

# Exploring How Social Media Influence Risky Behaviors among Students at Hamadan University of Medical Sciences, Hamadan, Iran: The Role of Self-Control

Amir Hosein Piroz<sup>1</sup> , Mohamad Reza Amiri<sup>1</sup> , Seyed Abedin Hoseini Ahangari<sup>1\*</sup> , Samad Moslehi<sup>2</sup>

<sup>1</sup>Department of Paramedicine, Hamadan University of Medical Sciences, Hamadan, Iran.

<sup>2</sup>Department of Public Health, Hamadan University of Medical Sciences, Hamadan, Iran.

## Abstract

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**Introduction:** The extensive use of social media has become a significant aspect of student life today. While engaging with social media can lead to an increased likelihood of high-risk behaviors, self-control might play a key role in moderating this relationship. This study aims to explore how social media usage impacts high-risk behaviors, focusing on the moderating influence of self-control among students at Hamadan University of Medical Sciences, Hamadan, Iran.

**Methods:** This descriptive cross-sectional study took place in 2024. The study's statistical population comprised 6,145 students, from which 364 participants were chosen using Morgan's table and a stratified sampling method. The data collection involved standard questionnaires, including the Virtual Social Media Addiction questionnaire, the Iranian Youth Risk-Taking Scale, and the Tangney Self-Control Scale. The data analysis was performed using SPSS 24 and Smart PLS 3 software, employing correlation and path analysis tests.

**Results:** Among the 364 students who participated, 49.2% were female and 45.9% were male, with an average age of 25.18 years ( $\pm 5.18$ ). The majority were undergraduates (57.4%), followed by master's students (22.8%) and general medicine students (8%). The average scores for social media use (2.81), risky behaviors such as unsafe driving (2.55), violence (2.34), smoking (2.55), and alcohol, drug, and psychotropic use (2.50), as well as suicidal tendencies (2.61) and unsafe sexual behavior (2.48), were all significantly below average ( $P < 0.001$ ). There was a positive link between social media use and all these risky behaviors, including unsafe driving, violence, smoking, alcohol, drug, and psychotropic use, suicidal tendencies, and unsafe sexual practices ( $P < 0.05$ ). However, self-control (average score of 2.85) significantly mitigated the impact of social media use on these risky behaviors ( $P < 0.05$ ).

**Conclusion:** Social media usage can heighten the chances of engaging in risky behaviors. However, bolstering self-control can lessen this impact. By strengthening self-control skills, we can effectively reduce risky behaviors among active social media students.

### \* Corresponding author:

Seyed Abedin Hoseini  
Ahangari

Email: [hoseini.abed@gmail.com](mailto:hoseini.abed@gmail.com)



## Introduction

Student life is a pivotal phase in a person's journey, significantly influencing their identity, values, and future lifestyle. During this transformative time, students encounter various challenges, such as gaining independence from their families,

managing their time and finances, selecting a field of study and future career, and navigating a new social environment (1). A notable concern during this period is the inclination of some students to engage in risky behaviors. These behaviors, which



can jeopardize one's physical, mental, or social well-being, include dangerous driving, violence, smoking, alcohol and drug use, suicide attempts, and unsafe sexual practices (1). Risky behaviors can seriously impact students' physical, mental, and social well-being. Research indicates that these behaviors are quite common among students. In Western countries, approximately 60% of students have engaged in risky activities like alcohol or drug use at least once during their academic years (2, 3). Similarly, in Iran, studies highlight the prevalence of these behaviors among students. According to Shekari et al., 23.4% of Iranian students have used hookah, 10.1% have smoked cigarettes, 7.7% have consumed alcohol, and 24.9% have engaged in risky driving (4). Parvin et al.'s study further reveals that about 18% of students have been involved in physical conflicts and 12% have participated in risky sexual behaviors (5).

