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Research Article

Technology Addiction, High-risk Behaviors, and Emotional Self-Regulation: The Case of Pre-service TEFL Teachers

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ABSTRACT

The impact of technology addiction on the cause and/or intensification of socio-psychological disorders and misconduct is a controversial issue. The present study aimed at demystifying the role of emotional self-regulation in reducing technology addiction and taking high-risk behaviors among pre-service Teaching English as a Foreign Language (TEFL) teachers. A total of 350 male and female (n=350) pre-service TEFL teachers were selected based on cluster random sampling from a population of 2640 in different branches of Farhangian University in Tehran, Shiraz, Arak, Tabriz, Bushehr, Zanjan, Esfahan, Mashhad, and Ardabil during the 2024-2025 academic year to participate in the current descriptive-correlational study. The Youth Risk Assessment, Emotional Self-Regulation (SR) Questionnaires, and Technology Addiction were among the tools that the study participants filled out. To examine the data, multivariate linear regression analysis was employed. Both technology addiction and the inclination to conduct high-risk behaviors were shown to have a strong negative connection with emotional SR ($p < 0.05$). Additionally, compared to technological addictions, emotional SR was a stronger predictor of the propensity to engage in high-risk behaviors among pre-service teachers. To reduce or avoid technology addiction and high-risk behavior, the results indicate that counsellors, clinical psychologists, and teacher educators should pay closer attention to the psychological traits of TEFL students, particularly emotional SR.

Introduction

Nowadays, social networks such as WhatsApp, Facebook, Line, Telegram, Viber, Tango, and Twitter have attracted the attention of Internet users and have become an inseparable part of most users' lives. Social networks are types of social media that have provided the possibility of achieving a new form of establishing communication and sharing information on the Internet (Nevard et al., 2021; Rashtchi & Yazdani, 2020; Shek & Yu, 2016). These networks have not only had a profound effect on the social aspects of users in various societies but have also many applications in various fields, such as education, medicine, and business (Amiri et al., 2025; Taheri Mobarakeh et al., 2005). Moreover, the increasing use of computer technology and the widespread use of the Internet have made many people, especially students, face mental health and social communication disorders caused by cyberspace or technology addiction (Amiri & Askari Matin, 2026; Yen et al., 2007). Addiction to technology is a pathological process of using the Internet, which creates a mental state in which an individual's behavior is disturbed, and a disturbance is also created in the person's cognitive state. Among the symptoms of this mental state are the creation of internal problems in individuals, problems and issues created in the workplace, and forgetting the responsibility towards family, friends, and jobs. This disorder, like any other mental illness, needs to be recognized and treated (Sadock et al., 2015).

So far, researchers have conducted countless studies on addiction to the Internet and social networks and the resulting losses (Burnay et al., 2015; Kheiripour et al., 2024; Montiel, 2024; Yang et al., 2024). In a study by Morahan and Schumacher (2000), the researchers concluded that Internet users are lonelier and more depressed. Likewise, in their research, Weinstein et al. (2015) concluded that technology addiction is related to physical health problems, weight problems, physical and musculoskeletal inactivity, and vision disorders. Burnay et al. (2015) showed that Internet addiction led to significant distress and disruption in psychological, social, academic, or occupational performance. Emotional self-regulation (SR) is among the psychological factors that may be predictors of individuals' inclination towards taking high-risk behaviors and technology-addiction (Hasani et al., 2024; Meihami & Esmaili, 2024). Hofmann (2014) defined emotional SR as self-management to change desired or unwanted responses in order to achieve conscious or unconscious goals.

Concerning the significance of technology in teacher education and the likely problems technology addiction might create for pre-service teachers in terms of their tendency to take high-risk actions, the present study aimed at investigating the power of emotional SR in predicting addiction to technology and tendency toward displaying high-risk behaviors among Freshmen pre-service teachers at a teacher education university in Iran.

