



The Effectiveness of Group Resiliency Training on Aggression and Academic Adjustment in Elementary Students

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Abstract: The present study aimed to investigate the effectiveness of group resiliency training on aggression and academic adjustment in elementary students. The research method was quasi-experimental in which a pretest-posttest design with a control group was used. The statistical population was all sixth grade elementary school girls in Baharestan, Tehran (Iran) in 2020. Participants were 30 students were selected by convenience sampling method and randomly assigned to experimental and control groups. The experimental group received the group resilience training based on the package of Roghanchi et al. (2018) in eight 90-minutes sessions for 2 months (one session per week). The control group did not receive any intervention during this period and remained on the waiting list. The Buss-Perry (1992) Aggression Questionnaire (BPAQ) and Sinha and Singh (1971) Adjustment Inventory for School Students were used to collect data. The research hypotheses were tested using univariate and multivariate analysis of covariance. The results demonstrated that group resiliency training was significantly effective on aggression and academic adjustment ($p < 0.01$). In general, the findings support the role of resilience-based interventions in reducing negative behaviors such as aggression and increasing positive behaviors such as academic adjustment in elementary students.

Keywords: Aggression, academic adjustment, elementary students group resiliency training

Introduction

Ensuring and improving appropriate health is one of the great goals of psychology, which is achieved through the development of physical, mental and social health dimensions ([Mikaeili, Rahimzadegan, & Taheri, 2022](#)). Aggression is one of the most important threats to public and social health ([Asadi Majreh & Akbari, 2019](#)) and refers to a behavior aimed at harming others physically or psychologically or destroy people's property ([K. D. Lee, 2020](#)). Aggression can have different exhibitions and includes verbal abuse - that causes psychological damage - and physical violence ([Fatma, Khan, & Husain, 2017](#)). Studies have reported 30 to 50 percent of aggression among teenagers and young adults ([\(Asadi Majreh & Akbari, 2019\)](#)). Aggression is known as a global problem and has destructive physical and psychological effects at the social and individual levels ([A. H. Lee & DiGiuseppe, 2018](#)). Experts have emphasized the need for research in the field of violence and aggression to identify the factors that cause it and provide preventive solutions. They have stated that the identification and explanation of violence and aggression has provided the possibility of choosing the best intervention strategy for its control and prevention ([Waltes, Chiocchetti, & Freitag, 2016](#)).

One of the concerns of the educational system is facing students' maladaptive behaviors such as aggression in the schools ([Schulenberg, 2003](#); [Sullivan, Zhu, Wang, & Boyanton, 2021](#)). Adjustment is a process that accompanies humans since birth and is realized in a special way in different periods of life, during which a person tries to adapt to internal pressures and external requirements ([Salaam & Mounts, 2016](#)). There are different types of adjustment that one of the most important of which is academic adjustment, which reflects students' learning capacity, their motivation, and the strategies they will use to achieve their goals ([Murugan, 2017](#)). Academic adjustment refers to a set of reactions with the help of which a person provides a balanced and coordinated response to school conditions and the activities that the environment demands of him ([Páramo, Cadaveira, Tinajero, & Rodríguez, 2020](#)). The degree of academic adjustment depends on the amount of adaptation of the individual to the conditions, environment, expectations, requests and social structures governing the school environment ([Gerdes & Mallinckrodt, 1994](#)). Students' experiences and adaptation to school can have positive and negative effects on their growth. In general, these effects extend beyond typical behaviors at school and extend to prosocial or antisocial behaviors ([Respondek, Seufert, Stupnisky, & Nett, 2017](#)).

