Predicting Aggression in High School Students in Shiraz (١٦ and ١٧Year Old Students) based on Cognitive Emotion Regulation and Resilience

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Abstract

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The main aim of this research wasprediction of the aggression forteen girls and boys (١٧-١٨) at high schools in Shiraz based on emotion cognitive regulation (ECR) and resilience. The statistical sample contains ٣٠٠ male and female students of second and third grades of high school in academic year ٢٠١٦-٢٠١٧ that were selected by multi-stage cluster sampling. For collecting data, aggression questionnaire, resiliency scale,and emotion cognitive regulation questionnaire were used. Pearson correlation coefficient and multiple regression analysiswas runto check the research hypothesizes. The results of multiple regression analysis showed that variables of emotion cognitive regulation and resiliency significantly predict the aggression among youth girls and boys. Also, the results of Pearson correlation coefficient showed a significant relationship between (ECR) and resiliency with aggression for high school students.

Keywords: Aggression, Emotion Cognitive Regulation, Resilience.

Introduction

Aggression and violence are very prevalent among children and teenagers; therefore, these factors play an important role in determining psychiatric symptoms in children and teenagers. Aggression and violence are among the common social pathologies that are shown by individual or collective operants against themselves (suicide or sadism) or others (murder). Violence is recognized as a social phenomenon and mostly is observed in inter-person and inter-group interactions. Violence occurs when someone threatens a person and causes fear in that person in order to gain control which in turn endangers the social security of the individuals in a society. (Smith & MacKay, ١٩٩٥) Atkinson and Hilgard (١٩٨٥) defined aggression as a behavior that is intended to injure another person (physically or verbally) or to destroy property. Intention is the key concept in this definition. Brown defined aggression as any form of behavior or action aimed at doing harm to individuals who do not wish to be harmed (Sadeghi and Moshkbid Haghighi, ٢٠٠٦). It is believed that the culture of a society is partly responsible for the aggressive behaviors of individuals. In general, mismanaging emotions such as anger affects the social interactions of teenagers. Cognitive

emotion regulation refers to a process by which we influence emotions we have and the way in which we experience and express them (Gross, ١٩٩٨; ٢٧٥).

According to Garnefski & Kraaij (٢٠٠٦) cognitive emotion regulation strategies are the way to manage emotions after the experience of stressful events. An individual's cognitive ability to evaluate a situation and analyze his thoughts, and his increasing problem solving skill that can in turn optimize resilience are key factors in anger management program. Arce et al., (٢٠٠٨) suggested that resilient individuals recover effectively in times of stress through using positive emotions; in the same way, resilient teenagers can identify stressful situations and avoid aggressive behaviors. Not only is childhood aggression followed by adolescence aggression, but it also has other negative consequences; Aggressive teenagers are more likely to display delinquency, conduct disorder, maladjustment at school and addiction (Lochman and Don, ١٩٩٣). Investigating aggression based on psychological and sociological factors is an exhaustive work. For this reason, the present paper only investigates aggression in teenagers based on cognitive emotion regulation and resilience. Many factors have been contributed to forming individuals' routines and habits, namely their ability to control their emotions and their anger management skills (Cheng and Furnham, ٢٠٠٣).

When teenagers behave aggressively, they aren't able to control their behaviors, to understand other people's approaches, to interpret emotional signs and to manage anger. They also lack conflict resolution skills (Quoted by Hedayati, ٢٠١١). Cognitive emotion regulation plays a significant role in optimizing the quality of life and managing emotions (Sarni, ٢٠١٠). Applying various strategies of emotion regulation goes a long way towards recovering from stressful events. Over the last two decades, resilience, factors which can promote resilience and those which can inhibit resilience have been the focus of clinical studies on children and teenagers. Resilience is the process in which at risk teenagers gain control over their behaviors and avoid aggressive thoughts and actions (Mizaeean, Sepehri Shamloo, Kazerooni Zand, ٢٠١٣).

