

Original Article

The Role of Attachment Styles and Cognitive Emotion Regulation in Predicting the Tendency to High-Risk Behaviors in Adolescents

Melika Sefidrood¹, Mohammad Bagher Hobbi^{2*}

¹Department of Counseling, North Tehran Branch, Islamic Azad University, Tehran, Iran

²Department of Psychology, Faculty of Humanities, Imam Hossein University, Tehran, Iran

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Abstract

Background and Aim: One of the most important predictors of adolescents' tendency to high-risk behaviors are related to psychological factors. Attachment style has provided a useful framework for promoting useful representations from parent to child that is rooted in the mother-fetus relationship and has lasting effects on emotional regulation. To date, the role of attachment styles and cognitive emotional regulation in predicting the tendency to high-risk behaviors in Iranian adolescent girls has not been studied.

Materials and Methods: In a cross-sectional study conducted from October to December 2019, 375 girls referred to the Drop In Center (DIC) in Tehran were selected to participate in the study using multi-stage cluster sampling method. Participants entered the study process after obtaining informed consent and meeting the necessary criteria. Three questionnaires of cognitive emotional regulation, risk-taking and attachment were utilized in this study and Data was analyzed through multiple regression analysis test.

Results: The results showed that the correlation between attachment styles and cognitive regulation in the two dimensions of blaming others and coping and acceptance with high-risk behaviors was significant ($P < 0.05$). Also, from three attachment styles, ambivalent attachment style, and from the four dimensions of cognitive emotional regulation, blaming others dimension, predicted the most changes in high-risk behaviors (all P 's < 0.001).

Conclusion: The findings of this study indicate a complex relationship between the three indices of attachment, emotional regulation, and high-risk behaviors. Attachment and emotion regulation in young people reduce high-risk behaviors. These findings can be associated with several clinical applications in designing of macro-level preventive interventions.

Keywords: Attachment, Emotional regulation, High risk behavior, Adolescent, Girls

***Corresponding Author:** Mohammad Bagher Hobbi, Associate Professor, Department of Psychology, Imam Hossein University, Tehran, Iran. Email: sahobbi4@gmail.com

ORCID: 0000-0002-2521-0325

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Introduction

Evolutionary psychology includes scientific theories about how human behavior, cognitive, emotional, and social changes work through a lens that incorporates the effects of evolution (1). Evolution involves the process of continuous growth and changes across the realm of life and is including the processes of acquisition, maintenance, transformation, and psychological and physical functions. Evolutionary history theory provides an innovative framework for better understanding of the mental health (2).

One of the most important periods in the history of human evolution is adolescence. Adolescence is one of the most crucial factors related to the foundation of a person's personality. Adolescence is the phase of life between childhood and adulthood, from ages 10 to 19. It is a unique stage of human development and an important time for laying the foundations of good health. Some behavioral problems that develop during adolescence become enduring traits later in life (3). Adolescence is a growing research field that aims to address the challenges that young people face during the developmental stages (3).

Researchers believe that adolescents' tendency to take high-risk behaviors is a reflection of the emotional and psychological problems they face (4). During this period, the influence of the peer group is even greater than that of the parents. Peer groups with power and influence in this age group can have a positive and negative effect on adolescent thoughts, feelings, and behaviors (4). Among the factors determining adolescents' tendency to engage in high-risk behaviors, psychological variables, are of particular importance because psychologists believe that the impact of biological and social factors should go through the lens of psychological tendencies to high-risk behaviors (4).

Girls experience many changes during their development, from physical maturity to independence from their parents, choosing a spouse and choosing a career path. Since each stage of life has its own characteristics, it seems necessary to consider how developmental-emotional experiences are analyzed when analyzing the lifestyle of

individuals at a particular stage (5). Studies show that only by considering developmental developments, a complete picture of psychosocial function and mental health can be drawn (5). One of the important developmental experiences in the process of transformation is attachment (5).