To reduce aggression and improve adjustment, there are many treatment methods, including cognitive behavioral therapy, dialectical behavior therapy, metacognitive therapy, acceptance and commitment therapy, mindfulness training, etc ([Bonell et al., 2018](#); [A. H. Lee & DiGiuseppe, 2018](#)). One of the effective strategies to manage the aggression is resiliency training ([Sood, Sharma, Schroeder, & Gorman, 2014](#)). People with high resiliency can overcome problems and perform well despite being exposed to extreme stress and dangerous factors. In other words, resiliency is the ability to successfully adapt to threatening and stressful conditions ([Levy-Carrick et al., 2019](#)). Resiliency is a dynamic process and includes adapting to bitter and unfortunate life experiences that increase the capacity, resistance and ability of individuals against stressful situations ([Cleary, Kornhaber, Thapa, West, & Visentin, 2018](#)). Resiliency training increases resilience, energy, acceptance and perseverance and causes resilient people to use metacognitive strategies in analyzing situations. These people consider stressful events as an opportunity for growth, have high self-confidence and a high capacity to deal with stress, and use creative solutions to deal with dangerous situations ([Peng et al., 2014](#)). The purpose of resiliency training is to identify and strengthen important interactive processes that empower people to face life challenges and provide conditions for returning to a normal state ([Christopher et al., 2018](#)). Studies have shown the effectiveness of resiliency training on aggression and social adjustment in children under the supervision of welfare organizations, on aggression in nurses, on aggression in depressed children and on students' academic adjustment ([Bakhtiari, Asadi, & Bayani, 2020](#); [Fattahi, Jadidi, Ahmadiyan, & Moradi, 2021](#); [Heydari Sharaf et al., 2019](#); [Mohammadi Shemirani, Saadipour, Dortaj, Ebrahimi Qavam, & Falsafinejad, 2020](#); [Mohammadi Shemirani, Saadipour, Dortaj, Ebrahimi Qavam, & Falsafinejad, 2021](#); [Zarinfar & Balooti, 2019](#)). For instance, [Christopher et al. \(2018\)](#) investigated the effectiveness of Mindfulness-Based Resilience Training (MBRT) on health risk, stress reactivity, and aggression. Results indicated participants experienced

greater decreases in salivary cortisol, self-reported aggression, organizational stress, burnout, sleep problems, and reported increases in psychological flexibility. Another study examined the two different resiliency building/violence prevention models (narrow versus a comprehensive/ecological approach for resiliency building) effectiveness at preventing violent and maladaptive behaviors in youth. The results indicated that the comprehensive/ecological approach is much stronger than the traditional narrow approach for preventing violent and maladaptive behaviors ([Castro-Olivo et al., 2013](#)).

The basis of mental health promotion programs is primary prevention, and at the same time, the main method of primary prevention is education and awareness. Based on this, considering the important role of resiliency training in controlling anger, preventing violence and promoting academic adjustment, as well as the important role of schools in providing and promoting this type of training, the purpose of this research is to investigate the effectiveness of group resiliency training on aggression and academic adjustment in elementary students.

Material and Methods

The current research is an applied study that was conducted with a semi-experimental pre-test-post-test design with a control group. The statistical population included all sixth grade female students of Baharestan District 2, Tehran (Iran) in 2020. The participants were 30 male students of the sixth grade who were selected by accessible sampling method and randomly assigned to experimental (15 students) and control (15 students) groups. The inclusion criteria included being a 6th grade student, having mental health and no psychiatric illness based on the health record, not participating in other treatment programs at the same time, informed consent and cooperation during the intervention. Exclusion criteria included absence of more than two sessions in training sessions and non-cooperation during the intervention.