Literature Review

Social damage starts in the virtual world and in cyberspace; in other words, social damage is related to technological addiction (Griffiths, 2001; Marriott & Pitardi, 2024). Features such as easy access to the Internet, remaining anonymous, observing negative patterns, receiving reinforcement, and positive and pleasant experiences prepare the ground for high-risk behaviors (Fogel & Nehmad, 2009). Some studies have shown a positive relationship between Internet addiction and high-risk behaviors (Beebe et al., 2004; Odaci, 2013). Other studies have shown that technology addiction has reduced the learner's academic achievement (Bulatbaeva et al., 2024; Ospankulov et al., 2023). The prevalence of high-risk behaviors in societies is one of the most severe health-threatening symptoms noticed in recent years due to rapid social changes by health organizations, law enforcers, and social policymakers (Esmaielzadeh et al., 2014). High-risk behavior includes a variety of actions that can have devastating consequences for the

perpetrators, their loved ones, and others who may accidently be harmed (Boyer, 2006).

As far as Iran (the site where this research was conducted) is concerned, unhealthy eating behaviors, failure to perform physical and sports activities, reckless driving, violence, smoking, high-risk sexual behaviors, drug use, alcohol consumption, violence, and committing suicide are among the known high-risk behaviors of Iranian youth (Atadokht et al., 2013). Also, Rashid (2015) reported that the experience of hookah smoking, smoking, sex, being beaten outside the house, and alcohol consumption are the most common high-risk behaviors among Iranian teenagers. Esmaielzadeh et al. (2014) showed that the use of hookah among students is most common in comparison with drug use, smoking, and alcohol consumption. However, experts and specialists always consider the contribution of psychological factors to be fundamental in investigating the causes and cases that cause addiction to cyberspace and, of course, the inclination to take high-risk behaviors. Emotional SR is among the psychological factors that may predict addiction to technology and the tendency to exhibit high-risk behaviors (Burnay et al., 2015; Hasani et al., 2024; Meihami & Esmaili, 2024; Yang et al., 2024).

Hofmann (2014) defined emotional SR as managing oneself to change desired or unwanted responses to achieve conscious or unconscious goals. Strongman (2006) cited five types of emotional processes. In his opinion, during *the selection of the position*, a person adjusts his emotions by approaching or moving away from people, places, or objects that cause pleasant or unpleasant emotional experiences. During *situation correction*, individuals focus on what causes unpleasant emotional experiences and changes them as they experience pleasant feelings. By *changing attention*, they pay attention to something else and distract themselves from the situation or stimulus that causes excitement. Through *cognitive change*, individuals change their evaluation of entities and events taking place around them and try to change their emotional states. However, *modifying the answer* refers to the changes in individuals' emotional responses to situations or stimuli. The strategies people use to regulate their emotions can improve human health in various biological, psychological, social, and moral dimensions, affecting individuals' life quality, efficiency, and interpersonal relationships (Salehi Moorkani, 2006).

Most of the reported studies have investigated the relationship between emotional SR and psychological disorders. However, no research has investigated the role of emotional SR in factors such as technology addiction and taking high-risk behaviors. In this regard, Gaffardoust et al. (2017) found that issues pertaining to SR of emotions are one of the problems of drug users. Ghanbari Milasi (2014) found a significant relationship between emotional SR and neuroticism. Mestre et al. (2017) investigated the role of emotional SR ability in the resilience of a group of adolescents in the Spanish suburbs, and the results of their research indicated the essential role of emotional SR in the resilience of adolescents.

Weinstein et al. (2015) investigated the correlation between Internet addiction and social anxiety. The results showed a positive correlation between the two factors. In related research, Chiu (2014) reported the role of family stress in the tendency towards cyberspace addiction. Moreover, Yariari et al. (2015) found a negative and significant relationship between all metacognitive beliefs

and types of high-risk behaviors. Likewise, Khazaei et al. (2013) concluded that there was a positive and significant relationship between cell phone addiction and aggression. In another study, Atadokht et al. (2013) found a negative correlation between psychological well-being and taking risky behaviors. In addition, Habibi Kelibar et al. (2013) reported negative correlation between addiction propensity and emotion control. Rahmati and Saber (2017) reported that the cognitive regulation of excitement and resilience of students addicted to the Internet was lower than that of typical students.

