Original Research Article

Effectiveness of Self-Efficacy Group Training on Achievement Motivation and Self-Efficacy of High School Students

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ABSTRACT

Introduction: Students are the efficient and prosperous members of any society that can play an important role in the scientific, cultural and social growth of the country. The objective of the present study was to determine the effectiveness of self-efficacy group training on the level of achievement motivation and self-efficacy of high school students in Torbat-e Jam, Iran. **Methods:** This was a quasi-experimental study with a pretest-posttest design, a control group and follow-up. The study population included all high school students in the city of Torbat-e Jam (Iran) in 2016. The subjects were selected via availability sampling and then randomly assigned into two groups of 20 (an experimental and a control group). The subjects in the experimental group participated in 60-minute weekly self-efficacy group training sessions for seven weeks. No intervention was done for the control subjects. After the training sessions, the achievement motivation and self-efficacy scales were used to collect posttest data. The collected data were analyzed with SPSS (version 16) using descriptive statistics, analysis of covariance, the Levene's test, regression analysis and the Bonferroni post-hoc test. All statistical analyses were performed at significance of 0.05.**Results:** After the training period, the mean self-efficacy score increased from 13.76 ± 3.02 to 14.34 ± 3.47 and the achievement motivation score increased from 12.58 ± 6 to 14.37 ± 4.1. There were statistically significant differences in terms of pretest and posttest scores between the two groups. Results after two months of follow-up also indicated that the intervention results persisted in the experimental group. **Conclusions:** Considering the positive impact of the self-efficacy group training on self-efficacy and achievement motivation, it can be suggested as an effective cognitive intervention in educational counseling.

KEYWORDS: Self-efficacy training, achievement motivation, self-efficacy, high school students

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INTRODUCTION

Students are the efficient and prosperous members of any society. A major part of planning and budget of a country is dedicated to students since academic achievement is important for their future success. Therefore, identifying effective factors on the academic achievement motivation is a step towards sustainable development (1).

Adolescence is an important and sensitive period of life because both the physical and mental abilities of individuals undergo fundamental transformation, and adaptation to such changes causes stress. Such stress mainly includes environmental stimuli that can be harmful and unpleasant for one's physiological or psychological health (2).

Motivation is the main driving force for all actions, and includes our needs, desires and ambitions in life. Achievement motivation is the foundation for achieving success and all our aspirations in life. It can affect the way a person performs a duty or the tendency to demonstrate merit (3).

Some believe that behavior can change the cognition and excitement of humans, and cognition itself affects behavior and excitement. In addition, both these two aspects are interconnected (4). People with mental problems are subjected to processing faulty information and reasoning (5). In fact, the goal of psychology and counseling is to identify distorted thoughts and then help individuals correct their thoughts and improve information processing and reasoning (6). In fact, self-efficacy is a determining factor for achievement motivation.

Self-efficacy was first introduced by Bandura in 1977, suggesting that a person can act or behave successfully (7). Since self-efficacy refers to a specific behavioral domain rather than a set of behaviors, the concept of self-efficacy should have a

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behavioral reference to be understandable and meaningful (8). According to Bandura (9), elements of self-concept are a collection of beliefs and expectations about self-abilities in relation to effective performance of assignments and the fulfillment of what must be fulfilled (self-efficacy). Considering the role of thinking on behavior and excitement, it can be stated that the way of thinking can affect all aspects of human life and is an important factor for decision-making and problem-solving (10). Therefore, the existence of an efficient and rational thinking can have a significant effect on adoption of appropriate decisions, adaptation, and academic progress (11).

Self-efficacy can be considered an appropriate intervention as it is believed that self-efficacy beliefs affect individual's competence for social communication (12). These beliefs also affect the effort and persistence in dealing with challenges and perception of tasks (13).

