

Health Risk Behavior amongst Adolescents in Relation to Impulsivity

Pushpa¹, Sandeep Singh² and Taruna³

¹Research Scholar, ²Professor, ³Assistant Professor, Department of Applied Psychology, Guru Jambheshwar University of Science Technology, Hisar, Haryana, India

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Abstract

Adolescence has always been viewed as the most crucial stage of development. However, there is no dearth of studies documenting the fact that adolescents are more likely than adults to engage in health risk behaviors. The review of researches conducted in past has identified impulsivity as one of the major causes behind the health risk behavior among adolescents. Impulsivity means acting out without any planning or inability to control an impulse. The present research study made an attempt to study health risk behaviors amongst adolescents in relation to impulsivity. The sample of the present research was comprised of 600 adolescents (N=600). Barratt Impulsiveness Scale-BIS-II (Barratt, 1995; Stanford, et al., 2009) and Health Risk Behavior Questionnaire (Singh & Pushpa, 2017) were used to measure the variables of the study. Findings of the present study revealed the significant correlation between the various dimensions of health risk behavior and impulsivity.

Keywords: Adolescents, Health risk behavior, Impulsivity

Introduction

Adolescence has always been viewed as the most crucial stage of development; the period of transition in a person's life, marked with the stage of life that begins with the onset of puberty, when sexual maturity or the ability to reproduce is attained. It is the period of rapid change, both physiological and psychological. During this phase of development, adolescents probability to engage in behavior that impact health status in adverse manner has been reported to be high than any other stage of development.

However, there is no dearth of studies documenting the fact that adolescents are more likely than adults to engage in health risk behaviors. For example, adolescents are more likely than adults to drive recklessly, to drive while intoxicated, to use varied illicit substances, to have unprotected sex, and to engage in both minor and more serious antisocial behavior (Arnett, 1992). The period of exploration and discovery in particular.

Attitudes, perceptions and behavioral activities that contribute to the individual's propensity to get engaged in the activities that have been prescribed by experts to be hazardous or dangerous to their health have been considered as health risk behaviors. Health-risk behavior can be defined as any activity undertaken by people with a frequency or intensity that increases risk of

disease or injury (Steptoe & Wardle, 2004). The health risk behaviors might cluster together into a risky lifestyle. Health risk behaviors also influence cognitive performance, emotions, and the overall quality of life (Hawkins & Anderson, 1996).

No doubt that many people at different age levels engage in risky behaviors, but adolescents are more vulnerable and do so more frequently (Jessor & Jessor, 1977).

While understanding the causative factors of the adolescent's health risk behavior first and the foremost thing which can be concluded is that the risk behaviors are likely to aggravate the health threat. The existing empirical researches evidence that adolescent's health risk behaviors are correlated, that is, engaging in one risk behavior might increase the likelihood of getting involved or engaged in other behavior or patterns of risk behavior (Dryfoos, 1990, 1991).

The review of researches conducted in past has identified impulsivity as one of the major cause behind the health risk behavior among adolescents. Impulsivity means acting out without any planning or inability to control an impulse.

Impulsivity a multidimensional concept, is considered as the tendency to act instantly, on spur of moment. Further, it has also been explained as the inability to resist a drive or a behavioral act which occurs without thinking of the consequences of that particular act (Dawe & Loxton, 2004; Moeller, et al., 2001). Such, impulsive behavior usually make the individual land himself in health risk behavior.

*Corresponding author's ORCID ID: 0000-0001-5276-0309

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Research in the past has established the connection between impulsivity and alcohol use in emerging adulthood (James & Taylor, 2007; Mac Killop *et al.*, 2007; Magid & Colder, 2007; Simons, *et al.*, 2004). In addition, risky sexual behavior has been linked to alcohol consumption (Shuper, *et al.*, 2010; O'Hara & Cooper, 2015).