Instruments

Aggression Questionnaire: The 29-question questionnaire was created by [Buss and Perry \(1992\)](#) and has four subscales of physical aggression (questions 1, 5, 9, 13, 17, 21, 24, 26, 28), verbal aggression (questions 6, 2, 10, 14, 18), anger (questions 3, 7, 11, 15, 19, 22, 29) and hostility (questions 4, 8, 12, 16, 20, 23, 25, 27). Respondents indicate their answers based on a Likert scale from completely like me (score 5) to not at all like me (score one). From the total of four subscales, a total score of aggression is obtained. The range of scores is between 29 and 145, with higher scores indicating more aggression. The aggression questionnaire has good internal consistency (0.89) and test-retest reliability (0.80) (Bushman and Anderson, 2002). The validity of the aggression questionnaire in [Mohammadi \(2007\)](#) study using three methods of Cronbach's alpha, test-retest and split-half respectively 0.89, 0.78, 0.73 and its convergent validity by calculating the correlation coefficient of the subscales of this questionnaire with each other scores and with the total questionnaire score was obtained and were 0.37 to 0.78 ([Mohammadi, 2007](#)). The reliability of this questionnaire in the present study was 0.89.

Academic Adjustment Questionnaire: This 24-question questionnaire was created by [Sinha and Singh \(1993\)](#) and has a yes (one score) and no (zero score) response scale. High scores indicate high academic adjustment [Sinha and Singh \(1993\)](#) reported the convergent validity of the questionnaire as 0.51 and the internal reliability as 0.96 using Cronbach's alpha. [Fouladchang \(2006\)](#) confirmed the content validity of this scale and reported its reliability as 0.89 using the test-retest method and 0.82 using the Kuder–Richardson method.

For implementation the study, after identifying the participant students and obtaining permission from the education department, the students were randomly assigned to experimental and control groups. The experimental group received group resiliency training during 8 sessions of 90 minutes during 2 months (one session per week). Participants of control group remained on the waiting list. In order to comply with research ethics, participants in the control group was assured that after conducting the research, they will also receive the intervention. In Table 1, the content of the intervention is presented according to the sessions based on the package of [Roghanchi, Jazayeri, Etemadi, Fatehizade, and Momeni \(2018\)](#).

Table 1. Summary of group resiliency training sessions

Session	Purpose	content
1	Communicating and getting to know each other and focusing on good places and times	Establishing therapeutic communication and familiarizing people with each other, briefly introducing group counseling based on resilience, recognizing abilities and competencies, remembering good places and times such as celebrations and re-experiencing the flow.
2	Improve life skills	Teaching communication skills, collaborative problem solving skills, self-esteem improvement skills, and role-playing skills
3	Calming and soothing	Getting to know the principles of calming down with relaxation and teaching mindfulness exercises and their role-playing
4	Positive mental imagery	Highlighting current life activities, positive mental images of life and role-playing
5	Anger, hate and forgiveness	Reviewing memories and interpreting them, looking for evidence for events, positive interpretations of negative events, practicing expressing resentments and teaching (remembering the hurt, empathizing with the wrongdoer, positive attitude about forgiveness, commitment to forgiveness and maintaining it)
6	Instilling a sense of hope and optimism	Getting to know hope and optimism, teaching the tactic "if one door closes, another one opens" and teaching to have a positive and hopeful attitude towards the future.
7	Commitment, the meaning of responsibility in life	Recognizing individual and interpersonal values, teaching response styles, practicing meeting based on abilities and facing obstacles through role-playing.
8	Review, summarize	Presentation of meeting summary, discussion and conversation about the training course, thanks and farewell

SPSS-22 software was used for data analysis. In the descriptive statistics section, mean and standard deviation were used, and in the inferential statistics section, multivariate and univariate analysis of covariance tests were used to test the hypotheses.

Results

The mean and standard deviation of the pre-test and post-test scores of the aggression and academic adjustment in the experimental and control groups are presented in Table 2.