Since pre-service teachers are considered the capital of society and play a crucial role in the education of the next generations, their mental and physical health guarantees their health and future professional development (Mahmoudi et al., 2021). On the other hand, the increasing prevalence of technology addiction and high-risk behaviors among students are potential threats to the academic community. Accordingly, the psychological factors that predict conditions should be investigated. The researchers assumed that addiction to technology and the inclination towards taking high-risk behaviors pre-service teachers would be significantly predicted by emotional SR. Accordingly, the following research questions were proposed.

1. Which of the two variables of technology addiction and the tendency to display high-risk behaviors is more predicted by emotional self-regulation?

2. Is there any relationship between pre-service teachers' technology addiction and their emotional self-regulation?

3. Is there any relationship between pre-service teachers' emotional self-regulation and their tendency to display high-risk behaviors?

Method

Design

The current study was both descriptive and correlational. Revelle (2023) mentions that in both psychology and psycholinguistic research, descriptive studies represent the realities of the study context. Moreover, correlational designs, which aim to examine the relationship between or among variables, can help researchers measure the strength and direction of association between the study participants or among different groups (Field, 2024). The present study took into account the correlation among technology addiction, high-risk behaviors, and emotional self-regulation in pre-service TEFL teachers.

Setting and Participants

From a population of 2640 pre-service TEFL teachers in different branches of Farhangian University in Tehran, Shiraz, Arak, Tabriz, Bushehr, Zanjan, Esfahan, Mashhad, and Ardabil during the academic year 2024–2025, 170 male and 180 female students (n = 350) were selected based on cluster random sampling to participate in the study. In this research, the sample was homogenized in terms of age (i.e., 19-22 years old) and gender (both males and females).

Instruments

The *Internet Addiction Questionnaire* designed by Young (1996), which included 10 items, was used as the first instrument. The questionnaire is scored between zero and four using a Likert scale format. Thus, the range of each person's score in the questionnaire is between 0 and 80. The scores obtained for each person classify them into three groups: normal Internet users, users who have problems due to excessive use, and addicted users whose excessive use has made them dependent on the technology and need treatment. In the Iranian context, Alavi et al.

(2010) investigated the reliability of the questionnaire and concluded that its translated version had an acceptable reliability of α=0.72 based on Cronbach's alpha. Moreover, the construct validity of the questionnaire was conformed through confirmatory Factor Analysis (CFA). The present study estimated the reliability of α=0.78, based on Cronbach's alpha, for the questionnaire.

The researchers used the *Iranian Youth Risk-Taking Scale* to measure the tendency to follow high-risk behaviors (Zadeh Mohammadi et al., 2011). The questionnaire encompasses 38 items that measure the vulnerability of teenagers in seven categories of high-risk behaviors such as violence, reckless driving, smoking, drug use, alcohol consumption, sexual relationships, and tendencies toward the opposite sex. Respondents express their agreement or disagreement with these items on a five-point Likert scale from completely agree with a score of 5 to completely disagree with a score of 1. The reliability of the questionnaire for the overall scale is 0.94 based on Cronbach's alpha (Zadeh Mohammadi et al., 2011). Meanwhile, the Cronbach's alpha obtained in this research was 0.84.

To measure emotional SR, the researchers employed *March's Emotional Self-Regulation Scale* (Roth et al., 2019). The instrument has 44 questions, including six dimensions of cognitive, behavioral, change of situation, change of emotion, reduction of negative mood, and increase of positive mood. Roth et al. (2019) reported its reliability using the split-half method (α= 0.75) and using Cronbach's alpha (α=0.80). Also, Roth et al. (2019) reported that the emotional SR scale's validity for each sub-component was 0.63 to 0.70. In the present study, Cronbach's alpha coefficient for March's Emotional Self-Regulation Scale was estimated at 0.68.