Attachment style is one of the prominent and influential concepts in contemporary psychology that refers to the process of forming emotional bonds (6). Attachment can be defined as a deep and enduring emotional bond between two people in which each seeks closeness and feels more secure when in the presence of the attachment figure. Using the achievements of cybernetic studies, psychoanalysis, experimental psychology, and learning theory, Bowlby, developed the theoretical concept of attachment. In fact, parenting is based on providing parental representation of oneself as a parent, and attachment can serve as a useful framework for promoting useful parent-child representations rooted in mother-fetus relationships (7). The four styles of attachment include secure attachment, avoidant insecure attachment, resistant insecure attachment, and ambivalent insecure attachment (7).

Children with a secure attachment style see the face of their loved one as a safe space to return to the caregiver in a critical situation and also as a basis for safety to explore the environment. The avoidant insecure style includes the minority of children who have the least intimate and physical interactions with their caregiver, who, after separating their attached face, show no concern, they are indifferent, and avoid reuniting with their caregiver (7). Children with a resistant insecure attachment style seek closeness to the mother before separation and often do not explore the environment, and when their mother returns, show anger, hostility, and sometimes beatings. Finally, ambivalent insecure children fail when exploring the environment, show extreme anxiety and worry after separation, and have adhesive behaviors toward the caregiver when reunited (7). This theory has had a wide impact on developmental studies in children (8). Thus, the formation of secure attachment is likened to the spine of a child's positive development throughout the transformation process (9). Attachment theory shows that a child's experiences affect his or her future

parenting style as a parent and can predict a particular style of parenting (10).

On the other hand, according to attachment theory, emotion regulation skills are formed as a result of the child's interactions with the family, and this pattern remains stable throughout a person's life. The process model of emotion regulation proposed by psychologist James Gross emphasizes that people can act to control their emotions at different points in time—including before they feel an emotion. The way a person copes with stressful situations can be conceptualized as a factor in emotion regulation (11). Attachment can lead to emotion regulation or emotional dysregulation by creating a positive or negative mood (12). Hence, many theories have cited the role of emotional dysregulation as the cause and perpetuation of psychiatric disorders and emotion regulation have been studied as a putative maintaining factor and promising treatment target in a broad range of mental disorders. The concept of cognitive emotional regulation refers to the cognitive methods of manipulating the input of emotion evoking information. In other words, cognitive emotional regulation strategies refer to the way a person thinks after a negative experience or traumatic event. Cognitive emotional regulation strategies include self-blame, acceptance, mental rumination, positive refocus, refocus on planning, positive reassessment, adopting a point of view, catastrophic perception, and blaming others (13). Previous studies have shown an association between childhood difficulties and high-risk behaviors (14). The findings of the systematic study by Woo et al (15) showed that attachment is significantly associated with self-harming behaviors in children and adolescents. There are consistent relationship between attachment insecurity and self-injurious behaviors (SIB) in children and adolescents. Burgess Dowdell & Noel (16) also mentioned high-risk and self-harming behaviors as an attempt to cope with stressful events, which highlights the association of emotional dysregulation with risky behaviors. However, the multiple relationships of attachment styles, cognitive emotional regulation, and high-risk behaviors have not been studied to date. This study was conducted to investigate the role of attachment styles and cognitive emotional regulation in

predicting the tendency to high-risk behaviors in adolescent girls.

Methods

In a cross-sectional study conducted from October to December 2019 in Tehran, 375 female high school students were selected through multi-stage cluster sampling method. Participants entered the research process after meeting the inclusion criteria and obtaining informed consent. Inclusion criteria for this study were age range of 15 to 17 years; Studying in one of the first and second secondary schools; Obtaining informed consent about participating in the study, and living in Tehran and its suburbs with a standard deviation of 30 square kilometers. Exclusion criteria were diagnosis of acute psychiatric illness or personality disorders; taking any medication that effects the emotional and sexual processes, and not receiving any psychological services in the last six months. To collect data from demographic checklist, structured clinical interview, emotion regulation questionnaire, risk-taking questionnaire and attachment questionnaire were used. Data were analyzed by multiple regression analysis test. All stages of the study were based on the latest version of the Helsinki Declaration (17).