Table 2. Mean and standard deviation of pre-test-post-test scores of aggression and academic adjustment in the experimental and control groups

Group	Variable	Pretest		Posttest	
		Mean	SD	Mean	SD
Control	Physical aggression	13.93	3.59	13.44	3.63
	Verbal aggression	15.27	6.17	14.83	5.98
	Anger	18.88	9.34	18.12	9.40
	Hostility	19.05	8.37	18.37	8.10
	Aggression	67.13	15.95	64.76	15.52
	Academic adjustment	30.80	7.42	30.26	7.18
Experimental	Physical aggression	14.19	4.90	12.96	4.75
	Verbal aggression	15.90	5.77	14.59	5.43
	Anger	18.73	7.69	16.80	7.74
	Hostility	20.20	6.65	18.21	6.76
	Aggression	69.02	15.78	62.57	15.01
	Academic adjustment	29.53	7.02	27.63	6.58

In order to examine the effectiveness of group resiliency training on students' aggression and its components, multivariate covariance analysis was used. The Shapiro-Wilk test was used to check the normality of the distribution of scores, and due to the non-significance of the obtained values, the assumption of the normality of the distribution of scores was confirmed. The results of the homogeneity test of the regression slope of the pre-test and post-test scores of the experimental and control groups showed that the regression slope was equal in both groups ($P<0.05$, $F_{8,38}=0.528$). The results of Levin's test to check the homogeneity of the variance of the dependent variables in the groups showed that the variance of physical aggression ($p<0.05$, $F_{1,28} = 2.144$), verbal aggression ($p<0.05$, $F_{1,28} = 0.168$) and hostility ($p<0.05$, $F_{1,28} = 1.336$) are equal in the groups. The results of multivariate homogeneity check (Box's M) of the dependent variables in the experimental and control groups showed that the covariance matrix of the dependent variables in the two groups is equal ($p<0.05$, $F=0.504$, Box M=5.975). The results of Bartlett's chi-square test to check the sphericity or significance of the relationship between the variables showed that the relationship between these components is significant ($p<0.01$, $DF = 9$, $\chi^2 = 29.029$). After examining the assumptions of multivariate covariance analysis, the results of MANCOVA indicated that there is a significant difference in aggression components between the two groups ($p<0.01$, $F_{4,21} = 9.447$, Wilks Lambda = 0.357). In order to check is there a significant difference between the two groups in which of the components of aggression, ANCOVA test embedded in MANCOVA was performed. In Table 3, the results of univariate covariance analysis are reported.

Table 3. Results of ANCOVA embedded in MANCOVA on aggression components

Variable	Source	SS	DF	MS	F	p	Eta
Physical	Between group	3.88	1	3.88	8.67	0.007	0.26
	Error	10.75	24	0.44			
Verbal	Between group	5.46	1	5.46	12.17	0.002	0.33
	Error	10.77	24	0.44			
Anger	Between group	11.38	1	11.38	15.24	0.001	0.38
	Error	17.92	24	0.74			
Hostility	Between group	12.56	1	12.56	11.42	0.002	0.32
	Error	26.39	24	1.10			

According to Table 3, the F statistic for the physical aggression ($P<0.01$, $F_{1,24} = 8.67$), verbal aggression ($P<0.01$, $F_{1,24} = 12.17$), anger ($P<0.01$, $F_{1,24} = 15.24$) and hostility ($P<0.01$, $F_{1,24} = 11.42$) is significant. These findings indicate that there is a significant difference between the control and experimental groups in the components of aggression. Based on this, group resiliency training has reduced students' aggression. Also, the effect size in Table 3 shows that 26.5% of changes in physical aggression, 33.7% of changes in verbal aggression, 38.8% of changes in anger and 32.3% of changes in hostility are explained by the intervention.

In order to investigate the effectiveness of group resiliency training on the academic adjustment of elementary school students, one-way analysis of covariance was used. Shapiro-Wilk test was used to check the normality of the distribution of scores, which confirmed the assumption of normality of the distribution of scores due to the non-significance of the obtained values. The results of the homogeneity test of the regression slope of the pre-test and post-test scores in the experimental and control groups showed that the regression slope was the same in both groups ($P<0.05$, $F_{1,26} = 0.690$). The results of Levin's test to check the homogeneity of the variance of the dependent variable in the groups showed that the variance of academic adjustment is equal in the groups ($p<0.05$, $F_{1,28} = 3.583$). After checking the assumptions of covariance analysis, the results of univariate covariance analysis are reported in Table 4.

