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Investigating the relationship between Facebook addiction and cognitive emotion regulation strategies with the tendency to use drugs in middle school male students

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Abstract

The purpose of this article is to investigate the relationship between Facebook addiction and cognitive emotion regulation strategies with the tendency to use drugs in middle school male students of Lamard city (Iran). The method of study is correlation and statistical population includes all the male middle school students in Lamard in 2022. To estimate the sample size, we used the Krejcie-Morgan table and to select the sample, a multi-stage cluster sampling method was used, and at the end, 200 boys were selected as the sample. The research tool includes a questionnaire measuring the tendency to use drugs, which includes three subscales: readiness for addiction, recognition of addiction and alcoholism, which is extracted from the Minnesota Multifaceted Personality Inventory (MMPI-2), Cognitive Emotion Regulation (CERQ) and Bergen Facebook Addiction Scale (BFAS). Statistical data was analyzed through correlation coefficient by SPSS-18 software. Results indicated that students who use more negative strategies to reduce and cope with negative emotions tend to use temporary and ineffective alternatives such as the desire to consume drugs and alcohol. Also, excessive tendency towards Facebook can cause loneliness, anxiety and the desire to change one's identity in the virtual world.

Keywords
Facebook addiction, cognitive strategies of emotion regulation, tendency to use drugs, male middle school male students

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Introduction

Currently, one of the major problems and damages that the world is facing is addiction and substance abuse. 15% of the world's population over the age of 18 suffer from serious substance abuse problems (Susman and Ames, 2008 cited in Rashadat, 2009), and according to the World Health Organization (WHO) report (1995 cited in Qasemi, 2010), 64% of addicts started using drugs between the ages of 16 and 25, and more than 90% of smokers started using these substances before the age of 19. The physical, cognitive, and social changes that occur during adolescence cause teenagers to face emotions and stresses related to these changes, and emotion regulation helps teenagers better cope with stress caused by these emotions. Cognitive emotion regulation refers to the individual's cognitive processing when faced with unpleasant and stressful events (Garnfsky and Kraaij, 2006). Some of these strategies include self-blame, blaming others and avoidance, and acceptance (Garnfsky et al, 2009). Research results show that emotions affect attention, decision-making, memory, physiological responses, and social interactions at any given moment (Hasani, 2011).

Facebook is the company that created the Facebook website, founded by Zuckerberg on February 4, 2004. According to a recent report by the company Canopy, as published information, three out of every five online users in Iran are members and active on Facebook. Thus, 58% of Iranian users are members of Facebook. Many cyberpsychologists and family experts have warned about the increasing trend of addiction to Facebook. Mahdizadeh (2011) believes that individuals addicted to Facebook show high levels of self-involvement, and on the other hand, the most important reason for addiction is low self-esteem and a sense of weakness when faced with emotions. Additionally, teenagers are more susceptible to addiction to Facebook.

In Iran, substance abuse has a long history. Poppy and sesame are native plants of this region, and the residents of the Iranian plateau and its neighboring ethnic groups are familiar with their nutritional, medicinal, and psychoactive properties. It is said that Arab merchants brought poppy to Iran in the fifth century BC. The psychoactive properties of hashish (Bhang) are known to the Indo-Aryan people called Saka, and they used it as part of their mourning ceremony in a type of steam bath. Iranian physicians such as Mohammad Zakariya Razi and Abu Ali Sina described the sleep-inducing and pain-relieving properties of opium. However, historical evidence of substance abuse during that period is not available (Ghorbani, 2007).

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Drugs can be classified into three categories: 1- Depressants, 2- Hallucinogens, 3- Stimulants. Depressants are substances that affect the user's nervous system and therefore make their mental and physical activities sluggish. Hallucinogens cause sensory and visual hallucinations in the user. Stimulants affect the user's nervous system and, as a result, increase their mental and physical activities and cause excitement (Savadkouhi, 2005).

Research on emotion regulation has increased significantly in recent decades. However, as many researchers have noted, definitions of emotion regulation have not been explicitly and practically expressed. Recent efforts have been made to clarify the structures of emotion regulation and to create a broad definition of the term (Kendall, 2002). The first aspect of emotion regulation is that it is a dialectical structure that encompasses emotion as both a behavioral regulator and a regulated phenomenon. Most research in this area focuses on how to regulate emotions, with an emphasis on the various regulatory processes. For example, Thompson (1994, as cited in Hasani, 2012) defines emotion regulation as "internal and external processes" responsible for monitoring, evaluating, and expressing emotional reactions, particularly their deep and temporary characteristics, to help individuals achieve their goals.

The second aspect of emotion regulation is the distinction between control and regulation. For example, Cole and Michel (1994) defined regulation as ordering, dynamically regulating emotional behaviors, while control is considered a barrier to emotional processes. In other words, emotion regulation involves more inhibition and reduction of emotions. Another aspect of emotion regulation focuses on its relationship with variables related to the child and the environment. The transfer of characteristics and behaviors of the child's environment and caregiver (attachment and parenting style) plays a special role in the development of emotion regulation (Hasani, 2012).