Materials

Demographic checklist

This questionnaire was prepared and used by the researcher to collect personal information such as age, parents' education, parents' occupation, duration of marriage and duration of illness (18).

Structured Clinical Interview (SCID)

It is a clinical interview used to diagnose Axis I disorders based on DSM-IV (19). The reliability coefficient between evaluators for SCID is reported to be 0.60 (20). The diagnostic agreement of this instrument in Persian language has been desirable for most specific and general diagnoses with a reliability higher than 0.60 (21).

The Cognitive Emotion Regulation Questionnaire (CERQ)

This questionnaire was developed in 2001 by Granefski et al to identify cognitive coping strategies

after experiencing trauma. This tool contains 36 items and is scored in the form of a five-point Likert scale. This questionnaire includes 9 components of self-blame, acceptance, mental rumination, positive refocus, refocus on planning, positive re-assessment, adopting a point of view, catastrophic perception and blaming others. Scores range from 36-180. This questionnaire has been validated in China and the results indicate the appropriate internal reliability of this tool (0.81 for the whole scale and 0.68 - 0.91 for the subscales) (13).

Iranian adolescents risk-taking scale (IARS)

This scale contains 39 items to assess adolescents' vulnerability to eight categories of high-risk behaviors, including dangerous driving, violence, smoking, hookah smoking, drug use, alcohol use, heterosexual orientation, and sex. Agree and disagree with these items are scored in a 5-choice continuum from strongly agree (5) to strongly disagree (1). In the navigation performed on three levels national, state and local in the United States in the two periods of 1991 and 1999, three-quarters of the items and 14 percent of the items, respectively. They had high and suitable (kappa coefficient higher than 61%) (22).

Attachment Questionnaire

This scale was designed by Hezan and Shaver with the aim of evaluating different types of attachment styles in 1987. This tool consists of 15 items that are scored on a five-point Likert scale and evaluates three styles of secure, insecure, and ambivalent attachment. The validity and reliability of this tool have been reported as acceptable (Test-retest correlations ranged from 0.65 to 0.84.) (23). Cronbach's alpha of this scale has been reported in the study of Shahyad et al. (24) more than 0.70.

Results

Pearson correlation test and multiple regression analysis were used to analyze the data. Before selecting the statistical test, the hypotheses of

parametric tests were checked. The results of Kolmogorov-Smirnov test showed that the distribution of scores of research participants in all three variables was normal ($p > 0.05$). Also, the hypothesis of linearity of the relationship between the variables was checked by analysis of variance and the default was confirmed ($p < 0.01$). To check the independence of errors, Durbin Watson (DW) test was used and the assumption was met ($p < 0.05$). Also, to investigate the alignment relationship between the independent variables, tolerance statistic and variance inflation factor were used, which showed that the degree of alignment is lower between the independent variables.

The highest frequency of mothers' education was diploma with 69.1% and the lowest frequency was related to MSc education with 1.3%. The highest frequency of education of fathers was BSc degree with 51.2% and the lowest frequency was related to the level of MSc degree with 0.8%. In terms of employment status, 90.7% of fathers are self-employed and 9.3% are employees. 92.3% of mothers are housewives and 1.6% of them are employees. In terms of the number of family members, 52% of families are four people. Table 1 presents the distribution of participants' scores in the three indices of cognition emotion regulation, risk-taking, and attachment styles.

According to the findings of Table 1 and 2, the highest scores in the index of attachment styles are related to insecure attachment style (17.47 ± 2.48) and the lowest scores are related to secure attachment style (13.66 ± 3.26). In addition, in the Cognitive Emotion Regulation Index, the highest scores are related to self-blame (15.32 ± 4.74) and the lowest scores are related to blaming others (6.33 ± 2.45). Also, the average of positive emotions (27.10 ± 7.14) is higher than the average of negative emotions (21.65 ± 6.36).

