaccurate estimates of internet use. The sample was drawn from students at a single university, and the majority of participants were female, which may limit the generalizability of the findings to students from other institutions, age groups, cultural settings, or gender distributions. In addition, potentially relevant variables such as loneliness, social anxiety, attachment style, self-esteem, perceived social support, academic stress, and the specific types or purposes of internet use were not included in the structural model.

Future studies should use longitudinal, experimental, or cross-lagged designs to clarify the temporal and causal relationships among rejection sensitivity, emotional self-efficacy, and internet addiction. Replication with larger and more diverse samples from multiple universities and geographical regions would improve the external validity of the findings. Researchers should also combine self-report measures with objective indicators of digital behavior, such as device-recorded duration, frequency, nighttime use, and

application-specific activity. More comprehensive structural models could examine loneliness, social anxiety, self-esteem, attachment insecurity, perceived social support, and self-control as parallel or sequential mediators. It would also be valuable to test whether gender, age, academic discipline, living arrangements, and type of online activity moderate the proposed relationships.

University counseling centers should screen students with problematic internet use for rejection sensitivity and low emotional self-efficacy rather than focusing solely on the duration of internet use. Preventive and therapeutic programs should include training in emotion identification, emotional understanding, distress tolerance, cognitive reappraisal, interpersonal communication, and adaptive responses to perceived rejection. Counselors may also help students distinguish actual rejection from ambiguous social cues and replace avoidance-based internet use with direct coping, supportive relationships, and structured offline activities. Group-based programs could provide safe opportunities to practice emotional expression, receive realistic interpersonal feedback, and strengthen confidence in managing difficult social experiences.

Authors' Contributions

Authors equally contributed to this article.

Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

Transparency Statement

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Declaration of Interest

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Ethical Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

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