Findings on resilience suggest that the biggest threats to children are situations in which protective systems for evolving are distorted (Mohammadi, ٢٠٠٥). In a study Carelsoon et al., (٢٠١٢) showed that individuals who apply re-evaluation strategies to regulate their cognitive emotions are more resilient to stress. People with high emotional intelligence are usually very self-aware. It has been shown that individuals high on emotional intelligence are less likely to report negative interactions such as aggression with close friends. (Lomas et al., ٢٠١٢). Beck (٢٠١٣) proposed that cognitive emotion

regulation strategies affect the relationship between anger and self-defense mechanisms. Recent studies by Castillo et al., (٢٠١٤) have shown that programs to improve emotional intelligence decrease aggressiveness significantly. The development of emotional skills reduces the frequency of aggressive behaviors significantly (Stan and Beldean, ٢٠١٤). Programs on various emotion regulation strategies improve resilience and lead to anger management eventually (Stan and Beldean, ٢٠١٤). It has been suggested that problem solving and self-expression skills as an individual's investments in resilience lead to anger management (Brooks, ٢٠١٤). Siblings of individuals with Down's syndrome have been reported to show more resilience in response to programs to improve resilience (Shojaee and Behpazhuh, ٢٠١٤). According to the studies done by Geravand and Manshaee (٢٠١٤) emotion regulation and social skills training have been shown to have a mitigating effect on relational and overt aggression and to increase the prosocial behaviors of teenagers with aggressive. Gholami and Vahedi (٢٠١٤) showed the effectiveness of resilience training in decreasing maladaptive cognitive emotion regulation strategies. According to Ghasemi and Benrazee Ghabeshi (٢٠١٤) there is a positive relationship between adaptive cognitive emotion regulation strategies and physical health and a negative relationship between these strategies and aggression. Hesar Sorkhi et al., (٢٠١٥) found out that emotional competence training has an effect on increasing emotional intelligence, emotional regulation and decreasing aggression in children. Rezaee et al., (٢٠١٥) suggested that improving and modifying cognitive emotion regulation strategies and paving the cultural way for altering disagreeable gender beliefs can be effective in mitigating negative emotions such as anger.

Aggression in teenagers has been recognized as a major problem in recent years. Therefore, the present study aims at predicting aggression in high school students in Shiraz (١٦ and ١٧ year-old students) based on cognitive emotion regulation and resilience. Two preliminary hypotheses can be generated concerning the relationship between cognitive emotion regulation and aggression:

H١: It was hypothesized that predicting aggression in teenagers would be associated with using cognitive emotion regulation strategies.

H٢: It was hypothesized that predicting aggression in teenagers would be associated with resilience.

Research method

Participants in this study were students from high schools (second-graders) in Shiraz in the academic year ٢٠١٥-٢٠١٦. The sample consisted of ٣٢٠ students

ranging from ۱٦ to ۱۷ years old. They were selected by cluster random sampling. In every area one all-girls high school (second-graders) and one all-boys high school (second-graders) were picked. Out of every school one class of second graders and one class of third graders were chosen randomly and the questionnaires were distributed among the participants. Out of the questionnaires collected, ۲۰ questionnaires were rejected due to incomplete information. Therefore, the final sample consisted of ۳۰۰ subjects.

Materials

Conner-Davidson Resilience Scale
The Conner-Davidson Resilience Scale consisted of ۲۵ items, each rated on a ٥-point scale (۰ 'not true at all' to ٤ 'true nearly all of the time') with greater scores reflecting greater resilience. There are five subscales or factors, namely: 'personal competence, high standard and tenacity, trust in one's instincts, tolerance of negative affect and strengthening effect of stress, positive acceptance of change and secure relationships, control and spiritual influence.
Persian reliability: The Persian version of the Conner-Davidson Resilience Scale has been validated by Mohammadi (۲۰۰٤). The internal consistency reliability of this scale was assessed using Cronbach alpha and a correlation coefficient of ۰.۸۹ was reported.
Persian validity:

