



Investigation of Self-injurious Behavior in Adolescents in Terms of Risk-taking Behavior and Self-esteem *

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Abstract

The purpose of this study is to examine self-injurious behavior (SIB) in terms of risk-taking behavior and self-esteem. The study group was composed of 329 female and 402 male high school students – 731 in total – who were randomly selected and studying in various high schools in Trabzon (in Turkey). 270 of 731 adolescents were identified to have SIB behavior. 182 of these adolescents were male, 88 of them were female. The Inventory of Statements About Self-injury, The Adolescent Risk-Taking Questionnaire, Rosenberg Self-Esteem Scale and Personal Information Form were used in the collection of data. The results indicated that there were significant differences between risk-taking behaviors and self-esteem levels of adolescents with and without SIB. It was also found that there was a significant relationship between SIB and risk-taking behavior of the adolescents with SIB. It was seen that risk-taking behavior significantly predicted SIB ($p < 0.001$) yet, self-esteem was not a significant predictor. Adolescence is a period to consider in terms of the beginning and continuation of the SIB. Observation and early diagnosis of SIB will help to prevent the repetition of behavior and decrease the level of behavior. Thus, it is important to introduce the SIB and raise awareness related to this behavior for parents, educators, and mental health professionals.

Keywords

Self-injurious behavior
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Introduction

Self-injurious behavior is defined as the individual's attempt for his/her own body, which is done repetitiously, purposely and intentionally without any desire to die, and results in tissue injury (Brunner et al., 2007). Four criteria are suggested to be taken into account in the definition of self-injurious behavior (SIB). These are to repeat SIB constantly, to have feeling of stress before self-injury, to have the feelings of pleasure delight together with relief with physical pain and to try to hide the traces of self-injury because of the sense of shame and the fear of being labelled socially (Favazza, 1989).

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The studies on SIB considerably focused on high self-injurious behaviors in adolescents (Nixon, Cloutier & Aggarwal, 2002; Makikyro et al., 2004; Timson, Priest & Clark-Carter, 2012). SIB is a common behavior for high school students between 15% and 46% (Cawood & Huprich, 2011). In adolescent samplings, SIB ratios range from 12% to 23% (Jacobson & Gould, 2007; Brausch & Gutierrez, 2010). On the other hand, this ratio goes up to 68% in clinical adolescent samples (Nixon, Cloutier & Aggarwal, 2002; Makikyro et al., 2004). Whereas the ratios 14-40% were obtained in another community study in which adolescents participated (Zoroğlu et al., 2003; Muehlenkamp & Gutierrez, 2004), ratios ranging from 40% to 61% were found in clinical sampled studies (Suyemoto, 1998; Ross & Heath, 2002).

In the studies on SIB, it is seen that SIB is dealt with in two ways; directly and indirectly (Deiter, Nicholls & d Pearlman, 2000). The behaviors which end up damaging one's body tissues intentionally and which are not intended to commit suicide are defined as "directly self-injurious behavior". On the other hand, indirect self-injurious behavior generally consists of a variety of dangerous and risky behaviors such as eating disorders, risky sexual behaviors, substance abuse, abuses of medical needs, carrying a weapon and driving carelessly. In addition, these risky behaviors can accompany with direct self-injurious behavior. Many studies have shown that there is a relationship between increasing risk-taking behavior and SIB. Especially risk-taking behaviors such as risky sexual behavior and drug and substance addiction have been found to be in relation with SIB (Granner, Black & Abood, 2002; Muehlenkamp, Swanson & Brausch, 2005; Hilt et al., 2008). In literature, the risk-taking behaviors such as drinking alcohol and using substance, driving car carelessly, having risky sexual behavior are the behaviors stated as indirect self-injury. Regarding SIB, the terms "self-injury" and "self-mutilation" are generally used interchangeably and they have the meaning of an attempt a person does to himself directly. With the concept of "self-harm", riskier behaviors stand out mostly (Aksoy & Ogel, 2003). At the same time, while it is considered as indirectly self-injury behavior to show the risky behaviors such as drinking alcohol and using substance, it is also considered as a crucial cause for occurrence of SIB (Hawton et. al., 2002, Kumar, Pepe & Steer, 2004). Therefore, indirect SIB is both a kind of self-injury behavior and a crucial cause for occurrence of SIB.

