The effect of assertiveness and stress management training on self-regulation and resilience building among adolescent female students

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Abstract

Introduction: The present study was conducted to evaluate the effect of assertiveness and stress management training on self-regulation and resilience building among adolescent female students.
Materials and Methods: This quasi-experimental study was carried out among 102 female students in high schools of Ilam in 2020, selected by cluster sampling and randomly divided into three groups of assertiveness training, stress management training, and control. Data were collected using "The Connor-Davidson Resilience Scale (CD-RISC)" and "The Pintrich and De Groot's Motivated Strategies for Learning Questionnaire (MSLQ)" in two stages of pre- and post-test and were analyzed using MANOVA and ANCOVA statistical tests, while $P < 0.05$ was considered significant.
Results: In the present study, assertiveness training was effective on self-regulation and resilience building by modifying pre-test scores ($P = 0.001$). Stress management training was effective on self-regulation building by modifying pre-test scores ($P = 0.003$). However, in the variables of trust in individual instincts, negative emotion tolerance, positive acceptance of change and safe relationships, control and spiritual effects, there is a significant difference between the mean post-test score of the stress management group and control after controlling the pre-test scores, which indicates the effectiveness of stress management training on resilience building ($P = 0.001$). Furthermore, assertiveness and stress management training had an effect on self-regulation and resilience building ($P < 0.05$).
Conclusion: Among junior high school students, assertiveness and stress management training has been effective on self-regulation and resilience building among adolescent girls.

Keywords: School girls, Stress management, Assertiveness

Introduction

Self-regulation is a deep and internal mechanism that is formed based on the conscious, intentional and thoughtful behaviors of the individual (1) and is defined based on spontaneous thoughts, feelings and actions that are designed to achieve individual goals and adjustments take place in it in a cyclical manner (2). Self-regulatory strategies are related to a person's ability to deal with negative emotion instead of avoiding it in a state of distress and compassionate understanding to achieve important goals. This is one of the best models regarding the role of nervous systems in controlling emotions, which helps various effective cognitive processes in regulating emotional reactions (3, 4). Research findings showed that teaching self-regulatory strategies increased academic motivation and decreased anxiety in ninth grade female students (5, 6).

Resilience is the ability or consequence of successful adaptation to threatening conditions and plays an important role in coping with life stresses and returning to the initial balance or reaching a higher

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level of balance and is defined as the ability to resist stress and leads to positive and successful adaptation in life (7). Research shows that peer communication during adolescence is one of the strongest predictors of resilience in abused individuals (8). Resilient adolescents have individual competencies.

Life skills program is a comprehensive way to change behavior. One way to prevent psychological and behavioral problems is to improve the psychological capacity of individuals, which is possible through the training of various skills. The ability to overcome challenges in everyday life depends to a large extent on the development of these skills and is related to the way one acts and behaves, and if learned in practice, can improve society by changing the behavior of each individual in the society (9).

Assertiveness training program is one of the skills that improves self-expression, self-esteem, increases determination and social problem solving and rational expression of thoughts and feelings, reduces anxiety, stress, and depression, and improves social communication skills, respecting the rights of others, and at the same time, getting one's due. It improves life satisfaction and happiness, increases adaptive behaviors and decreases maladaptive behaviors in students (10, 11).

Today, numerous non-pharmacological methods and techniques are known, studied and experimented for stress management, such as increasing awareness about stress, relaxation training, deep breathing, identifying inefficient thoughts, cognitive reconstruction, problem solving training, self-expression training, anger management, time management, mindfulness and seizing the moment (12).

According to the World Health Organization, adolescence includes the age group of 10-19 years, which is the period of transition from childhood to adulthood. This transition has biological, psychological, social and emotional dimensions that expose adolescents to high levels of stress (13).

Today, adolescent girls live in a more complex and challenging world than in the past and along with the evolution of social, cultural, economic and geographical conditions and stages of civilization, their social needs and desires naturally become more diverse and dynamic due to their unlimited aspirations and potential abilities.