According to Yan's perspective, emotion regulation is mainly formed in the context of the relationship between a child and their parents or caregiver (Kalkynr, 2010). Emotion regulation refers to a diverse set of processes that affect the event, intensity, duration, and occurrence of emotions. One subtype of emotion regulation is the deliberate regulation of negative emotions, where individuals try to reduce negative emotions using adaptive strategies (Simmons, 2010).

Internet addiction is a type of disorder where individuals perceive their relationship with the computer screen as more attractive than real-life situations (Avrzak, 1999). In general, this disorder can be defined as a type of internet use that creates psychological, social, academic, or occupational problems in an individual's life (Samson, 2005). The American Psychiatric Association has stated

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that it is not easy to label someone as addicted to the internet. Therefore, the association has identified seven criteria to recognize individuals who are addicted to excessive internet use. To classify someone as an addict, at least three of the following symptoms must be observed in the individual during a 12-month period: 1) Tolerance towards internet use, 2) Withdrawal symptoms, 3) Excessive internet use beyond intended plans, 4) Lying to friends and family about internet use, 5) Reduced social, occupational, and recreational activities due to internet use, 6) Continuation of internet use despite knowing its negative effects, and 7) Inability to control oneself in internet use (American Psychological Association).

Internet addiction is considered a general term for virtual addiction, which includes: 1) Chat addiction: Chat is an English word for conversation. In case of addiction, relationships in chat rooms become more important than family relationships. Users addicted to this type of relationship become eager to meet each other in real life after getting acquainted on the internet. Some users may provide a virtual description of their behavioral and personality traits in chat rooms that may differ fundamentally from their real characteristics (Zekaii, 2004, cited in Shahriar, 2013). 2) Addiction to friends (Facebook): Facebook is a social network on the internet. In this network, users have a personal page where they share pictures, videos, or messages, and others can view their information and express their opinions if interested (Wikipedia, 2012). Given the above, the aim of the present study is to investigate the relationship between Facebook addiction and cognitive emotion regulation strategies with a tendency to use drugs and alcohol among male middle school students in Lamerd city. In other words, this study seeks to find an answer to the fundamental question of how much internet addiction and cognitive emotion regulation strategies are related to a tendency to use drugs and alcohol in male middle school students in Lamerd city (Iran).

Research hypotheses

Hypothesis 1: Facebook addiction is related to a tendency to use drugs in male middle school students.

Hypothesis 2: Cognitive emotion regulation strategies are related to a tendency to use drugs in male middle school students.

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Material and Methods

The present study is a correlational study aimed at exploring and examining the relationships between Facebook addiction, cognitive emotion regulation strategies, and a tendency to use drugs in male middle school students. The statistical population of the study consisted of all male middle school students in Lamerd city, and the sample size was determined using multi-stage cluster sampling and the Morgan table, with a total of 200 students. The collected data were analyzed using the SPSS18 software and the correlation coefficient.

Research instruments

The Cognitive Emotion Regulation Questionnaire (CERQ) is a self-report questionnaire designed by Nadia Garnefski and Philip Spinhoven in 2001. In Iran, the questionnaire was validated by Aminabadi, Dehghani, and Khodapanahi in 2010 on a sample of 205 students in Ahvaz. The questionnaire consists of 26 items and measures cognitive emotion regulation strategies on a Likert scale ranging from 1 (never) to 5 (always). The reliability of the questionnaire was reported to be 82% using Cronbach's alpha, and its validity was confirmed through correlation with other psychological scales.

Scale of Facebook Addiction Bergen (BFAS): The Bergen Facebook Addiction Scale (BFAS) was developed by Anders (2011) to measure each of the 6 main elements of addiction (salience, mood modification, tolerance, withdrawal, conflict, and relapse), and it was given to 423 students. The validity of this questionnaire was measured by correlating it with addiction-prone tendencies, online community acceptance, attitudes toward Facebook, NEO personality questionnaire, inhibitory/activating systems scale, and sleep questions, which showed a high correlation with all 6 elements of addiction. The factor structure of the scale had an error rate of 0.46, a confirmatory factor analysis of 0.99, and a Cronbach's alpha coefficient of 0.83. After three weeks, the reliability coefficient of the test was 0.82 using the retest method. In a separate study on 50 individuals in Iran, the validity of the test was measured by correlating it with internet addiction scores, which was 0.72 at the significance level of 0.01. The reliability of the test was also measured on 280 individuals, with a retest coefficient of 0.84 after three weeks. A version of this questionnaire is presented in appendix 4 (Shahrivar, 2013).