The correlation between each of the subscale scores (except for ۳rd expression) with total score was calculated and then factor analysis was used; correlation coefficients of ۰.٤۱ and ۰.٦٤ were obtained. Scale expressions were analyzed using principle component analysis. Then, KMO and Bartlett's Test were calculated and the results were as follows: KMO=۰.۸۷, K۲=۲۸.٥٥٥٦. The results indicated appropriateness of applying factor analysis.
Cognitive emotion regulation questionnaire:
Garnefski et al., constructed this ۳٦-item questionnaire.
Scoring: positive cognitive regulation: questions ۱۳-۱٤-۱٥-۱٦-۱۷-۱۸-۱۹-۲۰-۲۱-۲۲-۲۳-۲٤-۲٥-۲٦-۲۷-۲۸. Negative cognitive regulation: questions ۱-۲-۳-٤-٥-٦-۷-۸-۹-۱۰-۸-۱۲-۲۹-۳۰-۳۱-۳۲-۳۳-۳٤-۳٥-۳٦

Factors of positive cognitive regulation
۱. Positive refocusing/ planning: questions ۱۳-۱٤-۱٦-۱۷-۱۸-۱۹-۲۰-۲۱-۱۱
۲. Positive reappraisal/ putting into perspective: questions: ۱٥-۲۳-۲٤-۲٥-۲٦-۲۷

Factors of negative cognitive regulation
۱. Self-blame: questions: ۱-۲-٤
۲. other-blame: questions: ۳٤-۳٥-۳٦
۳. Rumination: questions: ۳-۹-۱۰-۱۱-۱۲
٤. Catastrophizing: questions: ۲۹-۳۰-۳۱-۳۲
٥. Acceptance: questions: ٥-٦-۷-۸

Reliability and validity: Cronbach's coefficient alpha of subscales ranges from ٠.٧١ to ٠.٨١ (Garnefski et al., ٢٠٠٢). Depression, Anxiety, Stress Scale was used to assess convergent and divergent validity of this questionnaire in Iran. This ٢١-item scale focuses on the three traits of depression, anxiety and stress. The rating scale ranges from 'Applied to me very much' or 'most of the time' to 'did not apply to me at all'. Exploratory factor analysis was used to analyze psychometric properties of cognitive emotion regulation questionnaire. First the suitability of KMO and Bartlett's test coefficient was confirmed using explanatory factor analysis and principal component analysis and then the questions of cognitive emotion regulation questionnaire were evaluated.

Reliability: The Persian version of this questionnaire has been validated by Samani and Jokar (٢٠٠٦).

Aggression Questionnaire: Buss-Perry Aggression Questionnaire was designed by Arnold Buss and Mark Perry in ١٩٩٢. It comprises of ٣٠ items. It is a self-report, paper-and-pencil instrument where participants rank certain statements along a ٤-point continuum from "always" to "never". The items are scored on a four-point scale (٠, ١, ٢, ٣). Item number ١٨ is a reverse scored item. The total score of this questionnaire is ٩٠ and it is the sum of these subscales scores. It has been shown that Individuals with lower scores than the mean display less aggression.

Construct validity:

Psychometric properties of this scale are as follows: test-retest coefficients among subjects' scores (test and retest) for all the test subjects (N=٩١), female subjects (N=٤٨), male subjects (N٣٨) were R=٠.٧٠, R= ٠.٦٤ and R=٠.٧٩٧ respectively. In AGQ scale, Cronbach's alpha coefficients (internal consistency) were as follows: for all the test subjects (ALPHA=٠.٨٧٤), female subjects (ALPHA=٠.٨٦) and male subjects (ALPHA=٠.٨٩). correlation coefficients among Pd subscales scores and AGQ scale for all test subjects were reported as follows: N=١٠٥, R=٠.٥٨ and N=٠.٠٠١ and correlation coefficients of BDVI questionnaire, Buss-Durkee hostility inventory (١٩٧٥) and AGQ scale for all the test subjects were reported as follows: N=٢٥٠, r= ٠.٥٦, p=٠.٠٠١.

The psychometric properties of this scale were obtained by Zahedi Far and ShokrKon (١٣٧٩) and was validated by Allahyari in Iran.

Findings

First descriptive indices of the studied variables were calculated. Table ١ shows means and standard deviations of variables and tables ٢ to ٦ display correlation matrices between variables.