As can be seen in the findings of Table 3, the correlation between attachment styles and cognitive emotion regulation (in terms of blaming others and coping and acceptance) with high-risk behaviors is

Table 1: Distribution of study participants' scores in the three studied variables.

Indicator	Average	Std. deviation	Variance	Range
High-risk behaviors	122.99	35	1225.65	168

Table 2: Distribution of study participants' scores in Attachment and Cognitive emotion regulation variables.

Attachment	Secure attachment	13.66	3.26	10.63	18
	Insecure attachment	17.47	2.48	6.18	12
	Ambivalent attachment	17.29	3.44	11.85	15
Cognitive emotion regulation	Self-blame	15.32	4.74	22.54	20
	Blaming others	6.33	2.45	6	12
	Coping	15	4.25	18.08	22
	Positive thinking	12.09	4.06	16.52	24
	Positive emotions	27.10	7.14	51	37
	Negative emotions	21.65	6.36	40.54	29

Table 3: Results of multiple regression analysis in the relationship between attachment styles, cognitive emotion regulation and high-risk behaviors.

Criteria variable	Predictor variables	Predictor variable coefficient	Std. deviation	Standardized predictor coefficient (beta)	T statistics	Significance level	index
High-risk behaviors	Attachment styles	Secure	2.46	0.870	0.229	2.83	0.001
		Insecure	2.86	0.541	0.266	5.29	0.001
		Ambivalent	2.89	0.505	0.285	5.73	0.001
	Cognitive emotion regulation	Self-blame	0.36	0.508	0.049	0.713	0.476
		Blaming others	4.5	0.772	0.315	5.83	0.001
		Coping and acceptance	1.24	0.565	0.152	2.20	0.028
		Positive thinking	0.164	1.39	0.071	0.441	0.61

significant and is equal to $R = 0.53$. The coefficient of determination is 0.27 and $F = 21.2$ ($P < 0.05$).

From the four dimensions of emotional regulation, respectively, blaming others dimension (from the emotional dimension) with the standard coefficient (0.315) has the largest share in predicting changes in criterion variables (high-risk behaviors) and from the three attachment styles, ambivalent attachment style with beta coefficient (0.285) blaming others dimension has been able to predict variable criteria changes (high-risk behaviors). Findings of multiple regression analysis indicate that the main predictor of high-risk behaviors of female students is the emotional dimensions of blaming others and coping and accepting their ambivalent and insecure

attachment styles.

Findings of Pearson correlation analysis show that there is a significant relationship between attachment styles and high-risk behaviors ($p < 0.05$). Ambivalent attachment style with a coefficient of determination explained 9%, then secure attachment style with a coefficient of determination explained 8.41% and finally insecure attachment style with a coefficient of determination explained about 6% of the variance of high-risk behaviors. The relationship between secure attachment style and inverse high-risk behaviors was observed. Also, the rate of high-risk behaviors among students decreased by increasing the positive cognitive emotion components (coping and acceptance). Also, a positive and significant correlation was observed

between negative cognitive emotion dimensions and high-risk behavior.

Discussion

This study was conducted aimed to investigate the role of attachment styles and cognitive emotion regulation in predicting the tendency to high-risk behaviors in adolescent girls. Findings showed that the correlation between attachment styles and cognitive emotion regulation in the two dimensions of blaming others and coping and acceptance with high-risk behaviors is significant. Also, from three attachment styles, ambivalent attachment style and from the four dimensions of cognitive emotion regulation, blaming others dimension predicted the most changes in high-risk behaviors. In this regard, and in line with the findings of the present study, the results of Gracia-Leiva et al. (25) showed that attachment and perceived closeness in adolescents and young people reduce high-risk behaviors such as violence and suicide and Loneliness, lack of care from loved ones, and thwarted belongingness increase suicidal thoughts in Dating violence (DV) victims. In this regard, the results of the systematic study by Woo et al. (15) have reported a direct relationship between insecure attachment and self-harming behavior such as self-harm in children and adolescents. In another study, high scores on the avoidance attachment component predicted a higher rate of high-risk sexual behaviors (26).

