

Research Paper

The Role of Impulsivity, Executive Functions and Dispositional Mindfulness in the Occurrence of Risky-Taking Behaviors of Young People

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Abstract

The aim of this study was to investigate the role of impulsivity, executive functions and dispositional mindfulness in the occurrence of risky-taking behaviors in young people. This study was a descriptive and correlational study. By using available sampling method through online calling, 380 students participated in the study. They responded to the Iranian Adolescents Risk Scale, Barrat Impulsivity, The Cognitive Ability Questionnaire and The Five Facet Mindfulness Questionnaire. Data were analyzed using correlation tests and hierarchical multiple regression analysis. The results showed that there was a positive and significant relationship between impulsivity and executive functions and risky-taking behaviors. There was also a negative and significant relationship between risky-taking behaviors with dispositional mindfulness and factors of describing and action with awareness. Regression results showed that executive functions significantly predicted the tendency to risky-taking behaviors in young people.

Keywords: Impulsivity, Executive Functions, Dispositional Mindfulness and Risky-Taking behaviors

Introduction

Youth prone to risky choices emphasize the probability and value of rewards and underestimate the likelihood and cost of adverse outcomes. They respond more readily to the prospect of immediate reward, and neglect potential long-term negative consequences (Reynolds, et al., 2019). Impulsivity reflects people's tendency to act spontaneously and without premeditation and forethought, in response to environmental cues or other triggers, and with a preference for short-term and immediate gratification over long-term and delayed rewards (Lazuras, et al., 2019). People with executive dysfunctions are more likely to engage in Risky-Taking Behaviors (such as theft, alcohol abuse), and there is an overemphasis on the involvement of executive functions in the occurrence of such behaviors (Claro, et al., 2020). Dispositional Mindfulness, general tendency to be aware, oriented- attentional and non-judging to experiences (internal, external, positive and negative) that occur in the present moment (Kabat-Zinn, 2003; Shook, et al., 2019). Increasing Dispositional Mindfulness can serve as a protective factor in preventing and reducing risky taking and addictive behaviors such as drug use, alcohol (Single, et al., 2019) to be effective. Such research helps preventive measures to change behavior at the personal and social levels in relation to reducing Risky-Taking Behaviors. Accordingly, the following hypotheses are tested in the present study: 1) There is a relationship between impulsivity and Risky-Taking Behaviors. 2) There is a relationship between executive

functions and Risky-Taking Behaviors. 3) There is a relationship between Dispositional Mindfulness and Risky-Taking Behaviors.

Method

This is a descriptive-correlational study. The study population consisted of students of Tehran Universities in 2020-2021, aged 18 to 25 years. By using available sampling method through online calling, 380 students participated in the study. Data were collected by online sampling and execution method, during the Covid -19 epidemic. The collected data were analyzed using in SPSS 20.

Tools

The Iranian Adolescents Risk Scale had internal consistency for each subscale, with a Cronbach’s alpha coefficient 0.74 to 0.94(Zadeh Mohammadi, et al., 2011). This present study obtained internal consistency for each subscale, with a Cronbach’s alpha coefficient 0.71 to 0.92.

The Barrat Impulsivity had internal consistency for each subscale, with a Cronbach’s alpha coefficient 0.79 to 0.83(Patton, et al.1995). This present study has internal consistency with a Cronbach’s alpha coefficient of 0.61 to 0.79, for each subscale.

The Cognitive Ability Questionnaire had internal consistency for each subscale, with a Cronbach’s alpha coefficient 0.43 to 0.83(Nejati, 2013). The present study has internal consistency for each subscale, with a Cronbach’s alpha coefficient 0.63 to 0.87.

The Five Facet Mindfulness Questionnaire had internal consistency for each subscale, with a Cronbach’s alpha coefficient 0.75 to 0.91(Baer, et al., 2006). This present study has internal consistency for each subscale, with a Cronbach’s alpha coefficient 0.61 to 0.88.

Results

The results of correlation test and descriptive indices of variables showed that impulsivity ($r = 0.22$, $P < 0.01$) and executive functions ($r = 0.36$, $P < 0.01$) were a positive and significant relationship between except social cognition with risky taking behaviors. There was a negative and significant relationship between dispositional mindfulness ($r = -0.17$, $P < 0.01$) and factors of describing and action with awareness risky taking behaviors. The assumption of normal distribution was tested by Kolmogorov-Smirnov test, which considering the significance level of ($P > 0.05$), it can be concluded that the distribution is normal. In addition, the values of tolerance statistics were estimated in the range of 0.87 to 0.66 and VIF values were obtained in the range of 1.14 to 1.51, which shows that the hypothetical assumption of the predictor variables has been observed.

1 Table.Summary of the model and hierarchical multiple regression coefficients

Variables	B	β	T	Sig	R	R2	F	Sig
impulsivity	0.78	0.21	4.34	0.001	0.21	0.04	18.85	0.001
impulsivity	0.36	0.10	1.98	0.048	0.37	0.14	30.97	0.001
Executive function	0.49	0.39	6.41	0.001	0.37	0.14	20.75	0.001
impulsivity	0.35	0.09	1.90	0.057				
Executive function	0.53	0.35	5.62	0.001				

Dispositional mindfulness	0.05	0.03	0.64	0.520
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Conclusion

The results of the present study showed that impulsivity and executive functions have significant positive correlations with risky-taking behaviors. Also dispositional mindfulness (describing and action with awareness) has a significant negative correlation with risky-taking behaviors. Regression results showed that executive functions significantly predicted the tendency to risky-taking behaviors in young people. This means that People who lack executive functional skills are prone to using maladaptive coping strategies (Claro, et al., 2019). In particular, deficits in executive functions play an important role in poor self-control and inhibition, and ultimately lead to increased frequency of risky taking behaviors (Reynolds, et al., 2019). Identify and label internal experiences that facilitate the individual's ability to respond to them in impulsive ways. Young people try to reduce their unwanted inner emotions by using drugs, alcohol and cigarettes and use maladaptive coping strategies (Single et al., 2019). The limitation of this study was use of questionnaires, which are self-report and online methods for collecting data, is not free of bias in answering. Finally, it is recommended to design rehabilitation tools or programs based on the components of executive functions, to hold appropriate workshops for students to teach field awareness skills, as well as cognitive interventions to reduce or control risky taking behaviors among young people.

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Conflicts of interest

The authors declared no conflicts of interest.

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