Data Collection Procedures

The questionnaires were selected based on the study purpose and were emailed to the heads of the English departments in eight branches of Farhangian University throughout the country, encompassing 2640 pre-service TEFL teachers in total. They were informed of the subject selection procedure, which was cluster random sampling. Hence, participants taking part in the study were selected from all the university branches and levels. In the next step, the study participants were asked to complete the Internet Addiction Questionnaire (Young, 1996), including 10 items; the Iranian Youth Risk-Taking Scale (Zadeh Mohammadi et al., 2011), including 38 items; and March's Emotional Self-Regulation Scale (Roth et al., 2019), encompassing 44 items, in order. The allocated times for the participants to fill out the questionnaires were 20, 50, and 60 minutes, respectively, to help them feel at ease while completing the questionnaires. In case the participants had a problem while completing the survey instruments, one of the researchers was available online and, on the phone, to provide them with guidance and assistance. The completed questionnaires were collected by the heads of the departments and scanned and emailed back to the researchers. Then the data were extracted and fed into SPSS version 26 to be analyzed.

Data Analysis Procedures

In this research, to analyze the data, in addition to using descriptive statistics such as mean and standard deviation, multivariate regression analysis was used. In so doing, first, a multivariate linear regression analysis was used to find which of the two variables of technology addiction and the tendency to

display high-risk behaviors could be more predicted by emotional SR. Then, a multiple linear regression analysis was used to find the relationship between pre-service teachers' technology addiction and their emotional SR. Finally, multiple linear regression analysis was used to investigate the hypothesis that the dimensions of emotional SR can predict the tendency to display high-risk behaviors.

Ethics Issues

The informed consent was obtained from the participants. Therefore, all study participants completed the research consent form, indicating that they were informed about the purpose of the research, that their answers and personal information would remain confidential, and that their data would be used anonymously.

Results

Research Question One

The first research question intended to find which of the two variables of technology addiction and the tendency to display high-risk behaviors could be more predicted by emotional SR. The central hypothesis was that addiction to technology and the tendency to display high-risk behaviors among pre-service teachers would be significantly predicted by emotional SR. Multivariate linear regression analysis was used to test this hypothesis. As displayed in Table 1, the six dimensions of emotional SR and their relationship with technology addiction were measured.

Table 1

Descriptive Statistics; Research Subscales

Variables	No.	Mean	Standard Deviation
Cognitive Emotional Regulation	350	26.09	5.35
Emotional Behavioral Regulation	350	24.66	4.63
Situational Change	350	26.44	5.18
Emotional Change	350	28.39	4.24
Reducing Negative Mood	350	28.51	4.78
Increasing Positive Mood	350	32.77	6.55
Tendency to Display High-risk Behaviors	350	78.52	8.36
Technology Addiction	350	30.37	5.19

As Table 1 shows, the results of the descriptive analysis show that among the dimensions of emotional SR, the highest mean belongs to increasing positive mood. The normality of the data was also tested and confirmed using the Kolmogorov-Smirnov test. One of the assumptions of multivariate linear regression is the absence of a collinear effect between independent variables. Variance tolerance and Variance Inflation Factor (VIF) check these assumptions (Field, 2024). In the present study, all the figures indicated the absence of a strong collinear effect between predictor variables. Another assumption of regression was the independence of errors, which should reject the assumption of correlation between errors. The Durbin-Watson results ($1.5<1.96<2.5$) indicated that the errors were not correlated, an assumption that should be met when reporting linear regression results. To confirm this assumption, the value of this parameter must be in the range of 1.5 to 2.5. In this research, the Durbin-Watson is equal to 1.96, indicating that the assumption was met.

Table 2

Regression; Results of Emotional Self-Regulation Factors on Internet Addiction

Model	Sum of Squares	df	Mean Square	F	R	R^2	Adjusted R^2	Sig.	Durbin-Watson
Regression	1080.56	6	180.09	12.07	0.58	0.34	0.31	.000[b]	
Residual	2133.31	343	14.91						2.26
Total	3213.87	349							

a. Dependent Variable: Technology Addiction
b. Predictor: (Constant), Emotional Self-Regulation

One of the predictor factors significantly affected the criterion variable ($p<.001$), as shown in Table 2. An indicator of how well the predictor variables account for changes in the criterion variable is the R2 index, often known as the multiple determination coefficient. Put simply, it shows what proportion of the predictor variables are able to match the dependent variable. According to this study, emotional SR variables may explain 34% of technology addiction, while other factors account for the other 66%. The R2 value is 0.34.