Table 4. Results of ANCOVA on academic adjustment

Variable	Source	SS	DF	MS	F	p	Eta
Academic adjustment	Between group	15.21	1	15.21	13.73	0.001	0.33
	Error	29.91	27	1.10			

According to Table 4, the F statistic for academic adjustment is significant ($P<0.01$, $F_{1,27}=13.732$). This finding shows that group resiliency training is effective and has improved academic adjustment. Also, the effect size in Table 4 shows that the intervention explains 33.7% of the changes in academic adjustment.

Discussion

The purpose of this study was to investigate the effectiveness of group resiliency training on aggression and academic adjustment in elementary school students. The results revealed that there was

a significant difference between the control group and the experimental group in the post-test of aggression, and resiliency training reduced students' aggression. The result obtained is in line with the results of previous studies (Christopher et al., 2018; Fattahi et al., 2021; Mohammadi Shemirani et al., 2020). For instance, Mohammadi Shemirani et al. (2021) showed that game-based resiliency training significantly reduced aggression and its components (verbal, physical, action, and total aggression) except for the relational aggression component in the participants of the experimental group. Bakhtiari et al. (2020) showed that resiliency training reduced the aggression of depressed boys as well. Also, in a study, Zarinfar and Balooti (2019) found that group counseling based on resilience significantly reduced physical aggression, verbal aggression, anger and hostility in female nurses. In the explanation of this result, it can be said that resilience training through relaxation methods, teaching personal patterns of experiencing anger and resentment, problem solving strategies and other techniques provides the ground for mental and cognitive reconstruction and self-esteem improvement. So this method increases the abilities and skills to deal with stressful events. In addition, the resilience training program teaches people communication skills, and people who received the necessary training in this field, when facing stressful events while controlling their emotions, establish positive relationships with others, have a look of hope and optimism and they try to overcome problems alone or with the help of others (Sheerin et al., 2018).

Another finding of the research showed that there was a significant difference between the control group and the experimental group in the post-test of academic adjustment, and resilience training increased the academic adjustment in students. The result obtained is in line with the results of previous studies (Heydari Sharaf et al., 2019; Mohammadi Shemirani et al., 2020). For example, Mohammadi Shemirani et al. (2020) showed that resilience training had a significant effect on social adjustment in children aged 5-7 under welfare supervision. Heydari Sharaf et al. (2019) also showed that resilience education has significantly increased students' adjustment in university. In another research, Fattahi et al. (2021) found that the academic resilience training package has a significant effect on the academic adjustment of students; In explaining this finding, it can be said that resilience training can increase people's commitment and make them commit to the environment and make them active. This educational method assures people that they are capable of changing their life experiences in an interesting and meaningful way. Also, resilient people have the ability to control events and influence them; So that the source of internal control plays an important role in improving people's flexibility (Zarinfar & Balooti, 2019). In other words, resilience increases a person's flexibility, and as a result, he benefits from social skills, self-esteem, and high personal control, the combination of which increases adjustment to different conditions, especially in terms of education ((Payandeh, Etemadi, & Karami, 2013).

Among the limitations of the research was the lack a follow-up period, the fact that the research tool was self-reported, and the population under study was limited to boys, so caution should be observed in generalizing the results. Therefore, it is suggested that future studies be repeated with a follow-up period and in the sample of girls. Considering the effect of resilience in reducing aggression and

increasing academic adjustment of students, holding group resilience training courses for all students in all educational levels with the aim of reducing aggression and improving their academic adjustment can be used as a solution for education policy makers. Also, in large-scale educational planning, group resilience training can be used in the curriculum of the academic levels in order to reduce negative psychological characteristics and increase psychological health. In addition, counselors and psychologists of psychological service centers can use group resilience training to reduce negative psychological variables, especially aggression and promote academic adjustment.

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