In recent years, social media have become crucial communication tools for students. Studies indicate that over 90% of students use at least one social media platform (5). Among these, Instagram, WhatsApp, and Telegram are the most popular, with users primarily accessing them at night via mobile phones (6). While social media offer benefits like easy information access, extensive communication, and educational opportunities, excessive and imbalanced use can lead to adverse effects.

Research has explored how social media relate to risky behaviors. Several mechanisms illustrate how these platforms might influence such behaviors:

1. **Exposure to Inappropriate Content:** Viewing content that glamorizes risky behaviors can normalize and make them more appealing, fostering positive attitudes toward these actions.

2. **Peer Influence:** Observing peers engaging in risky behaviors online can create normative pressure and encourage imitation.

3. **Attention-Seeking Behaviors:** Some individuals may engage in risky behaviors online to gain attention and popularity.

4. **Negative Emotions from Social Comparison:** Social media can increase feelings of anxiety, depression, and relative deprivation, which may lead to compensatory risky behaviors.

5. **Desensitization to Risks:** Constant exposure to risky behaviors in virtual environments can reduce sensitivity to their dangers.

These items highlight the complex ways in which social media can impact student behavior, underscoring the need for balanced and mindful usage (6-10). In this regard, Vannucci et al., in a systematic meta-analysis study, showed that small to moderate positive correlations exist between social media use and engagement in risky behaviors in general, substance use, and risky sexual behaviors (11). Individuals who consistently used social media at a younger age reported more risky behaviors at an older age (12). In Iran, studies by Garavand (13) and Mehrabi et al. (14) confirmed that the use of social media can be associated with an increased tendency to engage in risky behaviors in youth and students (13, 14).

Alongside the influence of social media, factors like self-control can significantly moderate and reduce the inclination to engage in risky behaviors. Self-control is recognized as one of the most crucial protective factors against such behaviors. It refers to an individual's innate ability to manage and regulate desires, tendencies, and actions without relying on external pressure or threats. This trait allows people to diligently tackle challenges, fulfill their responsibilities, and avoid abnormal and unregulated behaviors (10). Notably, low self-control is closely linked to a range of risky behaviors, with a stronger connection observed in actions like substance use and aggression compared to other risky activities (11). A study by Damercheli et al. further confirmed that self-control plays a vital role in moderating risky behaviors associated with using virtual networks (12).

Despite the evidence linking social media use to risky behaviors and highlighting the protective role of self-control, the aspect of information-seeking behavior remains underexplored. As social media has become a primary source of information today, it's crucial to examine how these platforms influence user behavior. Self-control, with its various facets—such as resisting temptations, overcoming unhealthy habits, managing time, maintaining focus, and making rational decisions—plays a vital role in

how users engage with and manage information resources. Understanding this relationship can lead to developing educational strategies that guide healthier use of information resources, particularly social media, and support the creation of more effective academic programs focused on information-seeking behavior.

Therefore, the present study aims to investigate the relationship between the use of social media and risky behaviors, with the moderating role of self-control among students of Hamedan University of Medical Sciences. The results of this study can help design educational and preventive programs in universities as well as policies related to the safe use of social media.

## Methods

This study is a descriptive-analytical and cross-sectional investigation aims at exploring the relationship between social network use and risky behaviors, considering self-control as a moderating factor among students. The research focuses on all students enrolled at Hamadan University of Medical Sciences in Hamadan, Iran, in 2024, totaling 6,145 individuals. A sample size of 364 students was determined using the Morgan and Krejcie table. The sampling process employed a stratified method proportional to the size of each group, ensuring a balanced representation of students from different levels and fields of study.

The data collection tool included three standard questionnaires:

1. The Modified Social Network Addiction Questionnaire: This questionnaire was crafted by Sadegzadeh et al. in 2018. This questionnaire consists of 31 questions using a five-point Likert scale to assess the level of addiction to social media. Its construct validity was verified through both exploratory and confirmatory factor analysis. Additionally, the reliability of the questionnaire was measured using Cronbach's alpha coefficient, which was 0.92, indicating excellent internal consistency (15).