Despite these links between sexual risk taking and emerging adulthood, the mechanism by which impulsivity and social factors interact to affect emerging adults' risk behaviors is not apparent. For example, social binge drinking is associated with increased impulsivity scoring on the Go/NoGo task (Henges & Marcinski, 2012). Given that social binge drinking occurs in a specific social context, social influence may help to drive this behavior. Alternatively, it is possible that impulsive people are more likely to socialize with other impulsive individuals and engage in the same binge drinking behavior. These explanations are not mutually exclusive; it is also possible that impulsive people who drink alcohol will socialize with one another and the prevailing social norms of alcohol consumption reinforce binge drinking.

To conclude, it may be said that both sensation seeking and impulsivity could be related with various forms of psychopathology and antisocial behaviors including aggression. When sensation seeking is combined with impulsivity, the resultant behavior is more serious.

Objective of the present study

To study the health risk behaviors among late adolescents in relation to impulsivity

Hypothesis of the present study

There shall be significant relationship between health risk behaviors and impulsivity among late adolescents.

Method

Sample

The target population of the study was late adolescents with the age group of 16-19 years. The sample of the present study comprises of 600 adolescents (N=600). The sample was further categorized on the basis of gender (Male=300 & Female=300).

Measures

The measures used in this study were selected in accordance with the objectives of the study. The measures used in the study are mainly the self-report questionnaires, which were selected to assess the key variables of the study. While selecting the tools or measure of assessment the psychometric properties, nature of sample, competence of the investigator in scoring and interpretation were taken into consideration. The tools or measures used in the present study are as follows:

Barratt Impulsiveness Scale-BIS-11 (Barratt, 1995; Stanford *et al.*, 2009): It is a 30-item, four-point self-report scale devised to measure impulsiveness. The BIS-11 has three subscales, viz., cognitive/attentional impulsiveness, motor impulsiveness and non-planning impulsiveness. Higher score is the indicator of high impulsiveness. Reliability coefficient for the BIS-11 at Cronbach's alpha ranges from 0.72 to 0.83.

Health Risk Behavior Questionnaire (Singh & Pushpa, 2017): To assess the health risk behavior a questionnaire comprising 127 developed by Singh & Pushpa, 2017. Based on the five point rating scale the items in the questionnaire assessed the health risk behavior on the dimensions of exercise, eating, smoking, alcohol, sexual behavior and road rage. The questionnaire demonstrated the good psychometric properties.

Procedure

To achieve the objectives of the present study the data was obtained from the sample with the help of Barratt Impulsiveness Scale-BIS-11 (Barratt, 1995; Stanford *et al.*, 2009) and Health Risk Behavior Questionnaire (Singh & Pushpa, 2017). The data obtained from the sample of the research study was put to statistical analysis and inferences were made.

Inclusion Criteria

Late adolescents male and female in the age group of 16-19 years belonging to urban and rural area

Exclusion Criteria

Individuals with major psychiatric illness, mental retardation and medical illness

Statistical Analysis

After collecting the data, statistical analysis was done with the help of descriptive statistics (mean, standard deviation). Pearson's Product Moment method of correlation was used to study the correlations among different variables of the study.

Results

The main objective of the present study was to explore the relationship between health risk behaviors and impulsivity among adolescents. The six dimensions of impulsivity namely attention, motor, self-control, cognitive complexity, perseverance and cognitive instability were measured with the help of Barratt Impulsiveness Scale-BIS-11 (Barratt, 1995; Stanford *et al.*, 2009) and the six dimensions of health risk behavior namely the smoking behavior, alcohol consumption, risky sexual behavior, road rage, exercise and unhealthy eating were measured with the help of Health Risk Behavior Questionnaire (Singh & Pushpa, 2017). The outcomes obtained are presented in the Table No.1 & 2.

Table 1. Outcomes for the health risk behaviors and impulsiveness (descriptive statistics)

Variables	N	Mean	Std. Deviation
BIS A	600	18.51	7.37
BISM	600	14.39	4.22
BISC	600	15.21	3.77
BISCC	600	12.37	2.98
BISP	600	10.63	2.50
BISCI	600	8.57	2.10
EX	600	67.62	8.91
UET	600	68.86	8.32
SMO	600	54.75	18.51
AL	600	38.08	11.48
RSB	600	43.96	12.05
RR	600	53.06	10.22

Table 2 Inter correlation matrix of dimensions of health risk behavior and impulsiveness