Although the same is true for boys, the point is that the girls' needs are less obvious and tangible than those of their male classmates and are often neglected (14). The results of studies have shown that boys most often manifest their behavioral problems in the form of external behaviors such as aggressive behaviors, disobedience and inappropriate behaviors, while girls express their problems in the form of internal behaviors in the form of isolation, physical symptoms, depression, and anxiety (15). Psycho-emotional needs are among the most obvious needs of adolescents that have now attracted the attention of governments, socio-cultural organizations and institutions; nowadays, it is widely agreed that the health needs of adolescents occur in the context in which they live. Therefore, according to the culture of the Iranian people who attach great importance to the vulnerability of girls, this study was conducted to evaluate the effect of assertiveness and stress management training on self-regulation and resilience building in adolescent female students.

Materials and Methods

The present study is a quasi-experimental intervention study. The statistical population includes all female high school students in high schools in region 2 of Ilam city in the academic year 2020 with 1121 students.

The sample size was estimated to be 102 people using G*Power application, 95% confidence level and 5% accuracy and

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mean effect size of 0.05. Samples were randomly divided into three groups of 34. Inclusion criteria were age range of 13 to 17 years, junior high school students, being a female student, living in urban areas of Ilam, not participating in a similar study and oral satisfaction for participation in the study. Exclusion criteria were not completing the questionnaire correctly and completely. Sampling was done from January 2020 until June 2020.

Participants were randomly divided into three groups (two intervention groups and one control group) and the questionnaires were completed in pre-test and post-test in two sessions (beginning of the study and two weeks after the intervention). After completing the questionnaires at the beginning of the study, the experimental groups received assertiveness and stress management training for eight weeks (two sessions per week), each session for 45 minutes on a daily basis (one experimental group only received assertiveness training and the other experimental group only received stress management training). Questionnaires were also completed by the participants two weeks after the intervention. The control group also did not receive any training. This research was conducted after receiving the code of ethics IR.MEDILAM.REC.1399.205 from the National System of Ethics in Biomedical Research and obtaining permission from Islamic Azad University – Ilam branch, and making arrangements with relevant officials in the Ministry of Education.

Data Collection Tools

Two standard questionnaires of “The Connor-Davidson Resilience Scale (CD-RISC)” and “The Pintrich and De Groot's Motivated Strategies for Learning Questionnaire (MSLQ)” were used to collect data.

CD-RISC was presented by Connor and Davidson in 2003. It includes 25 questions and its purpose is to measure the degree of resilience based on the components of individual competence/strength (16, 17, 23, 10, 25, 11, 12, 24), trust in individual instincts (14, 19, 7, 6, 15, 18, 20), tolerance of negative emotions (8, 2, 5, 4, 1), control (21, 13, 22) and spirituality (9, 3) in different people. Its response spectrum is based on the Likert scale. To get the overall score of the questionnaire, the total scores of all the questions are summed. This score will range from 0 to 100. The higher the score, the more resilient the respondent will be, and vice versa. The cut-off point of this questionnaire is 50 points. In other words, a score higher than 50 will indicate resilience, and the higher the score, the higher the resilience intensity, and vice versa. This scale has been standardized in Iran by Mohammadi in which he used Cronbach's alpha method to determine the reliability of Connor and Davidson resilience scale and reported a reliability coefficient of 0.89 (14).

The Motivated Strategies for Learning Questionnaire (MSLQ) has two scales of motivational beliefs (25 items) and self-regulated learning strategies (22 items) and its total scale number is 47. MSLQ was presented by Pintrich and De Groot in 1990. The motivational beliefs scale includes three subtests: self-efficacy, internal evaluation, and exam anxiety. The self-regulated learning scale includes two subtests: the use of cognitive strategies and self-regulation. The items in this questionnaire are based on five-option multiple choice questions (from strongly agree to strongly disagree). Babajani Gorji et al., used the retest method to obtain the validity of the "Motivated Strategies for Learning Questionnaire", which showed a coefficient of 0.8 (15).

Statistical Analysis

Descriptive statistics for resilience and its subscales, as well as self-regulation and its subscales were reported as mean (standard deviation). To use the parametric test, first the normality of data distribution was checked using the Kolmogorov-Smirnov

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test. Multivariate analysis of variance (MANOVA) was used to investigate the effect of assertiveness training on self-regulation and resilience building in intervention and control groups. Analysis of covariance (ANCOVA) was used to find significant differences between the groups in the subscales of self-regulation and resilience. Data were analyzed using SPSS 18 and the significance level was considered $P < 0.05$.