Adolescence is a period when high incidence of sensation seeking and risk-taking behaviors are observed; and this situation can negatively affect the adolescent's development process (Gullone et al., 2000). This is a developmental period when desire for adventure, risk-taking preference, change and sensation desire reach high levels instinctively (Dahl, 2004). Sensation seeking increases especially throughout adolescence and adolescents are more impulsive, less future-directed and more sensitive to peer effect than adults (Steinberg, 2008). However; it needs to be known that there are various individual differences although this emotional situation is apparent in adolescence period (Karahan et. al., 2007).

The adolescents who exhibit risk-taking behaviors ignore that they cause danger to their own health and others' health. An adolescent's needs of belonging to a group and being accepted by the group lead to the exhibition of various risk-taking behaviors (Steinberg, 2004). Risk-taking behavior generally includes dangerous activities for the individual's health and life.

In the literature about risk-taking behaviors, it is indicated that one of the personal variables related to adolescents' risk-taking behaviors is self-esteem (Özmen & Sümer, 2011). On the other hand, the relationship between SIB and low self-esteem is also pointed out and many studies indicating this relationship have been encountered (Hawton et al., 2002; Claes et al., 2010; Cawood & Huprich, 2011). Laye-Gindhu and Schonerd-Reichl (2005) found in the study they conducted with 424 high school students that the adolescents with SIB have significantly negative self-esteem than those not showing self-injurious behaviors.

The first attempt to self-harm occurs between 13 and 15 years of age and for the first time when adolescents have conflicts with their peers and parents and they come to face with various stress experiences (Ng, 1998). The first self-injurious behavior in some adolescents can be a sign that SIB will begin with a repetitious process and that a complete suicide will probably be seen (Joiner, 2002). Therefore, adolescence is a risk in terms of the beginning and continuation of SIB and also increasing risk-taking behaviors.

In this research, depending upon all these data about adolescents, it was intended to examine SIB in adolescents in terms of risk-taking behavior and self-esteem. In this frame, answers to the following questions were searched for an answer.

1. Is there any difference between the levels of risk-taking behavior and self-esteem of the adolescents with SIB and without SIB?
2. Do risk-taking behavior and self-esteem in adolescents predict self-injurious behavior?

Method

Study Group

The study group was comprised of total 731 voluntary students with 329 females (45%) and 402 males (55%), from five high schools whose permission was received to collect data in the city centre of Trabzon (in Turkey). Arithmetic mean of the ages of the students in the study group is 16.72 (SD=1.85). 270 of 731 adolescents exhibit self-injury behaviors. 182 of these adolescents were male (%67.4), 88 of them were female (%32.5).

Instruments

Personal Information Form, The Inventory of Statements About Self-injury (ISAS), Adolescent Risk-Taking Questionnaire, and Rosenberg Self-Esteem Scale were used as data collection instruments.

Personal Information Form: It is a form prepared by the researcher to determine some socio-demographic attributes of the participants.

The Inventory of Statements About Self-injury (ISAS): The inventory was developed to extensively evaluate self-injury behavior without "suicide intention". It evaluates the functions of these behaviors as well as 12 types SIB. Developed by Klonsky and Glenn (2009) and transcribed into Turkish by Bildik et. al. (2012), measure consists of two sections. In the first section (behaviors), the lifelong frequency of 12 types of SIB "which are done deliberately and which do not carry suicide intention" is questioned. The participants "indicating one and more SIB" in the first section of measure are directed to answer the second section of measure (Functions). In this section, 13 SIB functions are examined with a total of 39 questions under two separate dimensions (Autonomic and Social Functions). According to the results of reliability studies of the section I, the analyses point out a high internal consistency ($\alpha=0,79$) when self-injurious behaviors examined in the first section of inventory are considered collectively. When construct validity is evaluated in the framework of validity studies of section I, all of the relationships between measures are theoretically at expected direction and level, and the findings support the validity of the first section of inventory. Total internal consistency for total functions score was found $\alpha= 0,93$ in reliability studies of section II. In test-retest reliability study of inventory, the correlation between two applications was found $r= 0,64$ for total function score. In validity studies of section II and in the context of construct validity, the relationships of ISAS Functions total and sub-dimension scores with the measures which evaluate the expected clinical features were found quite strong. When considered as a whole, research findings indicate that ISAS can be used in a validity and reliable way in the examination of self-injurious behaviors and in the clarification of its functions for Turkish adolescent samplings (Bildik et. al., 2012).