VARIABLES	EX	UET	SMO	AL	RSB	RR	BISA	BISM	BISC	BISCC	BISP	BISCI
EX	1	.746**	-.092*	-.181**	-.015	-.060	-.159**	-.031	-.045	-.173**	-.105**	-.102*
UET		1	-.180**	-.089*	.022	-.022	-.290**	.131**	-.106**	-.213**	-.153**	-.144**
SMO			1	.158**	-.385**	-.258**	.706**	-.457**	.388**	.182**	.347**	.317**
AL				1	.545**	.360**	-.050	.175**	.045	.081*	-.001	-.015
RSB					1	.586**	-.439**	.386**	-.174**	-.032	-.188**	-.168**
RR						1	-.361**	.336**	-.159**	-.076	-.166**	-.128**
BIS A							1	-.446**	.314**	.492**	.543**	.364**
BISM								1	-.267**	-.039	-.038	-.030
BISC									1	.177**	.162**	.161**
BISCC										1	.262**	.141**
BISP											1	.285**
BISCI												1

**Correlation is significant at the 0.01 level.

* Correlation is significant at the 0.05 level.

Note: BISA-Attention; BISM- Motor; BISC- Self Control; BISCC- Cognitive Complexity; BISP- Perseverance; BISCI- Cognitive Instability; EX-Exercise; UET-Unhealthy eating behavior; SMO-Smoking behavior; AL-Alcoholism; RSB-Risky sexual behavior; RR-Road rage.

The results shown in Table No.-2 shows the significant negative correlation ($r=-.159, <.01$) between attention dimension of impulsivity and exercise behavior. Furthermore, the findings also reveal the significant negative correlation on the attention dimension impulsivity with unhealthy eating ($r=-.290, <.01$), risky sexual behavior ($r=-.439, <.01$) and road rage ($r=-.361, <.01$). The dimension of attention has a significant positive correlation with smoking ($r=.706, <.01$).

The Table No.-2 shows the significant negative correlation between the ($r=-.457, <.01$) motor dimension of impulsivity and smoking, the results also depict the significant positive correlation ($r=.131, <.01$) between the motor dimension and unhealthy eating behavior. Moreover, a significant positive correlation is also exhibited between motor dimension of impulsivity and alcoholism ($r=.175, <.01$), risky sexual behavior ($r=.386, <.01$) and road rage ($r=.336, <.01$).

The results shown in Table No.-2 also reveal the significant negative correlation on the self-control dimension of impulsivity with unhealthy eating ($r=-.106, <.01$), risky sexual behavior ($r=-.174, <.01$) and road rage ($r=-.159, <.01$). Whereas, the results as shown in the

Table No.-2 reveal the significant positive correlation ($r=.388, <.01$) between the self-control dimension of impulsivity and smoking behavior.

The results shown in Table No.-2 shows the significant negative correlation ($r=-.173, <.01$) between cognitive complexity dimension of impulsivity and exercise. The findings also reveal the significant negative correlation on the cognitive complexity dimension of impulsivity with unhealthy eating ($r=-.213, <.01$). Whereas, the results as shown in the Table No.-2 reveal the significant positive correlation ($r=.182, <.01$) between the cognitive complexity dimension of impulsivity and smoking behavior.

The findings given in the Table No.-2 also reveal the significant negative correlation on the impulsivity's perseverance dimension with exercise ($r=-.105, <.01$), unhealthy eating ($r=-.153, <.01$), risky sexual behavior ($r=-.188, <.01$) and road rage ($r=-.166, <.01$). The findings also report the significant positive correlation ($r=.347, <.01$) between smoking and perseverance dimension of impulsivity.

The results as shown in the Table No.-2 also reveal the significant negative correlation on the impulsivity's

cognitive instability dimension with exercise ($r=-.102$, $<.05$), unhealthy eating ($r=-.144$, $<.01$), risky sexual behavior ($r=-.168$, $<.01$) and road rage ($r=-.128$, $<.01$). The findings also report the significant positive correlation ($r=.317$, $<.01$) between smoking and cognitive instability dimension of impulsivity.