Attachment, or the attachment bond, is the emotional connection you formed as an infant with your primary caregiver. According to Bowlby, the pattern of attachment relationships continues throughout life, with the record of the child's early experiences with attached faces leaving long-lasting effects that extend into adulthood. Students who are prone to high-risk behaviors usually do not adhere to family norms and values, and their behaviors overshadow family cohesion and cause incompatibility and differences between parents and young people. As a result, these students may seek refuge outside the home and be at risk of injury due to their age. Therefore, it can be acknowledged that the desired quality of attachment can increase the positive and sustainable orientation in social relationships, the consequences of which are

evident at different levels of socialization.

Parts of the findings of the present study showed that at least two dimensions of blaming others and coping and acceptance from the four dimensions of cognitive emotion regulation predicted high-risk behaviors. In line with our findings, the findings of the study by Palmer et al. (27) showed that the quality of parent-child interactions, such as secure attachment along with emotional regulation strategies, reduces the risk of children engaging in risky behaviors in the future. Also, parents experiencing homelessness who use fewer maladaptive cognitive emotion regulation strategies and more positive parenting behaviors may protect their children against internalizing problems. Findings from Yeo et al. (28) showed that disorders in emotional self-regulation play an important role in self-harming behaviors. Children who experience violence are exposed to a wide range of developmental problems, such as emotional dysregulation (29). Caregivers' sensitivity to children's emotions during play, listening effectively to children's expression of sadness, and their own capacity for emotion regulation buffered the association between exposure to interparental aggression and children's emotion regulation (29). In other words, parental aggression is a predictor of failure in emotional regulation in children. Recent research findings show that intolerance of distress in mothers predicts high levels of anxiety and impulsivity in children, indicating the role of attachment styles in predicting destructive behaviors in adolescence (30). In this regard, neurological findings show that neurological maturity in adolescents with high levels of attachment reduces the rate of high-risk behaviors (4). Taking this more nuanced perspective will be important for understanding the conditions under which attachment shapes health-related physiological processes as well as downstream health and disease consequences.

People who lack the necessary skills to cope with their emotional experiences are more likely to engage in risky behaviors or to suppress and ignore their emotions. On the other hand, these people internalize their problems more due to a little understanding of their emotions. Also, people who are not compatible with their emotions or have no way to express them are more likely to find limited resources to overcome their negative emotions and engage in risky behaviors

to alleviate their emotions. Many people resort to risky behaviors to avoid a reality that is unpleasant to them.

This study had some limitations in the implementation process. The data collection focused on interviews and questionnaires and did not use biomarker assessments, limitations that could be considered in future studies. It is suggested that in future studies of biomarkers such as interleukin-6 (31), salivary cortisol (32) and plasma cortisol (33) to be examined in order to evaluate the psychological index. Findings of the present study can be associated with clinical application in designing interventional approaches in patients prone to high-risk behaviors. A supplementary study is recommended in the male adolescent community.

Conclusion

In general, the findings of this study showed that the correlation between attachment styles and cognitive emotion regulation in the two dimensions of blaming others and coping and acceptance with high-risk behaviors is significant. Also, ambivalent attachment style and blaming others dimension predicted the most changes in high-risk behaviors. The findings of this study, in line with the research background, indicate a complex link between the three indices of attachment, emotion regulation and high-risk behaviors. These findings can be associated with several clinical applications in designing macro-level preventive interventions.

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Conflict of Interest

The authors declare that they have no conflict of interest.

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