2. The Iranian Youth Risk-Taking Scale which comprises six subscales: Dangerous driving, violence, smoking, drug and psychotropic drug use, alcohol use, and sexual risk-taking. Participants

receive seven distinct scores—six for each subscale and one overall score. Responses are measured on a Likert scale from 1 (completely disagree) to 5 (completely agree). In Zadeh Mohammadi's study, the scale demonstrated strong reliability, with a Cronbach's alpha of 0.93 (16).

3. The Tangney Self-Control Questionnaire features 13 questions using a five-point Likert scale, ranging from "never" to "very much." This questionnaire assesses various aspects of self-control, such as resisting temptations, overcoming unhealthy habits, managing laziness, controlling inappropriate speech, refraining from harmful pleasures, avoiding harmful behaviors, self-discipline, willpower, maintaining inner order, focusing on tasks over hobbies, concentration skills, pursuing long-term goals, controlling inappropriate behaviors, and making rational decisions. Its validity was established in a study by Tangney et al., where it was correlated with academic achievement, adaptability, positive relationships, and interpersonal skills (17). In Iran, Mousavimoghadam et al. have also confirmed its validity and reliability (18).

The distribution and collection of questionnaires took place at Hamadan University of Medical Sciences. Data collection from the available samples occurred during the first six months of 2024. After explaining the research purpose to the students and obtaining their informed consent, printed questionnaires were distributed to them. The data from the completed questionnaires were analyzed using SPSS version 24 and Smart PLS version 3 software. This study used descriptive statistics (frequency, percentage, mean, and standard deviation) alongside analytical tests (including correlation and path analysis) to examine the data.

## Results

Of the 364 students who participated in the study, 346 responded, resulting in a high participation rate of 95.05%. Among them, 179 students (49.2%) were female, and 167 (45.9%) were male. Unfortunately, 18 students (4.9%) chose not to disclose their gender. The participants had an average age of 25.18 years, with a standard deviation of 5.18 years.

In terms of education, most students were pursuing



a bachelor's degree, accounting for 209 participants (57.4%). This was followed by those working towards a master's degree, totaling 83 participants (22.8%). Additionally, 29 students (8%) were studying for a general doctorate. A few students were in other educational categories: Five (1.4%) were at the associate's level, and seven (1.9%) were pursuing a specialized doctorate. Meanwhile, 31 participants (8.5%) did not specify their level of education.

The study found that participants' average use of social media was 2.81 (with a standard deviation of 0.94), below the theoretical average of 3. This

difference is statistically significant, with a p-value of less than 0.001. Additionally, the average self-control score was 2.85 (with a standard deviation of 0.44), below the theoretical average of 3, and statistically significant with a p-value of less than 0.001.

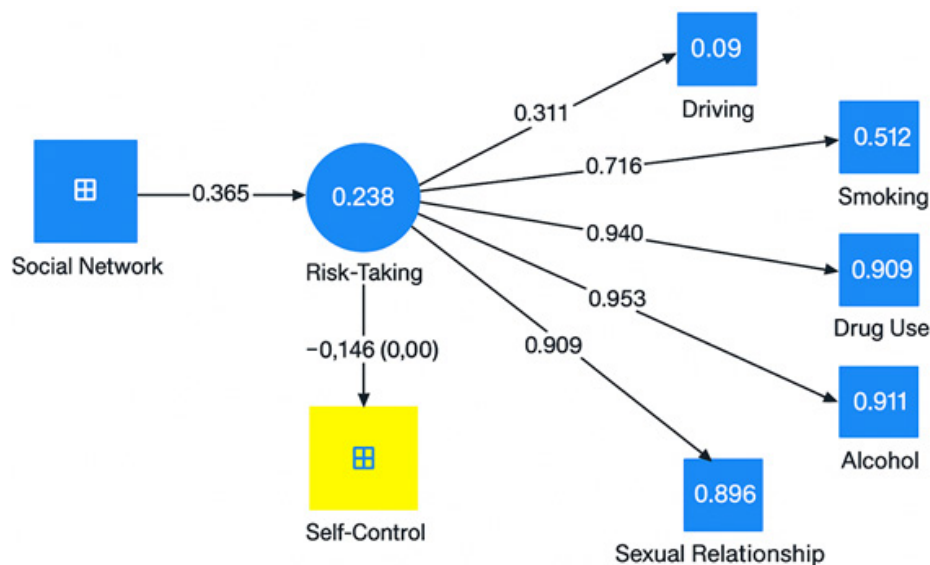
When it comes to risky behaviors, all categories, including dangerous driving (average  $2.55 \pm 0.89$ ), violence (average  $2.34 \pm 0.74$ ), smoking (average  $2.55 \pm 1.60$ ), drug use (average  $2.50 \pm 1.55$ ), alcohol use (average  $2.61 \pm 1.37$ ), and unsafe sex (average  $2.48 \pm 1.41$ ), had averages below the expected average, as shown in Table 1.