Adolescent Risk-Taking Questionnaire (ARTQ): The Adolescent Risk-Taking Questionnaire (ARTQ) developed by Gullone, Moore, Moss, and Boyd (2000) and adapted into Turkish by Kıran (2002) was used to measure students' risk-taking behavior. The ARQ is a 5-point Likert-type scale consisting of items showing various types of adolescent risk-taking behaviors. It consists of three subscales which are risk-taking according to social position (16 items), risk-taking related to traffic (6 items) and risk-taking related to substance use. The ARQ has an alpha coefficient of .88 for the whole scale and .84, .74 and .62 for the subscales, respectively. Reliability coefficient taken by the test-retest method is .85 for the whole scale and .76, .67 and .64 for the subscales, respectively.

Rosenberg Self-Esteem Scale (RSES): Scale was developed by Rosenberg (1965) and consists of 63 questions in total in 12 subscales. In this study, the first ten items of the scale which measure self-esteem were used. The points to be obtained from the test vary from 0 to 30. High points gained in the scale show high self-esteem.

The adaptation of the scale into Turkish and the study of validity and reliability were conducted by Çuhadaroğlu (1986). In validity study of the scale, validity ratio was found .71. Reliability study was carried out with test-retest method and 0.75 was found as the reliability ratio. On the other hand, in the last study conducted by Çelik (2004) Rosenberg Self-Esteem Scale was found to be quite reliable in the university student samplings. In Çelik's study, Cronbach Alpha value was found to be .87 (n=733).

Data collection and analysis

Data were analyzed using SPSS 15.00. The independent t-test, Pearson's product-moment correlation coefficient, multiple regression analysis were used for data analysis. Significance was set at a minimum of 0.05, while other significance level (0.01) was also shown.

Results

In order to find an answer to the first question of the study, it is investigated whether there is a difference between risk taking behaviors and self-esteem of adolescents with SIB and adolescents without SIB. T-test is applied and results are shown on Table 1.

Table 1. T-test Results Related to Differences Between Risk Taking Behavior and Self-esteem of Adolescents Showing SIB and not Showing SIB

Variable		N	Mean	Sd.	t	p
RTB	Not showing SIB	461	40,50	12,23	-41,98	,000***
	Showing SIB	270	91,38	20,53		
SE	Not showing SIB	461	22,55	3,94	24,65	,000***
	Showing SIB	270	13,36	6,11		

***p<0.001

SIB: Self-Injurious Behavior - RTB: Risk Taking Behavior - SE: Self-Esteem

As a result of the analysis, a significant difference was found between adolescents' scores showing SIB and not showing SIB, their risk taking scores ($t=-41.98$, $p<0.001$) and self-esteem scores ($t=24.65$, $p<0.001$). In terms of risk taking, it was determined that average scores of adolescents showing SIB ($\bar{X}=40,50$) was significantly higher than the adolescents not showing SIB ($\bar{X}=91,38$). In terms of self-esteem, average scores of adolescents not showing SIB ($\bar{X}=22,55$) was significantly higher than adolescents showing SIB ($\bar{X}=13,36$).

In order to determine whether risk taking behavior and self-esteem predict SIB, primarily, Pearson correlation coefficient technique was used to see whether there is a relation between variables and significant relationships were appeared. The results are shown on Table 2.

Table 2. Correlations Related to Relation Between SIB, Risk Taking Behavior and Self-esteem

	1	2	3
1. KZVD	1	.841***	-.674***
2. RAD		1	-.571***
3. BS			1

***p<0.001

Based on the analysis, a positive relationship between SIB and risk taking behavior was determined ($r=-.674$, $p<0.001$). It was not found any relationship between SIB and self-esteem; and risk-taking behavior and self-esteem. In order to determine whether risk taking behavior and self-esteem predict SIB, multiple regression analysis was conducted and the results are displayed on the Table 3.