Usually, beliefs or important schemas of individuals are subjected to dysfunctional thoughts. Since schemas often start in childhood, their preserving brain processes usually represent the initial rational errors of the individual. Ineffective thoughts appear when information is processed incorrectly or ineffectively. Ineffective thoughts are described as dysfunctional cognition (14), ineffective self-esteem (15), self-breaking assumptions (16), false self-inefficiency beliefs (17). Mental health, achievement motivation and creation are other areas that can affect inefficient thoughts (18). The present study investigates effectiveness of self-efficacy group training on achievement motivation and self-efficacy of high school students in Torbat-e Jam, Iran.

MATERIAL AND METHODS

This was a quasi-experimental study with pretest-posttest design, a control group and follow-up. The study population included all high school students in the city of Torbat-e Jam (Iran) in 2016. The subjects were selected via availability sampling and then randomly assigned into two groups of 20 (experimental and control group). A questionnaire was used to collect pretest data from all subjects. The subjects in the experimental group participated in 60-minute weekly self-efficacy group training sessions for seven weeks. No intervention was done for the control subjects. After the training sessions, the same questionnaire was used to collect posttest data from the study groups. The follow-up meeting took place two months after the posttest. After the completion of the study, same trainings were provided for the subjects in the control group.

General self-efficacy scale

This scale was first designed in 1979 by Schwarzer and Jerusalem, and has 20 items in two subscales of general and social self-efficacy. It was later reduced to a 10-item scale in 1981. The Cronbach's alpha coefficients for the Persian version of this tool have been reported to be 0.81 (19) and 0.87 (20). In this scale, responses are scored based on the Likert scale ranging from not at all true to exactly true (score of 1-4), with total score ranging between 10 and 40. Higher scores in the scale indicate better general self-efficacy.

Achievement Motivation test (ACMT)

ACMT is based on the sentence completion method. The reliability of this test has been reported to be 0.78 and 0.91 (24). Concordance of ACMT with the general self-efficacy scale was 0.75. The validity of the scale has been reported to be 0.85 (21). The reliability of the scale was 0.90 in our study. Answers of subjects were scored from 1 to 4.

Self-efficacy group training materials were derived from several sources (22-24), and experts and university professors approved their content validity.

The content of the self-efficacy group training sessions was as follows:

Session 1: Subjects became familiar with each other and with the leader - the rules

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were explained - self-efficacy and some characteristics of individuals with high or low self-efficacy were described.
Session 2: The content of the previous session was reviewed - other characteristics of individuals with high or low self-efficacy were discussed - the subjects were given an assignment to think about the goals they want to achieve but feel incompetent to achieve.
Session 3: The subjects reported the assignment - verbal persuasion was performed - a report was given to identify early signs of anxiety - they were instructed to talk to a person who also felt he could not achieve something but achieved it.
Session 4: The subjects reported the assignment, hints were given for appropriate diet to reduce stress - appropriate exercise programs were suggested. The subjects were assigned to talk to an individual with a goal and discuss the obstacles and solutions for achieving that goal.
Session 5: Reviewing the last session and feedback from the assignment - defining self-regulation and describing its linkage to self-efficacy - discussing effect of observing others' successes on self-efficacy of individuals.
Session 6: Reviewing the last session - a successful person's speech about his or her life, as well as obstacles and difficulties encountered when trying to achieve their goals and ways to overcome them - the assignment of this session was to answer whether the person was feeling doubtful or hopeless during the past week about trying to reach his/her goal - If so, what caused it? How did he/she feel? If he/she is determined to achieve the goal, what is the reason?
Session 7: Reviewing the last session and the individual's decision and feeling toward continuing seeking the goal - the subjects designed a one-year plan to achieve their goal, and outlined the full details of the program and the five steps necessary to achieve it - the barriers and problems and how to address them - implementation of posttest.
The subjects were ensured about the confidentiality of information. The subjects were able to withdraw from the study at any time. Collected data were analyzed with SPSS (version 16) using multivariate analysis of covariance, the Levene's test, regression analysis and the Bonferroni post-hoc test. All statistical analyses were performed at significance of 0.05.

RESULTS

After the training period, the mean self-efficacy score increased from 13.76 ± 3.02 to 14.34 ± 3.47 and the mean achievement motivation score increased from 12.58 ± 6 to 14.37 ± 4.1. However, these indices did not change significantly in the control group (Table 1).