Discussion

Impulsivity underlie a good deal of the risk taking behavior among any age group and particularly in adolescence. One of the major objectives of the present study was to explore the relationship between health risk behaviors and impulsivity among adolescents. The findings of the present study depict the significant negative correlation between the attention dimension of impulsivity and exercise it can be discussed that higher on the attention dimension (lack of focus on the ongoing task) lesser is the exercise behavior. The individuals who display higher levels of impulsivity at the attention dimension are not able to remain focused on a particular task and do not get involved in exercise or related activities.

The significant negative correlation of the impulsivity's attention dimension with the unhealthy eating, alcoholism, risky sexual behavior and road rage implies that individuals who are high on attention dimension lack at maintaining the focus on task and are less attentive even towards their health and thus get involved in health risk behaviors such as alcoholism, unhealthy eating, risky sexual behavior and road rage.

Contrary to it the significant positive correlation between the attention dimension and smoking behavior makes us understand that individuals who are lower on the attention dimension are able to maintain focus on the tasks and are thus less involved in smoking.

From the significant negative correlation between impulsivity's motor dimension and smoking it is inferred that the higher the motor impulsivity (action without thinking) lower is the smoking behavior the findings are in contrast with the previous research studies conducted in this area. The significant positive correlation at motor dimension of impulsivity with the unhealthy eating, alcoholism, risky sexual behavior and road rage provides the understanding of the fact that individuals who are higher on the action taking without prior thinking are higher on the health risk behavior of unhealthy eating, alcoholism, risky sexual behavior and road rage. The findings are in line with the previous research findings where researchers have documented a strong relationship between impulsive-sensation-seeking and risky behaviors (Zuckerman, Kuhlman, Joireman & Teta's, 1993).

The findings of the present research show the significant negative correlation between self-control dimension of impulsivity and exercise. The findings also reveal the significant negative correlation on the self-control dimension of impulsivity with unhealthy eating

risky sexual behavior and road rage. The findings reveal that the adolescents who are higher on the impulsivity's self control dimension are unable to exert control over their selves and are more inclined towards the health risk behaviors. Whereas, the results of the present study reveal the significant positive correlation between the self-control dimension of impulsivity and smoking behavior provides the understanding of the fact that those who are lower on the dimension of self control are less impulsive and are able to control themselves and are less involved in smoking behavior. The findings of the present research study are in congruence with the research studies conducted in the past wherein impulsivity and lack of self control has been found to be associated with problematic health behavior (Grano, *et al.*, 2004; Verdejo- Garcia, Lawrence, & Clark, 2008).

The findings reveal the significant negative correlation between cognitive complexity dimension of impulsivity and exercise. This provides an understanding that the adolescents higher on the dimension of cognitive complexity have ambiguous cognitive processes and are unable to take hold of their thoughts and impulses and are thus less able to concentrate on exercise and physical activity which demand cognitive attention and concentration. Further the negative correlation of the impulsivity's cognitive complexity dimension with unhealthy eating and risky sexual behavior makes us to understand that lack of cognitive clarity leads to unhealthy and impulsive eating and further also increases the propensity to get in impulsive and risky sexual behavior. There is lack of research related to this in the past and the present research finding provides insights on the discussed variables.

Whereas, the significant positive correlation between the cognitive complexity dimension of impulsivity and smoking behavior leads to the inference that higher the cognitive complexity the higher the smoking behavior. The findings are well supported by the research studies conducted in the past wherein higher positive correlation between disinhibitory impulsivity and smoking has been reported (Mitchell, 1999; Reynolds, *et al.*, 2007; Skinner, *et al.*, 2004).

The findings further reveal the significant negative correlation on the impulsivity's perseverance dimension with exercise, unhealthy eating, risky sexual behavior and road rage. While looking at the findings it can be discussed that those late adolescents who are high on the impulsivity's perseverance dimension of impulsivity lack persistence in their course of action and thus are unable to concentrate on exercise, unable to take hold of their eating habits. Such individuals are highly impulsive and lack perseverance which further results into their indulgence in risky behaviors such as road rage and risky sexual practice. There is scarcity of research on the impulsivity's perseverance dimension with road rage and risky sexual behavior in particular and the present research study provides insights on the concerned variables.