The capacity to predict the dependent variable from the population of predictor variables is examined by the R2 adjusted index, also known as the adjusted coefficient of determination. It is indeed possible to include the full population in the sample with minor adjustments. This coefficient is valued at 0.31. Put simply, emotional SR has a 31% predictive power for technological addiction. Verifying whether variables have a substantial effect on the model or identifying which coefficients are not equal to zero is crucial when considering the overall significance of the model. The present researchers utilized the t-test for this reason.

Research Question Two

The second research question aimed to find the relationship between pre-service teachers' technology addiction and their emotional SR. Multiple linear regression analysis was used to investigate the related hypothesis. As Table 3 shows, the factors of cognitive emotional regulation, emotional behavioral regulation, situational change, emotional change, reduction of negative moods, and increasing positive moods, *as components of emotional SR*, have a significant correlation with *technology addiction* at the level of 0.05%. The negativity of these correlation coefficients indicates that an increase in these factors would reduce the amount of technology addiction.

Table 3

Coefficients [a]

Model (Constant)	Unstandardized Coefficients B	Standardized Coefficients Beta	t	Sig.
	46.08		8.98	.001**
Cognitive Emotional Regulation	-.50	-.44	-5.46	.001**
Emotional Behavioral Regulation	-.28	-.25	-2.41	.008
Situational Change	.03	.03	0.40	0.69
Emotional Change	-.31	-.26	-3.10	.002**
Reducing Negative Mood	-.35	-.29	-3.20	.002**
Increasing Positive Mood	-.30	-.34	-2.22	.01

a. Dependent Variable: Technology Addiction
**. Correlation is significant at the 0.05 level.

Research Question Three

The third research question aimed to find the relationship between pre-service teachers' emotional SR and their tendency to display high-risk behaviors. Multiple linear regression analysis was used to investigate the hypothesis that the dimensions of emotional SR can predict the tendency to display high-risk behaviors. In this research, Durbin-Watson's statistic value equals 2.26 (Table 2), indicating the assumption is met.

Table 4

Regression; Results of Emotional Self-Regulation Factors on High-risk Behaviors

Model	Sum of Squares	df	Mean Square	F	R	R^2	Adjusted R^2	Sig.	Durbin-Watson
Regression	21802.57	6	3633.76	15.81	0.66	0.43	0.42	.001[b]	
Residual	32852.318	343	229.73						2.26
Total	54654.75	349							

a. Dependent Variable: High-risk Behaviors

b. Predictor: (Constant) Emotional Self-Regulation

According to Table 4, the criterion variable is significantly affected by one or more of the predictor factors ($p< 0.05$). The coefficient of multiple determination, or R2 index, indicates how much variation in the criterion variable can be explained by the variables that are used as predictors. Put simply, it shows what proportion of the predictor factors were a satisfactory match for the dependent variable. The emotional SR variables can explain 43% of the propensity to engage in high-risk activities, whereas other factors account for the remaining 57% (R2 = 0.43). The capacity to predict the dependent variable from the population of predictor variables is examined by the R2 adjusted index, also known as the adjusted coefficient of determination. The sample can be expanded to the entire population with a small adjustment. The value of the coefficient is 0.42, signifying that emotional SR can predict 42% of the tendency to display high-risk behaviors. In order to determine if the overall model is statistically significant, the researchers need to apply the t-test to find out which of the coefficients is not zero or which of the variables significantly affects the model.

As Table 5 shows, the factors of cognitive emotional regulation, emotional behavioral regulation, both situational and emotional changes, reducing negative mood, and increasing positive mood have a significant relationship with the tendency to display risky behaviors at 0.05%. The negativity of these coefficients indicates that an increase in these factors would decrease the students' tendency to display high-risk behaviors.