Table 1. Descriptive statistics of dependent variables (self-efficacy and achievement motivation) for both study groups

Variable	Group	Pretest	Posttest	Follow-up	P-value
		Mean ± SD	Mean ± SD	Mean ± SD	
Self-efficacy	Experimental	13.76 ± 3.02	14.34± 3.47	14.05 ± 3.23	0.05
	Control	14.36 ± 3.54	14.09 ± 3.41	13.57 ± 3.9	0.05
Achievement motivation	Experimental	12.58 ± 6	14.37 ± 4.10	13.75 ± 5.85	0.05
	Control	12 ± 3.45	13.4 ± 3.3	13.04 ± 3.52	0.05

Considering the homogeneity of regression line slope (Fisher's exact test) and the homogeneity of posttest error variances for both variables (Levene's test), the analysis of covariance was performed. The results showed a significant difference between the posttest scores of the experimental group and the control group (Table 2).

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Table 2. Covariance analysis of the differences in the dependent variables (self-efficacy and achievement motivation)

Variable	Sum of squares	df	Mean Square	F	Significance	Effect size
Self-efficacy	245.78	1	16.42	41.38	0.001	0.520
Achievement motivation	276.24	1	16.03	42.43	0.02	0.414

As shown in Table 3, the intervention significantly affected the level of self-efficacy and achievement motivation in the experimental group even after the two-month follow-up.

Table 3. Covariance analysis of the follow-up scores for the dependent variables (self-efficacy and achievement motivation)

Variable	Sum of squares	df	Mean Square	F	Significance	Effect size
Self-efficacy	157.87	1	12.39	35.82	0.001	0.470
Achievement motivation	160.65	1	11.31	32.69	0.001	0.437

The results of the post hoc test in different stages of the study showed that the mean of the variables was significantly different in the pretest, posttest and follow-up. In addition, the effects of the self-efficacy group training session persisted after the two-month follow-up.

Table 4. Results of repeated measures analysis for studying the effect of the self-efficacy group training on the dependent variables (self-efficacy and achievement motivation)

J	I	Mean difference (I – J)	SD	Significance level
Pretest	Posttest	-2.174*	2.531	0.002
	Follow-up	-2.936*	1.089	0.003
Posttest	Pretest	2.174*	2.531	0.002
	Follow-up	-1.462*	1.214	0.721
Follow-up	Pretest	2.836*	1.980	0.003

DISCUSSION

The results showed that the group training had a significant positive impact on self-efficacy of subjects. Studies have shown that individuals with inner self-control have better achievement motivation and productivity. It is believed that these individuals can take control of the environment or play a decisive role in it (25). Moreover, the results showed that the self-efficacy group training significantly improved achievement motivation in the high school students in the city of Torbat-e Jam.

Overall, it can be concluded that the self-efficacy group training can have a significant effect on self-efficacy and personal and interpersonal problem-solving ability. If learned in practice, such trainings can improve behavior of students, subsequently solving many social problems associated with adolescence (26).

Consistent with our findings, a study also suggested that the self-efficacy group training has a positive effect on social development (16). Another study demonstrated that self-efficacy has a positive effect on self-awareness, which is consistent with our findings (28). Education is one of the most important aspects of living in today's world. According to Kwiek, the most important and most

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difficult issues that entangle human being are growth, health and education (29).
Some limitations of the present study are as follows: the study sample was limited to the high school students in the city of Torbat-e Jam and variables such as stress, which may affect the results, have not been studied or controlled.

CONCLUSION

Implementation of self-efficacy can make people's lives more effective. Self-efficacy group training program is a necessity that requires special attention at the national and international levels. Considering the importance of self-efficacy for all aspects of human life, it is necessary to promote self-efficacy awareness in all individuals and implement its basic principles for creating a healthy, rewarding and evolving life (28).
The self-efficacy group training could be used as a primary preventive method with positive and beneficial effects in increasing the level of progress and reducing ineffective beliefs.

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