Annals of R.S.C.B., ISSN: 1583-6258, Vol.25, Issue 4, 2021, Pages. 19050-19059
Received 05 March 2021; Accepted 01 April 2021

# The Effectiveness of the Positive Thinking Training on Academic Optimism and Negative Achievement Emotions in Ninth Grade Female Students of Masjed Soleiman

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**ABSTRACT**

Students are considered the main assets of every country and have a special status, and the final product of an education system are students who have been educated. The present research aimed to examine the effectiveness of the positive thinking training on academic optimism and negative achievement emotions in ninth-grade female students in Masjed Soleiman. The present research was quasi-experimental with pre-test, post-test, and a control group. The statistical population consisted of all ninth-grade female students in Masjed Soleiman. The statistical samples consisted of 30 students selected using the availability sampling from the statistical population, and 15 were randomly assigned to either the experimental or the control group. Research instruments included the Achievement Emotions Questionnaire (AEQ) and Academic Optimism Questionnaire. The data were analyzed using ANCOVA and MANCOVA and via SPSS-26. The experimental group received eight sessions of 90 minutes (one session per week), while the control group received none. The multivariate analysis of covariance and univariate analysis of covariance showed that positive thinking training had increased academic optimism and reduced negative achievement emotions in ninth-grade female students in Masjed Soleiman continued in the 1.5-month follow-up phase.

**Keywords**
Positive thinking; Academic optimism; Negative achievement emotions.

## Introduction

Students are considered the main assets of every country and have a special status. Students have essential potentials, and its blossoming is the necessary and vital condition for the development of today's societies, but the existence of various dangerous factors has always led to short-term and long-term individual and social damages (Hunter and Eastwood, 2020). They are the efficient class of the country, and the ones who make the future, a group that accounts for most of planning and budget, and their academic improvement play a significant role in their future achievements. Therefore, identifying the influential factors on students' academic improvement and quality and favoring them is a step toward sustainable development (Mohammadi and Daftari, Ekbatan, 2017). Studies show that one factor that plays a significant role in promoting students' prosperity is academic optimism (Mahdinejad, 2020).

Optimism is when a student has a positive belief that he can make a difference in his academic performance to solve the problems and respond to the failures flexibly by emphasizing his achievement, trusting the teachers, sense of identity towards the school, and believing in his potentials (Bostanci, Tosun, and Dogan, 2020). Students' academic optimism is a new field formed in time based on person-centered psychology, positive psychology, and using theoretical foundations of social cognition, Bandura's self-efficacy, and Seligman's definition of optimism. (Sadeghi, Abbasi, and Beiranvand, 2019). Academic optimism refers to traits such as collective efficacy, teachers' trust in students and their parents, predictors of more positive emotions, and low negative emotions (Bastens et al. 2020). Academic optimism consists of three components: Academic emphasis, Students' trust in teachers, and a sense of identity towards the school. According to the studies, happy and positive people have a pattern that facilitates positive emotions when interpreting events. Academic optimism increases one's motivation by allowing him to participate in the achievement process and positively affects students' academic, personal, social, and even citizenship performance (Pariya Srivastava, Mani, and Yadav, 2019).

Negative achievement emotions are also known to be among the influential factors in students' academic improvement (Hayat, Esmi, Rezaei, and Nabiei, 2017). Achievement emotions are the ones that are directly related to academic

Annals of R.S.C.B., ISSN: 1583-6258, Vol. 25, Issue 6, 2021, Pages. 01-07
Received 25 April 2021; Accepted 08 May 2021.

improvement activities or consequences (Pekran, 2006, Moosavi, Abolmaali Hossein, and Mirhashemi, 2017). There are two types of achievement emotions: Positive and negative emotions. Positive achievement emotions include enjoyment, hope, pride, and negative achievement emotions such as anger, anxiety, frustration, shame, and fatigue). Students with more positive emotions are energetic and high in spirit. In contrast, students with more negative emotions are anxious, worried, and low in energy (Sabbaghi, Karimi, Akbari, and Yarahmad, 2020). The level of happiness and positive thoughts is lower in students who experience more negative emotions daily and are less mentally stable (Sainio, Eklund, Ahonen, and Kiuru, 2019). Therefore, educational psychologists believe that students should acquire knowledge and cognitive skills during official educations and improve their knowledge of positive and negative emotions related to achievement and improvement (Sadeghi and Barzegar Befrouei, 2019).