Table 5

Coefficients [b]

Model	Unstandardized Coefficients B	Standardized Coefficients Beta	t	Sig.
(Constant)	34.94		10.22	.001**
Cognitive Emotional Regulation	-.43	-.49	-6.46	.001**
Emotional Behavioral Regulation	-.48	-.56	-7.41	.001**
Situational Change	.02	.01	.37	0.73
Emotional Change	-.27	-.24	2.56	.006**
Negative Mood Reduction	-.47	-.54	-7.20	.001**
Positive Mood Enhancement	-.25	-.23	-2.36	.008**

a. Dependent Variable: High-risk Behavior

**. Correlation is significant at the 0.05 level.

Discussion and Conclusion

This research intended to predict technology addiction and the tendency to display risky behaviors based on emotional SR among first-year students of Farhangian Teacher Education University in Tehran. In doing so, three research questions were posed. Testing the first hypothesis revealed that emotional SR had a higher power in predicting students' tendency to display high-risk behaviors compared to technology addiction. Moreover, testing the second hypothesis showed a significant negative relationship between technology addiction in students and their emotional SR. In other words, technology and Internet addiction can be predicted negatively based on emotional SR. This finding is to some extent consistent with Morahan and Schumacher (2000), Burnay et al. (2015), Weinstein et al. (2015), Young and Rodgers (1998), Chiu (2014), Marriott and Pitardi (2024), and Rahmati and Saber (2017). Similarly, Shek and Yu (2016) believe that adolescents and young people are considered a high-risk group for Internet and cyberspace addiction. In the last two decades, the high prevalence of Internet addiction in children and adolescents and the unfavorable relationship between Internet addictive behaviors and individuals' physical and psychological health issues have been consistently reported (Hasani et al., 2024; Kheiripour et al., 2024). Moreover, research reports highlight the relationship between Internet addiction and low school achievement among students (Bulatbaeva et al., 2024; Meihami & Esmaili, 2024; Ospankulov et al., 2023).

In explaining this research finding, we can also refer to the view of Garnefski et al. (2001), who concluded in their research that people with weak cognitive styles were more vulnerable to psychological disorders than others. Therefore, a defect in emotional SR as a type of damage in cognitive styles is a predictor of Internet addiction as a type of psychological disorder. The results support Asgari and Marashian (2009), who showed that people who depend on the Internet and cyberspace have weaker compatibility with others and are emotionally unstable. The reason for accessing the Internet in many people is to suppress anxiety and life tensions.

The study found a negative correlation between students' emotional SR and their propensity to engage in risky activities, supporting the third hypothesis. In other words, the tendency to display such behaviors can be predicted based on weakness in emotional SR. These findings are in line with Gaffardoust et al. (2017), Montiel (2024), Ghanbari Milasi (2014), Yariari et al. (2015), Khazaei et al. (2013), Atadokht et al. (2013), Yang et al (2024), and Habibi Kelibar et al. (2013). Thus, the researchers could conclude that students who have problems in their cognition and do not have the necessary emotional SR abilities do not have reasonable control in stressful situations, understand the nature of stress with higher intensity, and demonstrate less psychological adjustment. Likewise, a low emotional capacity does not allow a person to use a positive mood and the required tolerance level in dealing with others and developing interpersonal relations. Nor does it let the individual develop a desirable level of emotional SR to act appropriately in distressful situations (Izadpanah et al., 2016). Moreover, low levels of emotional SR are the source of impulsive and immature behaviors among students (Auerbach et al., 2008).

To sum up, like any other study, the current research was not free of limitations, and thus, generalizations should be made with

caution. There is a need to conduct more detailed and long-term longitudinal studies on the role of Internet addiction in developing pre-service teachers' tendencies to display high-risk behaviors and related issues in order to comment more confidently in this domain. The sample studied in this research was only first-year students at a Teacher Education University in Tehran. Selecting participants from other universities would make the study more all-encompassing. The use of other data collection methods, such as clinical interviews and the implementation of questionnaires, can also be helpful and increase accuracy in future investigations. Considering the study findings, which clarified addiction to technology and the tendency to display risky behaviors can be predicted based on emotional SR. As such, counselors and clinical psychologists of universities and even schools should pay attention to psychological variables, including emotional SR, to prevent addiction to cyberspace, technology, and the Internet. Moreover, they can train students in terms of the negative outcome of tending to display high-risk behaviors. Similarly, this study highlights the importance of taking preventive measures through expanding consultation and educational programs aiming at awarding preservice teachers with respect to appropriate use of cyberspace, technology and the Internet to minimize the effect of technology addiction on their academic achievements.

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