**Table 1.** Review of the status of research variables

Variable	Average	Standard deviation	T-value	Degree of freedom	P-value
Use of social media	2.81	0.94	-3.69	359	<0.001
Self-control	2.85	0.44	-6.13	360	<0.001
Dangerous driving	2.55	0.89	-9.47	363	<0.001
Aggression	2.34	0.74	-16.62	363	<0.001
Smoking	2.55	1.60	-5.32	363	<0.001
Drug use	2.50	1.55	-6.07	363	<0.001
Suicide	2.61	1.37	-5.31	363	<0.001
Unsafe sex	2.48	1.41	-6.89	363	<0.001

Structural equation modeling was used to examine the relationship between variables. Figure 1 shows the structural equation model of the

relationship between social network, self-control, risky behaviors, and unstandardized factor loadings (probability values).



**Figure 1.** Structural equation model of the relationship between research variables

The model's goodness of fit was evaluated using the effect size criterion, which measures the strength of the relationship between model constructs. According to this criterion, effect sizes of 0.02, 0.15, and 0.35 represent small, medium, and large effects, respectively (19). Table 2 presents the effect sizes of the independent variables (listed in rows) on the dependent variables (listed in columns). The data indicate a significant effect size between "risk-taking" and the variables "alcohol," "violence,"

"sex," "driving," "cigarettes," and "drugs." The effect size of "self-control" on "risk-taking" is small at 0.037, below the threshold for a small effect. Meanwhile, "social network" has a medium effect of 0.154 on "risk-taking." The interaction effect of "self-control × social network" on "risk-taking" is minimal at 0.029. Overall, the findings suggest that "risk-taking" is the most influential variable in the model, while the effects of other variables are relatively weak to moderate.

**Table 2.** Effect sizes of variables

Variable	Alcohol	Aggression	Risk-Taking	Sexual Relationship	Driving	Smoking	Drugs
Risk-taking	10.254	1.051		8.581	0.107	8.411	9.973
Self-control			0.037				
Social network			0.154				
Self-control x social network			0.029				

Table 3 shows the factor loadings of the relationship between the amount of social media use and risky behaviors, along with the moderating role of self-control. "Risk-taking," had a substantial and significant factor loading with the variables "alcohol" (0.955), "sex" (0.946), "cigarettes" (0.945), and "drugs" (0.953), all of which had very high t-statistics and probability values less than 0.001. These results indicate a powerful and significant relationship between these variables. The relationship between "risk-taking" and "violence" (0.716) was also substantial and at a relatively high level. The factor loading of "risk-taking" to "driving" (0.311) was lower compared to other behaviors, but still statistically significant.