Studies have shown that one of the effective ways to increase optimism and positive emotions is to use positive thinking training (Sadeghi and Beiranvand, 2019). Positive thinking is a kind of expectation of the outcome. An expectation of the fact that positive outcomes will happen, regardless of one's performance. Expectations are generalized throughout different spheres of one's life (Feldman and Kubota, 2015). Positive thinking is a state in which one learns to have optimistic and pleasant expectations about his performance and interpret it optimistically even in unpleasant events (Bekhet, 2017). People have different interpretations and analyses of one particular situation, depending on their different thoughts. Some may consider the situation catastrophic, while some consider it just an unpleasant situation (Matel-Anderson and Garnier-Villarreal, 2018). Some of the positive thinking training programs' primary aims are promoting mental health, improving potentials and intelligence activities, improving self-concept and self-confidence, increasing creative and critical thinking, reducing personal and social damages, and preventing violent and destructive behaviors, and developing social communications (Kwon, 2019). Positive psychology calls for change, from fixing damages to optimizing the quality of life (Seligman, 2019). Positive thinking is related to high levels of commitment and low levels of avoidance or non-commitment. Positive thinking comes with active steps to maintain one's health and leads to higher resilience in educational activities. Certain factors are associated with positive thinking, such as public beliefs about self-efficacy, luck, and social support (Kim, 2017). Therefore, as mentioned, the present research aimed to examine the effectiveness of the positive thinking training on academic optimism and negative achievement emotions in ninth-grade female students in Masjed Soleiman.

## Methodology

The present research was quasi-experimental with an experimental group and a control group, pre-test, post-test, and follow-up test and randomization. The statistical population was ninth-grade female students in Masjed Soleiman, from which 250 ninth-grade female students in Masjed Soleiman were selected by volunteer sampling, by the invitation of the researcher, and distributing announcements in schools. First, to select the samples, they gave academic optimism and negative achievement emotions questionnaires to the subjects. Then 30 of them, with higher standard deviation than the mean in the mentioned questionnaires, were selected as the primary samples during a supplementary diagnostic interview. In the next step, they were randomly assigned to the experimental group (n=15) and control group (n=15). In the experimental group, six of them (40%) had fathers with education lower than a high-school diploma, seven (46.66%) fathers with a high-school diploma, one (6.66%) associate's degree, and one(6.66%) bachelor's and higher. Furthermore, in the control group, seven of them (46.66%) had fathers with education lower than a high-school diploma, six (40%), a high-school diploma, one (6.66%), associate's degree, and one (6.66%) bachelor's degree and higher (to round the decimals, a total of percentages is 99.98%). Also, in the experimental group, seven of them (46.66%) had fathers with education lower than a high-school diploma, seven (46.66%) fathers with a high-school diploma, and one (6.66%) bachelors and higher. Furthermore, in the control group, four of them (26.66%) had fathers with education lower than high-school diploma, eight (53.33) high-school diploma, and three (6.66%) bachelor's degree and higher (to round the decimals, a total of percentages is 99.98%).

## Instruments

### Academic Optimism Questionnaire

This questionnaire was developed by Tschannen-Moran, Bankole, Mitchell, and Moore (2013, quoting Ghadampour, Amirian, Khalili Goshnigani, and Naghi Beiranvand, 2017). It has 28 items and three factors of students' academic emphasis, trust in teachers, and sense of identity towards school. The items of this questionnaire are scored based on a 5 point Likert scale (from 1=very little to 5=very much). The score range of this questionnaire is from 28 to 140, and

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Received 25 April 2021; Accepted 08 May 2021.

the highest score shows more academic optimism. The validity and reliability of the questionnaire in the study of Tschannen et al. (2013) were 0.93, 0.96, and 0.97 for each subscale. The reliability of the questionnaire in the study of Moradi et al. (2014) in Iranian students was 0.91, 0.86, 0.89 for each subscale, and 0.92 in total. Also, in the present study, the reliability coefficient of this questionnaire was calculated by Cronbach's alpha method of 0.73.