Substance Use Tendency Questionnaire: To measure the tendency for substance use, the APS (Addiction Proneness Scale), AAS (Acknowledgement of Addiction Scale), and MAC-R (Michigan Alcoholism Screening Test-Revised) scales were extracted from the MMPI-2

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personality questionnaire. The original form consisted of 101 questions, but 12 repetitive questions were removed from the final form, leaving a total of 89 questions. The recommended raw score as a cutoff point for indicating the onset of substance abuse problems for men is between 26-28, while for women, it is between 23-25 (Marinat, translated by Sharifi and Nikkhoo, 2010). The average score range for non-addicted individuals is between 15-23 (with an average score of 19 for women and 23 for men) (Duckworth, 1983, cited in Dakwarth and Anderson, translated by Pasha Sharifi and Nikkhoo, 2010). This scale appears to be able to differentiate substance abusers from non-abusers in late adolescence (Mac Andrew, 1979, cited in Dakwarth and Anderson, translated by Sharifi and Nikkhoo, 2010).

Results

Hypothesis 1: There is a relationship between Facebook addiction and tendency to use substances in male middle school students. The Pearson correlation coefficient was used to investigate this hypothesis.

Table 1. Pearson correlation matrix between Facebook addiction and substance use tendency

Variables	APS	AAS	MAC-R
Facebook addiction	.45**	.12	.44**

**p <. 05, * p < .01

It can be observed that Facebook addiction has a significant positive relationship with addiction proneness and tendency to use alcohol, meaning that the more a person is addicted to Facebook, the more likely they are to use substances. However, Facebook addiction does not have a significant relationship with acknowledgement of addiction.

Hypothesis 2: There is a relationship between cognitive emotion regulation strategies and tendency to use substances in male middle school students. The Pearson correlation coefficient was used to investigate this hypothesis.

Table 2. Pearson correlation matrix between cognitive emotion regulation strategies and substance use tendency

Variables	Self-blame	Coping	Positive thinking	Blaming Others
APS	.44**	.12	-.39**	.24
AAS	.11	.21	-.18	.19
MAC-R	.38**	.25	-.48**	.41**

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It can be observed that the cognitive emotion regulation strategy of self-blame has a significant positive relationship with addiction proneness and tendency to use alcohol, meaning that the more a person uses self-blame as a strategy, the more likely they are to use substances. However, there was no significant relationship between self-blame and acknowledgement of addiction. The cognitive emotion regulation strategy of distraction did not have a significant relationship with any of the substance use tendency variables. Positive reframing had a significant negative relationship with addiction proneness and tendency to use alcohol, meaning that the less a person uses positive reframing as a strategy, the more likely they are to use substances. However, there was no significant relationship between positive reframing and acknowledgement of addiction. Blaming others as a cognitive emotion regulation strategy had a significant positive relationship with tendency to use alcohol, meaning that the more a person uses blaming others as a strategy, the more likely they are to use alcohol, but this strategy did not have a significant relationship with addiction proneness or acknowledgement of addiction.

Discussion

The findings of this study are consistent with previous research studies such as (Dargahi, 2009), (Ahmadi et al., 2012), (Miller, 2009), (Boufard and Campbell, 2010), (Mahdizadeh, 2011), (Atkinson et al., 2006), (Sherman, 2011), (Hoffman, 2011), and (Anders, 2011), which suggest that students who use negative strategies to cope with negative emotions resulting from the period of puberty and social pressures, are more likely to use temporary and ineffective substitutes such as drug and alcohol consumption. Additionally, excessive inclination towards Facebook can lead to loneliness, anxiety, and a desire to change one's identity in the virtual world. As individuals with drug addiction tend to seek a change in their identity and hide their true identity, it is reasonable to assume that the more a young person has an excessive inclination towards the internet, the more likely they are to have a tendency towards drug use. Nowadays, adolescents are under various pressures, including physiological pressures resulting from puberty and social pressures such as the virtual world (Facebook, WhatsApp, Viber, etc.), and targeted satellite networks. One of the most important events that occur during adolescence is identity formation or the selection of a suitable identity to enter the social world. Adolescents who are inclined to follow Western ideals and irrational thoughts have a shaky identity base compared to other adolescents who adhere to religious beliefs, which leads to the use of ineffective and negative strategies in dealing with

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problems. On the other hand, addiction to Facebook and the virtual world gradually leads to an unrealistic identity for young people. Both of these factors lead young people to have a greater tendency towards drug and alcohol use (which are important elements in the lack of identity). Therefore, the authors of this study suggest that in line with the interests of adolescents and young people in the virtual world, religious and Islamic programs (in the form of virtual programs and the spread of Islamic culture) should be used to help young people gain a suitable identity based on strong religious resources. This, in turn, can lead to positive cognitive strategies and a lesser tendency towards drug and alcohol use.

Data availability statement

The original contributions presented in the study are included in the article/supplementary material; further inquiries can be directed to the corresponding author.

Ethics statement

The studies involving human participants were reviewed and approved by ethics committee of Islamic Azad University, Shiraz, Iran.

Author contributions

ME, AK and AE contributed to the study conception and design, material preparation, data collection and analysis. All authors contributed to the article and approved the submitted version.

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