Tablo 3. Tablo 3. Multiple Regression Analyze

Predictor	B	Std. Error	B	t	p	R	R ²	ΔR ²	F
(Constant)	1.111	.047		23.392	.000***	.874	.763	.763	1173.4556
SE	-.021	.002	-.288	-13.099	.000***				
RTB	.011	.000	.677	30.799	.000***				

*** $p<0.001$

Based on the results of multiple regression analysis, it was determined that risk-taking behavior ($p<0.001$) predicted SIB significantly. However, it was seen that self-esteem did not have a significant contribution. Explanation ratio for the total variance of the established model was found 76.3 %.

Discussion, Conclusion and Suggestions

In the study, it was found that there were significant differences between risk taking behavior and self-esteem of adolescents showing SIB and not showing SIB. While there was a significant relationship between SIB and risk taking behavior of adolescents, there was no significant relationship between SIB and self-esteem. It was found that risk taking behavior predicted the SIB but self-esteem did not predict SIB. Studies show the relationship between increasing risk-taking behavior and the SIB. Particularly risky sexual behavior and risk-taking behaviors such as drug and substance abuse are associated with the SIB (Granner, Black & Abood, 2002; Muehlenkamp, Swanson & Brausch, 2005). Alfonso and Dedrick (2010) stated that the use of medicine, volatile substance and smoke was more in adolescent with SIB. In their study, Hilti et al. (2008) found that substance abuse, eating disorders and risky sexual behavior were observed in adolescents showing SIB. In the literature, it was stated that risk-taking behaviors were indirect self-harming behaviors such as use of alcohol and drug, driving carelessly and risky sexual behavior (Deiter, Nicholls & Pearlman, 2000). On the other hand, risk taking behaviors such as alcohol and substance abuse were indicated as indirect SIB, as it was seen as an important factor of SIB's occurrence (Hawton et al., 2002, Kumar, Pepe & Steer, 2004) So, in the present study, the relation of SIB with risk taking behavior and the risk taking behavior as a predictor of SIB show consistency with the literature. Self-esteem is an important variable related with SIB. In many studies, it was indicated that adolescents showing SIB had low self-esteem (Hawton et al., 2002; Cawood & Huprich, 2011). Lundh, Karim and, Quilisch (2007) found similar results in their study. When compared high school students with and without SIB, it was indicated that adolescents showing SIB had low self-esteem. This finding of the study has consistency with the literature. However, there was not a significant relationship between self-esteem of adolescents showing SIB and SIB and self-esteem did not appear as a predictor of SIB.

This finding may result from the fact that self-esteem is an important concept for adolescence, besides it has significant changes. Adolescents who participated in the study are in predominantly middle adolescence. There is evidence of irregularities related to self-esteem in adolescence. Changes in self-esteem (positive or negative) in the first years of adolescence are stated to be more than in late-adolescence. Understanding these differences related to self-esteem is possible by understanding two aspects of self-esteem. The first of these is the barometric self-esteem that the direction of adolescent's feelings towards himself vary quickly depending on daily events. The other one is basic self-esteem. It is relatively fixed, does not shift easily by sudden changes and is less inclined to fluctuations (Steinberg, 2007). Therefore, the findings related to self-esteem may be due to these two aspects of self-esteem during adolescence.

Contradictory findings are encountered in the studies associated with the relationship between self-esteem and risk taking behavior. While some studies present the relationship between low self-esteem and increased risk-taking behavior, some studies exhibit the relationship between high self-esteem and increased risk taking behavior. The critical point here is the difference between risk-taking behavior containing social acceptance and harmful risk taking behavior not containing social acceptance (Özmen & Sümer, 2011). For instance, risk-taking behaviors containing social acceptance such as dangerous sports help adolescents in the regulation and even the increase of self-esteem (Cazenave & Michel,2008). Therefore, the results of the studies associated with self-esteem and risk-taking behavior can be found associated with risk-taking behavior in a positive or negative direction according to the type of risk-taking behavior.

Depending on the data obtained from this study; adolescence is a period to be considered in terms of the beginning and continuation of SIB. Observation and early determination of SIB in adolescents will help to prevent the repetition of the behavior and to decrease the level of behavior. Thus, introducing and raising awareness related to this behavior is seemed important for parents, educators and mental health professionals. It is not considered whether the adolescent who participated the study have any psychological disorder. This could be considered as a limitation of the study. It is also possible to reach more comprehensive results by researching in populations diagnosed with psychiatric disorders and in normal populations.

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