The findings also report the significant positive correlation between smoking and perseverance dimension of impulsivity. This can be discussed as the lack of persistence in actions increases the indulgence in smoking. The findings are well supported with the study conducted by Grano, *et al.*, 2004 wherein they found impulsivity as the major predictor of smoking and alcohol consumption among both genders.

The findings obtained from the present research study also establish the significant negative correlation on the impulsivity's cognitive instability dimension with exercise, unhealthy eating, risky sexual behavior and road rage. The cognitive instability dimension of impulsivity can be discussed as the individuals who are high on this dimension lack cognitive stability and are highly unstable at cognitive level and are thus impulsive and are inclined towards risky health behaviors. The findings also report the significant positive correlation between smoking and cognitive instability dimension of impulsivity. The findings are in line with the studies conducted in the past which concluded with high positive correlation between smoking and impulsivity (Balevich, *et al.*, 2015).

Conclusion

Impulsivity and inability to control the impulse is one of the major factors behind the health risk behaviors particularly during adolescence. The present study documents the significant relationship between the various dimensions of health risk behavior and impulsivity. The findings of the present study mark the attention of the health and mental health professionals working in the area that there is dire need of developing the intervention programs which may further help the adolescents who are tender and are more inclined to surrender to an impulse.

References

- [1] Arnett, J. (1992). Reckless behavior in adolescence: A developmental perspective. *Developmental review*, 12(4), 339-373.
- [2] Balevich, E. C., Haznedar, M. M., Wang, E., Newmark, R. E., Bloom, R., Schneiderman, J. S., ... & Buchsbaum, M. S. (2015). Corpus callosum size and diffusion tensor anisotropy in adolescents and adults with schizophrenia. *Psychiatry Research: Neuroimaging*, 231(3), 244-251.
- [3] Barratt, E. S. (1985). Impulsiveness subtraits: Arousal and information processing. *Motivation, emotion, and personality*, 5, 137-146.
- [4] Barratt, E. S. (1993). Impulsivity: Integrating cognitive, behavioral, biological, and environmental data.
- [5] Barrett, F. J., Thomas, G. F., & Hocevar, S. P. (1995). The central role of discourse in large-scale change: A social construction perspective. *The Journal of Applied Behavioral Science*, 31(3), 352-372.
- [6] Curtis, S. (1992). Promoting health through a developmental analysis of adolescent risk behavior. *Journal of School Health*, 62(9), 417-420.
- [7] Dawe, S., Gullo, M. J., & Loxton, N. J. (2004). Reward drive and rash impulsiveness as dimensions of impulsivity: implications for substance misuse. *Addictive Behaviors*, 29(7), 1389-1405.
- [8] Dryfoos, J. G. (1991). Adolescents at risk: A summation of work in the field—Programs and policies. *Journal of Adolescent Health*, 12(8), 630-637.
- [9] Dryfoos, J. G. (1998). School-Based Health Centers in the Context of Education Reform. *Journal of School Health*, 68(10), 404-408.
- [10] E. S. Barratt (1965). Factor analysis of some psychometric measures of impulsiveness and anxiety. *Psychological Reports*, 16, 547-554.
- [11] Evenden, J. L. (1999). Varieties of impulsivity. *Psychopharmacology*, 146(4), 348-361.
- [12] Grano, N., Virtanen, M., Vahtera, J., Elovainio, M., & Kivimaki, M. (2004). Impulsivity as a predictor of smoking and alcohol consumption. *Personality and individual differences*, 37(8), 1693-1700.
- [13] Gray, J., & Gray, J. (1993). *Men are from Mars, women are from Venus*. Harper Audio.
- [14] Henges, A. L., & Marczinski, C. A. (2012). Impulsivity and alcohol consumption in young social drinkers. *Addictive behaviors*, 37(2), 217-220.
- [15] J. H. Patton, M. S. Stanford, and E. S. Barratt (1995). Factor structure of the Barratt impulsiveness scale. *Journal of Clinical Psychology*, 51, 768-774.
- [16] James, L. M., & Taylor, J. (2007). Impulsivity and negative emotionality associated with substance use problems and Cluster B personality in college students. *Addictive Behaviors*, 32(4), 714-727.
- [17] M. S. Stanford, C. W. Mathias, D. M. Dougherty, S. L. Lake, N. E. Anderson, J. H. Patton (2009). Fifty years of the Barratt Impulsiveness Scale: An update and review. *Personality and Individual Differences*, 47, 385-395.
- [18] MacKillop, J., Mattson, R. E., Anderson MacKillop, E. J., Castelda, B. A., & Donovan, P. J. (2007). Multidimensional assessment of impulsivity in undergraduate hazardous drinkers and controls. *Journal of Studies on Alcohol and Drugs*, 68(6), 785-788.
- [19] Pushpa, Singh. S (2017). *Psychological Influences in Adolescents Health Risk Behaviours* (Doctoral Thesis). Guru Jambheshwar University of Science & Technology, Hisar, India.
- [20] Magid, V., MacLean, M. G., & Colder, C. R. (2007). Differentiating between sensation seeking and impulsivity through their mediated relations with alcohol use and problems. *Addictive behaviors*, 32(10), 2046-2061.
- [21] Mitchell, V. W. (1999). Consumer perceived risk: conceptualisations and models. *European Journal of marketing*, 33(1/2), 163-195.
- [22] Moeller, F. G., Barratt, E. S., Dougherty, D. M., Schmitz, J. M., & Swann, A. C. (2001). Psychiatric aspects of impulsivity. *American journal of psychiatry*, 158(11), 1783-1793.
- [23] O'Hara, R. E., & Cooper, M. L. (2015). Bidirectional associations between alcohol use and sexual risk-taking behavior from adolescence into young adulthood. *Archives of sexual behavior*, 44(4), 857-871.
- [24] Plutchik, R., & van Praag, H. M. (1995). The nature of impulsivity: definitions, ontology, genetics and relations to aggression. In E. Hollander and D. J. Stein (Eds.), *Impulsivity and Aggression*. 1, 7-24.
- [25] Reynolds, A. M., Smith, A. D., Reynolds, D. R., Carreck, N. L., & Osborne, J. L. (2007). Honeybees perform optimal scale-free searching flights when attempting to locate a food source. *Journal of Experimental Biology*, 210(21), 3763-3770.
- [26] Shuper, P. A., Neuman, M., Kanteres, F., Baliunas, D., Joharchi, N., & Rehm, J. (2010). Causal considerations on alcohol