Table ١.presents means and standard deviations of the studied variables.

	variables	No	Mean	Standard deviation
Aspects of Cognitive emotion regulation	Positive refocusing	٣٠٠	٢٧.١٠	٥.٤٢
	Positive reappraisal	٣٠٠	١٨.٨٥	٤.١٠
	Self-blame	٣٠٠	٩.٢٢	٢.٢٥
	Other-blame	٣٠٠	٨.٧٤	٢.٤٤
	Rumination	٣٠٠	١٤.٩٣	٣.٣٨
	Catastrophizing	٣٠٠	١٢.٧٧	٣.٢٠
	Acceptance	٣٠٠	١٣.٢٣	٢.٨١
Aspects of resilience	Personal competence	٣٠٠	٢٧.٦٠	٥.٤٩
	Tolerance of negative affect	٣٠٠	٢٣.٣٧	٤.٨٢
	Positive acceptance of change	٣٠٠	١٧.٣٢	٣.٥٥
	Control	٣٠٠	١٠.٣٨	٢.٧٨
	Spiritual influence	٣٠٠	٧.٤٢	٢.١٥
	Aggression	٣٠٠	٤٦.٦٠	١٤.٧٠

Table ٢.presents Pearson correlation coefficients between the studied variables of cognitive emotion regulation and aggression in teenagers.

	Variable	factor	١	٢	٣	٤	٥	٦	٧	٨
١	Positive refocusing	Correlation coefficient	١							
		Significance level								
٢	Positive reappraisal	Correlation coefficient	٠.٦٢٠	١						
		Significance level	٠.٠٠٠							
٣	Self-blame	Correlation coefficient	٠.٣٣٢	٠.٢٤٧	١					
		Significance level	٠.٠٠٠	٠.٠٠٠						
٤	Other-blame	Correlation coefficient	٠.٤٤٦	٠.٣٨٧	٠.٢٨٣	١				
		Significance level	٠.٠٠٠	٠.٠٠٠	٠.٠٠٠					
٥	Rumination	Correlation coefficient	٠.٥٤٤	٢٩٧٠	٠.٤٥٥	٠.٤٨٨				
		Significance level	٠.٠٠٠	٠.٠٠٠	٠.٠٠٠	٠.٠٠٠				
٦	Catastrophizing	Correlation coefficient	٠.٤٨٠	٠.٥١٠	٠.٢١٨	٠.٣٨٠	٠.٣١٩	١		
		Significance level	٠.٠٠٠	٠.٠٠٠	٠.٠٠٠	٠.٠٠٠	٠.٠٠٠			
٧	Acceptance	Correlation coefficient	٠.٥٥٢	٠.٥١٢	٠.٤٠٠	٠.٣٦٢	٠.٣٢٧	٠.٣٩٥	١	
		Significance level	٠.٠٠٠	٠.٠٠٠	٠.٠٠٠	٠.٠٠٠	٠.٠٠٠	٠.٠٠٠		
٨	Aggression	Correlation coefficient	-٠.٠٧٥	-٠.٠٤٤	٠.٢١٢	٠.٢١٦	٠.٢١٣	٠/٠٢٩	-٠.٠٨٧	١
		Significance level	٠.١٩١	٠.٤٤٩	٠٠٩	٠.٠٠٧	٠.٠٠٠	٠.٦١٩	٠.١٣٤	

According to Table ٢, there is a significant relationship between aggression and self-blame, other-blame and rumination.

Table ٣ shows Pearson correlation coefficient between resilience and aggression in teenagers.