Results

The results of the study showed that the mean ± standard deviation of the total score of resilience variable in post-test in the stress management, assertiveness and control groups was 40 ± 15.10, 38.35 ± 14.91, and 30.58 ± 19.77, respectively, indicating a decrease compared to pre-test. The amount for self-regulated learning strategy variable in post-test in the stress management, assertiveness and control groups was 69.76 ± 19.23, 85.38 ± 7.54, and 81.82 ±11.22, respectively, which has doubled compared to pre-test. Moreover, the figures for the variable of motivational beliefs in post-test in the stress management, assertiveness and control groups was 81.05 ± 7.22, 81.64 ± 6.40, and 78.52 ± 8.45, respectively, which was higher compared to pre-test. In the present study, the age of female students in the groups of stress management, assertiveness and control were 14.58 ± 0.55, 14.50 ± 0.51 and 14.26 ± 0.45, respectively.

As shown in Table 1, for the variables of motivational beliefs and academic self-regulation, there was a significant difference between the mean post-test scores of the assertiveness and control groups, after controlling for the pre-test scores, indicating the effectiveness of assertiveness training on self-regulation building. Furthermore, for the variables, individual competence, trust in individual instincts, negative emotion tolerance, positive acceptance of change and safe relationships and control, there was a significant difference between the mean post-test scores of assertiveness and control groups after controlling pre-test scores, indicating the effectiveness of assertiveness training in resilience building (Table 1).

According to the Wilks' lambda test indicated that stress management training has an effect on self-regulation building ($P< 0.002$). Based on the ANCOVA test, for the variables of motivational beliefs and academic self-regulation, there was a significant difference between the mean post-test scores of stress management and control groups after controlling the pre-test scores, highlighting the effectiveness of stress management training on self-regulation building. For the variable of individual competency, there was no significant difference between the mean post-test scores in the stress management and control groups after controlling the pre-test scores. However, for the variables of trust in individual instincts, negative emotion tolerance, positive acceptance of change and safe relationships, control and spiritual effects, there was a significant difference between the mean post-test score of the stress management group and control group after controlling the pre-test scores, which indicates the effectiveness of stress management training on resilience building (Table 1).

There was a significant difference for the variables of motivational beliefs and academic self-regulation between the mean post-test scores of stress management, assertiveness and control groups after controlling the pre-test scores, which indicates the effectiveness of stress management and assertiveness training on self-regulation. Moreover, there was a significant difference among the mean post-test scores of stress management, assertiveness and control groups after controlling the pre-test scores for the variables of individual competence, trust in individual instincts, negative emotion tolerance, positive acceptance of change and safe relationships, control and spiritual

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effects these results showed that the effectiveness of stress management and assertiveness training on resilience (Table 2).

Table 1. The results of MANOVA tests for assessing the effect of assertiveness training and stress management training on self-regulation building and resilience of female students at four steps.

Dependent variables	Total squares	F	P value
Hypothesis **1**			
Motivational beliefs	247	4	0.03
Academic self-regulation	227	2	0.001
Hypothesis **2**			
Individual competence	94	2	0.001
Trust in individual instincts, negative emotion tolerance	116	1.5	0.03
Positive acceptance of change and safe relationships	22	2.1	0.001
Control	13.1	2	0.001
Spiritual effects	-	-	-
Hypothesis **3**			
Motivational beliefs	110.1	1	0.001
Academic self-regulation	2344	9	0.003
Hypothesis **4**			
Individual competence	143	3	0.07
Trust in individual instincts, negative emotion tolerance	114	5	0.01
Positive acceptance of change and safe relationships	21	1	0.001
Control	14	2	0.001
Spiritual effects	11	4	0.04

Hypothesis 1: Effect of assertiveness training on self-regulation building. Hypothesis 2: Effect of assertiveness training on resilience. Hypothesis 3: Effect of stress management training on self-regulation building. Hypothesis 4: Effect of stress management training on resilience.

Table 2. Comparison of ANKOVA results at the effect of stress management and assertiveness training on self-regulation building and resilience among female junior high school students in two steps.