and HIV/AIDS—a systematic review. *Alcohol & Alcoholism*, 45(2), 159-166.

[27] Simons, J. S., Carey, K. B., & Gaher, R. M. (2004). Liability and Impulsivity Synergistically Increase Risk for Alcohol-Related Problems. *The American journal of drug and alcohol abuse*, 30(3), 685-694.

[28] Simons-Morton, B., Chen, R., Abroms, L., & Haynie, D. L. (2004). Latent growth curve analyses of peer and parent influences on smoking progression among early adolescents. *Health Psychology*, 23(6), 612.

[29] Skinner, M., Sancharawala, V., Seldin, D. C., Dember, L. M., Falk, R. H., Berk, J. L., ... & Wiesman, J. (2004). High-dose melphalan and autologous stem-cell transplantation in patients with AL amyloidosis: an 8-year study. *Annals of internal medicine*, 140(2), 85-93.

[30] Turner, R. A., Irwin, C. E., Tschann, J. M., & Millstein, S. G. (1993). Autonomy, relatedness, and the initiation of health risk behaviors in early adolescence. *Health Psychology*, 12(3), 200.

[31] Verdejo-García, A., Lawrence, A. J., & Clark, L. (2008). Impulsivity as a vulnerability marker for substance-use disorders: review of findings from high-risk research, problemgamblers and genetic association studies. *Neuroscience & Biobehavioral Reviews*, 32(4), 777-810.

[32] Zuckerman, M., Kuhlman, D. M., Joireman, J., Teta, P., & Kraft, M. (1993). A comparison of three structural models for personality: The Big Three, the Big Five, and the Alternative Five. *Journal of personality and social psychology*, 65(4), 757.