Table ٣. Pearson correlation coefficients between resilience and aggression in teenagers

	Variable	factor	١	٢	٣	٤	٥	٦	٧	٨
١	Personal competence	Correlation coefficient Significance level	١							
٢	Tolerance of negative affect	Correlation coefficient Significance level	٠.٥٩٣ ٠.٠٠٠	١						
٣	Positive acceptance of change	Correlation coefficient Significance level	٠.٦١٦ ٠.٠٠٠	٠.٥٦٥ ٠.٠٠٠	١					
٤	Control	Correlation coefficient Significance level	٠.٦٣٩ ٠.٠٠٠	٠.٥٠٨ ٠.٠٠٠	٠.٥١١ ٠.٠٠٠	١				
٥	Spiritual influence	Correlation coefficient Significance level	٠.٤٥٠ ٠.٠٠٠	٠.٣٨٢ ٠.٠٠٠	٠.٥٠٢ ٠.٠٠٠	٠.٤٥١ ٠.٠٠٠	١			
٦	Aggression	Correlation coefficient Significance level	-٠.٢٧٩ ٠.٠٠٠	٠.٠٩٣ ٠.١٠٩	٠.٢٤٢ ٠.٠٠٠	٠.١٧٢ ٠.٠٠٣	٠.١٧٩ ٠.٠٠٢	١		

As it is shown in table ٣, there is a significant relationship between aggression and personal competence, positive acceptance of change, control and spiritual influence. Regression analysis was used to predict aggression based on cognitive emotion regulation. The results are presented in Table ٤.

Table ٤: The results of regression analysis used to predict aggression based on cognitive emotion regulation.

Table ٤: The results of regression analysis used to predict aggression.

Variable	Beta	T	sig	R²	F	Df	P
Positive refocusing	٠.٠٩٥	١.١٠	٠.٢٦٨				
Positive reappraisal	٠.٠٦٩	٠.٨٩٥	٠.٣٧٢	٠.١٣٧	٣.٧٨	٢٩٧-٧	٠.٠٠١
Self-blame	٠.٢٥١	٣.١٨	٠.٠٠٧				

Other-blame	٠.٢٤١	٢.٦٠	٠.٠١٠
Rumination	٠.٢٥٦	٣.٤١	٠.٠٠١
Catastrophizing	٠.٠٦٥	٠.٩٤٠	٠.٣٤٨
Acceptance	٠.١٥٧	٢.١٤	٠.٠٣٣

Table ٤ depicts that in total, self-blame, other-blame, rumination and acceptance predicted ١٣.٧% of aggression's variance in teenagers. Regression analysis was used to predict aggression based on resilience. The results are presented in Table ٥.

Table ٥ presents the results of regression analysis to predict aggression in teenagers based on resilience.

Table ٥: the results of regression analysis to predict aggression in teenagers.

Variable	Beta	T	sig	R٢	F	df	P
Personal competence	-٠.٢٧١	-٣.٢٥	٠.٠٠١				
tolerance of negative affect	٠.١٦٤	٢.٢٣	٠.٠٢٦	٠.١٤٩	٦.٧٥	٢٩٤-٥	٠.٠٠٠
Positive acceptance of change	-٠.١٨٢	-١.٩٦	٠.٠٤١				
Control	-٠.٠١٨	-٠.٢٣٨	٠.٨١٢				
Spiritual influence	٠.٠٥١	-٠.٧٦٥	٠.٤٤٥				

According to Table ٥, in total, personal competence, tolerance of negative affect and positive acceptance of change predicted ١٤.٩% of aggression's variance.

Conclusion

Resilience is the capacity to bounce back from difficult situations. It even makes an individual to grow in the face of adverse experiences and to improve his social, academic and job competence. Resilience in teenagers is a shield against mental issues and their safety against adverse effects of stressful situations (IzadeeNiya et al., ٢٠١٠). Resilience lets an individual to rebound from adversity as a strengthened and more resourceful person. Individuals who are low in resilience react aggressively in the face of difficult situations. Resilient teenagers can identify their positive experiences and strengths (Vening, ٢٠١١). In other words, individuals who demonstrate resilience are able to regulate their negative emotions and to effectively counter negative emotions with positive emotions. They also demonstrate less emotional behaviors in stressful or adverse situations. Fostering resilience requires family

environment and patterns. Resilience components that are deeply associated with psychological capital make an individual reacts to stressful situations more effectively. Aggression is a risk factor which can easily lead to aggressive behaviors in the absence of resilience. The results of this study suggested that resilient people control their emotions such as anger more effectively. All in all, programs on cognitive emotion regulation training and resilience should be introduced in order to deal with aggression in teenagers which is identified as a serious problem in our society.

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