The variable "self-control" negatively and

significantly impacts "risk-taking," with a factor loading of -0.174. This suggests that self-control plays a crucial role in reducing the inclination to engage in risky behaviors. On the other hand, "social network" has a positive and significant effect on "risk-taking," with a factor loading of 0.365. Additionally, the interaction between "self-control" and "social network" is negative and significant, with a factor loading of -0.146. This indicates that self-control moderates the effect of social media on risk-taking. In other words, as self-control increases, the influence of social media on the tendency to take risks diminishes. All the relationships in the analysis have a significance level of less than 0.05, underscoring the high validity of the model results.

**Table 3.** Factor loadings of the relationship between the amount of social media use and risky behaviors with self-control moderation

Variable	Factor loadings	Standard deviation	T-Value	P-value
Risk-Taking -> Alcohol	0.955	0.005	175.741	0.000
Risk-Taking -> Aggression	0.716	0.027	26.075	0.000
Risk-Taking -> Sextual Relationship	0.946	0.006	162.052	0.000
Risk-Taking -> Driving	0.311	0.038	8.175	0.000
Risk-Taking -> Smoking	0.945	0.006	161.671	0.000
Risk-Taking -> Drug	0.953	0.008	127.053	0.000
Risk-Taking -> Self-Control	-0.174	0.048	3.591	0.000
Risk-Taking -> Sosial Media	0.365	0.049	7.521	0.000
Risk-Taking -> Sosial Media × Self-Control	-0.146	0.057	2.563	0.011

## Discussion

The present study aimed to investigate the effect of social media use on high-risk behaviors, with the moderating role of self-control in students of Hamadan University of Medical Sciences. The findings of this study showed that the level of social media use among students was significantly lower than the average. These findings are inconsistent with the results of some previous studies that reported high levels of social media use. In previous studies, Castrén et al. showed that 46% of girls and 28% of boys use social media excessively (20). Sanei Mehri and Razmazma, in investigating the level and reasons for using cyberspace among students of Farhangian University of Mashhad, showed that 35.2% of male students and 19.2% of female students use virtual social media extensively throughout the day (21). Sabzeh and Sadeghi, in their study on Farhangian University students, also found that Telegram, WhatsApp, and Instagram social media are among the most popular virtual social media among students, and about half of the students spend between two and four hours a day using social media (22). Yadollahpour et al. also reported in their study on Babol University of Medical Sciences students that 98.78% of students use virtual networks (23). In another study, Hosseini Fouladi et al. reported the average weekly hours of use of virtual social media

among students at Isfahan University of Medical Sciences as  $8.3 \pm 8.8$  hours, with the most time used by students being at night (24).

Regarding risky behaviors, the results showed that the average of all dimensions, including dangerous driving, violence, smoking, alcohol, drug, and psychotropic substance use, and unsafe sex, was significantly lower than the average ( $P \leq 0.001$ ). These findings are consistent with the results of Ghorbani and Khosravi, who reported a low rate of risky behaviors in their study on students of Payam-e Noor University in Gonbad-e Kavos (25). Furthermore, Rasoulzadeh Aghdam and Akrapour reported a moderate to low rate of risky behaviors in their study on students of Azarbaijan Shahid Madani University (26).

Several factors might contribute to the low levels of risky behaviors observed in the study population. Firstly, the specific socio-cultural aspects of the geographical area, Hamedan, likely play a significant role in discouraging risky behaviors. Secondly, the value systems and religious beliefs prevalent in the area, identified as protective factors in Mehrabi et al.'s study, may also influence this outcome (27). Additionally, the structured environment of student dormitories and the university could effectively limit opportunities for engaging in risky behaviors. Lastly, the level of self-control among students, a



key variable in this study, might also impact the prevalence of such behaviors.