**Achievement Emotions Questionnaire (AEQ)**

This questionnaire was developed by Pekrun, Goetz, Titz, and Perry (2002, quoting Kadivar, Farzad, Kavosiban, and Nikdel, 2009). It has 155 items and three factors of achievement, exam, and class emotion. Fifty-two items of this questionnaire are related to negative achievement emotions, which were used in this study. The items of this questionnaire are scored based on a 5 point Likert scale (from 1=totally disagree to 5=totally agree). The score range of this questionnaire is from 51 to 255, and the highest score shows more negative emotions. The content validity of this questionnaire has been obtained by referring to the observation of some experts and professors of education and psychology (Kadivar et al., 2009). Also, Pekrun et al. (2002) reported the reliability of this questionnaire between 0.75 and 0.92. Kadivar et al. (2009) standardized this questionnaire for Iranian students and proved that the questionnaire structure is of acceptable value with the data by using confirmatory factor analysis. Kadivar et al. (2009) calculated Cronbach's alpha coefficients of the subscales between 0.74 and 0.86. In the present study, the reliability coefficient of this questionnaire was calculated 0.87 by Cronbach's alpha method.

## Execution process

After the research approval at the university and receiving the letter of recommendation, the researcher, following the health protocols, first went to the intended schools and identified eligible individuals who were willing to participate in the research (interview or filling out a questionnaire). Thirty people were selected to participate in the research; the questionnaires were distributed and then returned upon completion. During sampling, the researcher closely monitored the process of completing the questionnaires by the subjects and provided necessary explanations orally. These explanations included the right to choose to participate in the research, confidentiality of the participant's personal information, the importance of participating in the research, and a little information about the topic. In addition, they were asked to complete the questionnaires honestly and thoroughly.

The training sessions of the experimental group were held in groups, and the schedule of the sessions was determined according to the training aims. It was held once a week for an hour until the end of follow-up sessions. The purpose of holding follow-up sessions was to evaluate the effectiveness of provided positivity skills training, which included an educational package taught to students in 8 sessions, and in each session, several positive thinking skills were chosen and taught.

**Table 1:** Positive thinking training schedule based on Quilliam training package (2003, translation: Barati Sadeh and Sadeghi, 2007)

| Sessions | Topic | Training content |
|---|---|---|
| First | Establishing initial communication | Explaining the process, getting acquainted with the concept of positive thinking, dividing the subjects into six groups of 5 and getting acquainted with the group and its rules, assigning tasks for the next session |
| Second | Introducing the way thoughts and attitudes are made | Reviewing first session tasks, focusing on the fact that people create their thoughts and beliefs by referring to Adler's push-button technique and a verse from Noble Qur'an regarding some aspects of |

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|---|---|---|
| | | positive thinking, assigning the second session tasks |
| Third | Positive thinking training | Reviewing last session tasks, teaching positive thinking by challenging negative thoughts, changing mental images, using constructive language and revising beliefs, group discussions, assigning tasks for next session |
| Fourth | Increasing positive thoughts and positive feedbacks | Reviewing last session tasks, teaching positive thinking by institutionalizing positive thinking strategies in life, opportunities of positive thinking by coping and adapting to problems we cannot solve, assigning tasks for the next session |
| Fifth | Presenting positive thinking approaches | Reviewing last session tasks, teaching positive thinking by teaching how to stop thinking, relax and change attitudes, including obligation, restrain, and defiance, assigning tasks for the next session |
| Sixth | Presenting practical approaches to increase positive thinking beliefs | Reviewing last session tasks, bringing laughter to life, building confidence and good sports habits, telling jokes and pleasant memories, assigning tasks for the next session |
| Seventh | Practicing positive thinking | Reviewing last session tasks, practicing positive living by building a positive relationship, learning one's own and others' good points, coping with criticism, establishing good relationships with others, adopting a blame-free attitude, assigning tasks for the next session |
| eighth | Summarizing all sessions | Reviewing last session tasks and receiving feedback from the subjects, practicing the ability to trust their potentials, appreciating and thanking the subjects, conducting the post-test |

Annals of R.S.C.B., ISSN: 1583-6258, Vol. 25, Issue 6, 2021, Pages. 01-07
Received 25 April 2021; Accepted 08 May 2021.