Dependent variables	Total squares	F	P value
Step 1			
Motivational beliefs	110	1	0.001
Academic self-regulation	2344	9	0.003
Step 2			
Individual competence	159	1	0.001
Trust in individual instincts, negative emotion tolerance	142	3	0.03
Positive acceptance of change and safe relationships	36	1	0.001
Control	18	1	0.001
Spiritual effects	12	2	0.08

Step 1: Comparison of ANKOVA results at the effect of stress management and assertiveness training on self-regulation. Step 2: Comparison of ANKOVA results at the effect of stress management and assertiveness training on resilience.

Discussion

The present study was conducted to determine the effect of assertiveness and stress management training on self-regulation and resilience building among female adolescent students. The findings of the present study showed that teaching these skills as a person-centered preventive

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approach to empower adolescents was able to make significant changes in the mean scores of participants in this study.

The results of the present study regarding the positive effects of assertiveness training on self-regulation and resilience building are consistent with the results of other studies (16-19). The authors of these studies say, assertiveness programs among high school students lead to increased self-determination and self-support skills.

Increasing resilience is consistent with decreasing high-risk behaviors. In fact, resilience cuts the growth trajectory from risk to problematic and psychologically damaging behaviors and leads to adaptive outcomes despite the existence of adverse conditions. As a result, students with higher resilience are less likely to engage in high-risk behaviors in difficult situations (20).

The impact of stress management training on self-regulation and resilience building in this study are similar to other studies (21, 22). Considering the importance of stress management methods in the adaptive behavior of adolescents and higher possibility of teaching these methods in recent years, it is possible to teach appropriate stress management methods in a group of normal adolescents as a preventive measure. In the present study, this outcome is achieved by education and is completely evident.

Bahadorikhosrohhahi (23) states that substance abuse, high-risk sexual behaviors, delinquency, suicide and poor school performance show that a large number of children and adolescents have many problems and experience high-risk behaviors and lack resilience and health. So that at higher levels of stress, people lose their adaptive function and can hardly function well and cope with the processes in their environment and living conditions.

The participants in our study are only girls, whose experiences are definitely different from the boys. However, the severity of stress has been reported in being pressured to do new things in both sexes. Girls have reported significantly higher level of stress than boys in almost all cases, and their mental health problems are higher than boys, this can have a variety of significant reasons, including unfamiliarity of female students with different types of high-risk behaviors, their poor understanding of their psychological characteristics, the existence of discrimination and differences between girls and boys in the family, and fear and lack of independence of girls imposed by parents and school officials.

This issue has been confirmed that higher use of effective coping strategies (problem-based strategies) is the product of appropriate productivity of emotions such as refocusing on planning and positive reassessment. It can be said that adaptive emotion regulation is associated with self-confidence and social interactions, an increase in the frequency of positive emotions, and effective coping when facing stressful situations. Resilience negatively and significantly predicts emotion-oriented coping style. Resilient people do not have self-defeating behaviors, are emotionally calm, and have the ability to turn stressful situations into appropriate ones. Nevertheless, people with emotion-focused coping strategies reduce their anxiety and worry by forgetting the problem or seeking emotional support. People with resilience do not need to forget about problems or seek emotional support. Resilient people have the skill to get over life's problems, even in difficult situations (24).

Researchers believe that that teaching emotional self-regulation strategies increases students' resilience and controlling emotion in threatening and challenging situations, increases a person's ability to adapt and increases people's resilience. How people evaluate negative events when facing them is very important, and emotional self-regulation gives people the ability to properly assess a stressful situation. We must improve this skill in students by designing emotional self-regulation training programs and

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incorporating them into the curriculum (25).

Conclusion

The results of this study show the effect of assertiveness training on resilience building in female junior high school students, which showed positive results in the present study because of using packages of assertiveness and stress management training. The trainings in this study helped students cope with their problems, which included impact of peers and pressures from the environment and the use of unhealthy and immediate methods of problem solving, inability to make decisions, lack of assertiveness, and lack of ability to say "no" to friends, adolescent curiosity, increased accessibility and exposure to peers who do not have positive attitudes, beliefs, and behaviors related to life skills. Insufficient training sessions, conciseness of content and concurrence of conducting this research with COVID-19 had negative effects on the process of the study .

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Authors Contribution

All the authors made significant contributions to the research.

Conflict of interest

There is no conflict between the authors.

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