The study revealed that self-control levels were significantly below average ( $P \leq 0.001$ ). This aligns with the findings of Astolfi et al. (28). However, it contrasts with the research at Urmia University of Medical Sciences by Baponi Tebtan and Yawaryan, indicating that 33.2% of students exhibited high self-control and 64.4% had moderate levels (29). Similarly, Mizbani et al. reported high self-control among medical students in Isfahan (30). These differences may arise from a variety of individual and environmental factors. On a personal level, genetic and personality traits, early education, and coping strategies for stress play a crucial role. Additionally, students' resilience and self-efficacy in handling academic and professional challenges can vary significantly. Environmentally, the availability of support resources—be it family, social, or educational—along with differing workloads and schedules among various majors, and exposure to professional stressors, can affect self-control levels. The low self-control observed in this study could be attributed to several factors, such as hormonal and neurological changes during adolescence, academic pressures, and the demands of multiple tasks in the medical field. According to the self-regulatory resource depletion theory, cognitive fatigue from processing a high volume of information and tasks can diminish self-control capacity (31).

The correlation analysis revealed a strong and significant link between social media use and risky behaviors ( $P \leq 0.001$ ). Notably, the most pronounced connection was with alcohol and drug use. This aligns with findings from Armit Kaur et al. (6). Social media often portrays drug and alcohol consumption in a positive and appealing light, associating it with success, a desirable lifestyle, and social acceptance. These platforms frequently showcase these substances alongside moments of happiness and achievement, subtly framing their use as a marker of sophistication and cultural savvy. Additionally, social media often exaggerates the prevalence of substance use, potentially creating social pressure to engage in these behaviors.

Research indicates that unsafe sexual behaviors

are strongly linked to social media use, ranking as the third most significant relationship. This aligns with findings from a study by Ahmadi Chegeni et al. (31). The normalization and desensitization processes to risks are key factors in this connection. Regular exposure to sexual content on social media can gradually lower individuals' sensitivity to these behaviors, fostering misconceptions about the prevalence and social acceptance of risky sexual activities.

Smoking also shows a notable connection with social media use, ranking as the fourth strongest relationship. This finding is consistent with studies by Armit Kaur et al. (6) and Vannucci et al. (11). Social media influences attitudes toward smoking by portraying it as a marker of adulthood, independence, and attractiveness. Images and videos featuring popular figures smoking, often presented with specific gestures in appealing scenarios, can imbue this behavior with a significant symbolic meaning.

Regarding violence, the results showed a significant positive relationship between this variable and the use of social media. This finding is consistent with the results of Ghorbani and Khosravi (25). The desensitization mechanism plays an essential role in this relationship. Repeated exposure to violent content, including verbal violence in comments, symbolic violence in memes, and physical violence in videos, reduces individuals' sensitivity to violence and can lead to the normalization and social acceptance of violence.

Risky driving showed the weakest association with social media use. This finding is consistent with the results of Armit Kaur et al. (6) and Bingham et al. (1). Social media can facilitate risky behavior by “dramatizing” driving from an everyday activity to a display of skill and thrill. Videos of high-speed driving and dangerous maneuvers, coupled with positive feedback, can normalize risk and change people's risk assessments.

Another significant finding of this study was the moderating role of self-control in the relationship between social media use and risky behaviors. The results showed that self-control played a significant moderating role for all behaviors studied. The most substantial moderating effect was observed for drug



and alcohol use, and the weakest effect was observed for dangerous driving. These findings are consistent with previous studies on the protective role of self-control. In their systematic review, Kirby et al. showed that self-control can maintain a mediating and moderating role between predictors and risky behaviors (32). Astolfi et al. also confirmed that low self-control is associated with the most riskiest behaviors, and this association is stronger when more than two or three risky behaviors are involved (28). In addition, Magnusson et al.'s study showed that self-control plays a vital role in mediating the relationship between early sexual initiation and risky sexual behavior in adolescence (33). Ford and Blumenstein also confirmed that students with low self-control are at higher risk for reporting heavy alcohol use, marijuana use, and prescription drug abuse (34). Furthermore, Hashemiparast et al., in their study of young people aged 18 to 28, showed that the association between condomless sex and low self-control was statistically significant, and young people with low self-control tend to easily engage in unsafe sex (35). Allahi et al. also confirmed in their study on Farhangian University students that training in self-control skills has a significant and negative effect on harmful use of mobile phones, indicating the potential for changing and improving this characteristic through educational interventions (36). These studies all emphasize the key role of self-control in reducing the tendency to engage in risky behaviors and show that self-control can act as a decisive protective factor.