## Data analysis

In the present study, univariate analysis of covariance (ANCOVA) and multivariate analysis of covariance (MANCOVA) was used to analyze data. SPSS-26 was used for statistical calculations.

## Findings

**Table 2:** Mean and standard deviation of academic optimism and negative achievement emotions in experimental and control groups, in three stages of pre-test, post-test, and follow-up test

| variables | Statistical index | Experimental group | | Control group | |
|---|---|---|---|---|---|
| | | Mean | Standard deviation | Mean | Standard deviation |
| Academic optimism | Pre-test | 96.47 | 8.44 | 98/13 | 9.13 |
| | Post-test | 105.4 | 8.35 | 98.27 | 9.27 |
| | Follow-up test | 105.8139.137 | 7.85 | 99.07 | 8.45 |
| Negative achievement emotions | Pre-test | 139.13 | 18.57 | 133.13 | 19.63 |
| | Post-test | 127.8 | 17.08 | 134.53 | 19.46 |
| | Follow-up test | 127.2 | 17.35 | 131.93 | 19.88 |

As it can be seen in Table 2, the mean (standard deviation) of academic optimism in the experimental and control group was 96.47 (8.44) and 98.13 (9.13) in the pre-test, 105.4 (8.35) and 98.27 (9.27) in post-test, and 105.87 (7.85) and 99.07 (8.45) in follow-up test, respectively. Also, the mean (standard deviation) of negative achievement emotions in the experimental and control group was 139.13 (18.57) and 133.13 (19.63) in the pre-test, 127.8 (17.08) and 134.53 (19.46) in post-test, and 127.2 (17.35) and 131.93 (19.88) I follow-up test, respectively.

**Table 3:** Results of multivariate analysis of covariance on the mean of academic optimism and negative achievement emotions post-test of the subjects in experimental and control groups

| Test name | Amount | F | DF | error | Significance level | Effect size | Statistical power |
|---|---|---|---|---|---|---|---|
| Pillai's trace | 0.855 | 95.8 | 2 | 25 | 0.001 | 0.88 | 1.00 |
| Wilk's lambda | 0.115 | 95.8 | 2 | 25 | 0.001 | 0.88 | 1.00 |
| Hotelling's trace | 7.66 | 95.8 | 2 | 25 | 0.001 | 0.88 | 1.00 |

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| Roy's largest root | 7.66 | 95.8 | 2 | 25 | 0.001 | 0.88 | 1.00 |

The contents of table 3 show that there is a significant difference between the experimental and control group in terms of dependent variables at the level of P ≤0.05, and we can say that there is a significant difference between at least one of the dependent variables (academic optimism and negative achievement emotions) of the two groups. Two MANCOVA were conducted to find out about this difference. According to the calculated effect size, 84 percent of all variances of the experimental and control groups is because of the effect of the independent variable. Also, the test's statistical power is 1.00; that is, the test could reject the null hypothesis with 100 percent power.

**Table 4:** results of MANCOVA on the mean of academic optimism and negative achievement emotions post-test of the subjects in experimental and control groups

| Dependent variable | Sum of squares | Degree of freedom | Mean square | F | Significance level | Effect size | Statistical power |
|---|---|---|---|---|---|---|---|
| Academic optimism | 562.26 | 1 | 562.26 | 113.44 | 0.001 | 0.81 | 1.00 |
| Negative achievement emotions | 1125.03 | 1 | 1125.03 | 103.34 | 0.001 | 0.79 | 1.00 |

According to the contents of table 4, the value of F for academic optimism was 11.44, which is significant at the level of P=0.05. Therefore, it can be said that positive thinking training has increased academic optimism in the experimental group compared to the control group. Also, the value of F for negative achievement emotions was 103.34, which is significant at the level of P=0.05. Therefore, it can be said that positive thinking training has reduced the negative achievement emotions in the experimental group compared to the control group.

**Table 5:** Results of multivariate analysis of covariance on the mean of academic optimism and negative achievement emotions follow-up test of the subjects in experimental and control groups

| Test name | Amount | F | DF | error | Significance level | Effect size | Statistical power |
|---|---|---|---|---|---|---|---|
| Pillai's trace | 0.846 | 68.51 | 2 | 25 | 0.001 | 0.84 | 1.00 |
| Wilk's lambda | 0.154 | 68.51 | 2 | 25 | 0.001 | 0.84 | 1.00 |
| Hotelling's trace | 5.48 | 68.51 | 2 | 25 | 0.001 | 0.84 | 1.00 |
| Roy's largest root | 5.48 | 68.51 | 2 | 25 | 0.001 | 0.84 | 1.00 |

The contents of table 5 show that there is a significant difference between the experimental and control group in terms of dependent variables at the level of P ≤0.05, and we can say that there is a significant difference between at least one of the dependent variables (academic optimism and negative achievement emotions) of the two groups. Two

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MANCOVA were conducted to find out about this difference. According to the calculated effect size, 84 percent of all variances of the experimental and control groups is because of the effect of the independent variable. Also, the statistical power of the test is 1.00. That is, the test was able to reject the null hypothesis with 100 percent power.

**Table 6:** results of MANCOVA on the mean of academic optimism and negative achievement emotions follow-up test of the subjects in experimental and control groups

| Dependent variable | Sum of squares | Degree of freedom | Mean square | F | Significance level | Effect size | Statistical power |
|---|---|---|---|---|---|---|---|
| Academic optimism | 495.81 | 1 | 495.81 | 61.85 | 0.001 | 0.70 | 1.00 |
| Negative achievement emotions | 806.56 | 1 | 806.56 | 46.7 | 0.001 | 0.64 | 1.00 |

According to the contents of table 6, the value of F for academic optimism was 61.85, which is significant at the level of P=0.05. Therefore, it can be said that the effect of positive thinking training on increasing academic optimism had continued in the experimental group in the 1.5-month follow-up phase. Also, the value of F for negative achievement emotions was 46.7, which is significant at the level of P=0.05. Therefore, it can be said that the effect of positive thinking training on the reduction of negative achievement emotions in the experimental group had continued in the experimental group in the 1.5-month follow-up phase.

## Conclusion

As mentioned earlier, the present research aimed to examine the effectiveness of the positive thinking training on academic optimism and negative achievement emotions in ninth-grade female students in Masjed Soleiman. According to table 4, the value of F for academic optimism was 113.44, which is significant at the level of P=0.05. This result is in line with the findings of Khademi and Kadkhodaei (2015), Zoleiji Hesari (2013), Moradi, Vaezi, Farzaneh and Mirzaei (2014), Boiler, Haverman, Westerhof, Reaper, Smit and Bohlmeijer (2013). Academic optimism refers to collective efficacy, teachers' trust in students and their parents, predictors of more positive emotions and low negative emotions. Academic optimism consists of three components: Academic emphasis, Students' trust in teachers, and a sense of identity towards the school. Academic optimism increases one's motivation by allowing him to participate in the achievement process and positively affects students' academic, personal, social, and even citizenship performance. In today's challenging world, it is vital to have energy, determination, passion, and optimism in all stages of life, and a positive attitude is known to be the most critical factor of success in successful people. These beliefs come from the positive or negative thoughts and mental impositions of people. Having a positive attitude and way of thinking makes us be lucky all the time and be among the successful people by seizing the opportunities. Humans have always been a seeker of ways to achieve happiness. They have always had the question of what brings him happiness and welfare. Positive psychology calls for a shift from repairing the damages to improving the quality of life. This movement seeks to benefit from people's strengths by using them as a shield against mental illnesses. In the last decade or two, the positive psychology approach has been noticed by many psychologists (Seligman and Sikzent Mihali, 2001). Generally, optimists have positive expectations for the future and expect to act reasonably and have good outcomes. Nevertheless, pessimists hold on to negative expectations and expect to act weakly and inappropriately in everything. In dangerous situations, optimists experience much less distress and seek to make the situation more pleasant. Those who justify bad events in a limited way, with external, unstable, and specific reasons, are described as optimistic, and those who choose internal, stable, and general reasons are described as pessimistic. Situational optimism is an expectation of a positive outcome for a particular situation. People with unrealistic optimism always expect success, regardless of their effort. These people will be vulnerable when facing an external barrier while trying to control events without having a solution or plan. Unrealistic optimism, if not exaggerated, can be helpful to some extent in fighting illnesses. Because unrealistic optimism or unrealistic positive thoughts helps the patients to focus on the positive aspects of their illnesses and ignore the negative ones, and this will prevent anxiety, depression, and numbness. However, in general, unrealistic positive thoughts have an invulnerable illusion that may prevent proper health