Self-control serves as a protective force through various mechanisms. Regarding emotion regulation, it enables individuals to manage their emotions and reactions to social media content more effectively. By delaying gratification, a key aspect of self-control, people can resist the lure of immediate satisfaction in favor of achieving long-term goals. This also includes the ability to focus attention and resist tempting stimuli. From a cognitive standpoint, self-control enhances critical thinking and information processing. People with high self-control are better equipped to evaluate social media content intelligently, distinguish between idealized images and reality, and contemplate the long-

term effects. They are also adept at strategically navigating their environment. This includes limiting social media use, filtering the content they consume, and adopting adaptive coping strategies when encountering harmful material (17, 36).

## Conclusion

This study explored the impact of social media use on risky behaviors among students at Hamadan University of Medical Sciences, highlighting the moderating role of self-control. The findings indicate increased social media use correlates with a higher propensity for risky behaviors. However, self-control can mitigate these effects and serve as a protective factor. These results underscore the significant behavioral implications of how individuals interact with information sources, particularly social media, and emphasize the essential role of personal factors like self-control in managing these interactions.

As social media have become primary information channels, examining the connection between their usage patterns and risky behaviors is crucial. This understanding can aid librarians and information professionals in developing the theoretical and practical foundations needed for information and media literacy education. The study's findings provide a basis for designing educational programs that promote conscious and safe use of information resources. Libraries and university information centers are encouraged to create and implement information and media literacy programs focusing on enhancing self-control. These programs should include educational materials to help students understand social media use's cognitive and behavioral impacts. Integrating self-control skills training with critical thinking in evaluating online information sources can be a vital component of these initiatives.

Moreover, these centers can guide students towards reliable information sources, offering alternatives to unreliable social network content. Other effective measures include developing strategies to manage information-seeking behavior, reducing harmful social network usage, implementing screening programs to identify at-

risk students, and tailoring information services to their needs. Future research should further investigate how social network content influences user behavior and identify effective strategies for enhancing self-control skills in today's complex information landscape.

## Limitations

This study has several limitations. First, the research was conducted exclusively with students from Hamadan University of Medical Sciences, which may affect the ability to generalize the findings to other universities and student groups. Although stratified sampling was employed, the lack of a comprehensive list of all students and the inability to perform completely random sampling meant that available samples were used instead. This can impact the representativeness and generalizability of the results. Additionally, the study relies on self-reported data, which inherently carries certain limitations. Participants might underreport high-risk behaviors for various reasons, including social pressures, leading to lower reported levels than the actual prevalence.

## Declaration

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## Conflict of Interest

The authors declared no conflict of interest.

## Ethical Statement

This study received approval from the Ethics Committee at Hamedan University of Medical Sciences, with the reference code UMSHA.REC.1403.309. The authors confirm that this manuscript is original, has not been published before, and is not being considered for publication elsewhere. The authors take full responsibility for the integrity of this work and affirm that the research adheres to institutional guidelines and the ethical principles set forth in the Declaration of Helsinki (1975, revised 2000). All pertinent data will be shared upon reasonable request. The research ethics code IR.UMSHA.REC.1403.309 was approved.

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## Authors' Contribution

- **Amir Hosein Piroz:** Responsible for conceptualization, gathering data, and drafting the original manuscript.
- **Mohamad Reza Amiri:** Handled data analysis and interpretation, and contributed to reviewing and editing the manuscript.
- **Seyed Abedin Hoseini Ahangari:** Oversaw the study, developed the methodology, and gave final approval for the manuscript.
- **Samad Moslehi:** Conducted statistical analysis, validated findings, and provided technical support.



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