behaviors and degrade one's health to the extent that depends on health behaviors. In addition, according to the contents of table 6, the value of F for academic optimism was 61.85, which is significant at the level of P=0.05. Therefore, it can be said that the effect of positive thinking training on increasing academic optimism had continued in the experimental group in the 1.5-month follow-up phase.

According to the contents of table 4, the value of F for negative achievement emotions was 103.34, which is significant at the level of P=0.05. Therefore, it can be said that positive thinking training has decreased academic optimism in the experimental group compared to the control group. This result is in line with the findings of Schueller (2012), Lyubomeresky and Layous (2013), Guetz et al. (2007), and Pekrun et al (2005). Several theorists and scientists have provided several definitions for emotion. Pekrun et al. (2005) define emotion as a set of interrelated psychological processes that include emotional, cognitive, physical, and motivational components. Students experience different emotions in academic situations. Emotions are related to students' motivation, learning strategies, cognitive resources, self-management, and academic achievement and affect their psychological and physical health. The control-value theory of achievement emotions proposes a cohesive and synched framework for reviewing and analyzing the antecedents and consequences of emotions experienced in academic fields. Hence, researchers define emotions as a set of interrelated physical processes that include emotions, cognition, motivational and psychological components, and physiological responses. Academic emotions are the ones that are directly related to academic activities or results. Students with more positive emotions are energetic and high in spirit, whereas students with more negative emotions are anxious, worried, and low in energy. Pekrun (2006) identified particular emotions of learning, education, and academic achievement and presented them as "achievement emotions." Achievement emotions are the ones that are directly related to learning activities and results. It is usually challenging to express emotional states verbally, so they must have non-cognitive (non-verbal) causes. The experience of emotion can be created by non-cognitive methods, such as electrical stimulation of the brain with the activity of the facial muscular system. When doing life tasks, emotion drives behavior into a valuable and efficient way to evolve. For instance, after a baby is separated from his mother, crying for help is useful. Therefore, emotions and emotional behaviors are settled and innate methods available to animals to help them fight significant challenges and threats to their welfare. Thus, they give eight functions for emotion which are the following: protection, destruction, reproduction, unity, bonding, wisdom, exploration, and orientation. Humans have an appropriate and adaptive emotional response to every primary task of life. So the main responsibility of emotions is to prepare the organism for an automatic, swift, and historically successful response to the essential tasks of life.

Finally, it is necessary to point out some of the shortcomings of the present study. Subjects might have been affected by the test conditions because of answering so many questions (pre-test, post-test), and therefore their accuracy in answering might have been reduced. Covid-19 pandemic also led to a prolongation of the study because the subjects were trained in groups of 3 to follow the health protocols. This research has been done on female high-school students of Masjed-Soleiman, so it is suggested that a study on positive thinking training be conducted in female students in other cities and the chance of comparing the results. It is suggested that a study in this field be done on both genders (male and female) and compare the results to the present study.

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