



The Effect of Test Anxiety Psychoeducation Program on Test Anxiety and Irrational Beliefs *

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Abstract

This study aims to examine the effect of test anxiety psychoeducation program on test anxiety and irrational beliefs. In the study, a semi-experimental pattern with pretest and posttest control group was used, and 13 subjects were included in the experimental group, and in the control group who are 8th graders. In the data collection, the Test Anxiety Inventory and the Irrational Beliefs Scale were adopted. Ten weeks of test anxiety education was applied to the experimental group. No application was made with the control group. Mann-Whitney U test were used in independent groups in the analysis of the data gathered from 8th grade students. Research findings showed that test anxiety education has a significant effect on the reduction of test anxiety and irrational belief scores of students in the experimental group. Based on research findings interpretations were made and suggestions on application and research were developed. Based on the findings of the research, the students who experienced the test anxiety intensely were identified and the implementation of the psychoeducation program to cope with the test anxiety was recommended to guidance teachers.

Keywords

Test anxiety psychoeducation program
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Introduction

In adolescence, the individual enters into a biological, psychological, mental and social development (Santrock, 2012). The success of the developmental tasks highlighted in this development enables the person to enter young adulthood more easily. One of the developmental tasks of adolescents during this period is their educational success (Bacanlı, 2000). In educational success, studying, effective use of time, determination of purpose, test anxiety, thoughts affecting success in the test and decision-making skills are essential concepts (Ministry of National Education [MoNE], 2006). Because of the high school education entrance testing system in Turkey, educational success is considered as an essential factor in the educational future of children. One of the biggest concerns of students and parents is educational failure (Baltaş & Baltaş, 2016; Cüceloğlu, 2016).

Test anxiety plays a vital role in revealing educational success. In the school context, students are expected to be successful in examinations. Because of the significance of the test results in educational success, some people might feel perturbation, tension, and anxiety. Test anxiety is

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apprehension, restlessness and concern that students feel during an examination or a testing (Baltaş & Baltaş, 2016). According to Turkish Psychiatry Association (2019); it is a situation of deep anxiety that starts before and continues during the test, prevents successful use of learned information during the test and causes a decrease in success. In the studies, it is observed that the test anxiety negatively affects the success of the students, their academic performance (Cassady & Johnson, 2002; Chapell et al., 2005; Eum & Rice, 2011; Spielberger, Anton, & Bedell, 2015; Zeidner, 2007). It is emphasized that high expectations, negative studying habits, postponement, fear of evaluation and perceiving problem situations as catastrophic (pessimism) are the leading causes of test anxiety (Baltaş & Baltaş, 2016; Cüceloğlu, 2016). Some differences are naturally observed between the individuals who are concerned with the test and those who are not. The anxiety level is the average level of people who take the test as an opportunity to test their success, while individuals whose anxiety is above average level consider these situations as a threat (Baltaş, 2016; Cassady, 2004; Huberty, 2009). For example, the individual who perceive examination as an opportunity may think, "It does not matter if I succeed in this test, it will be the experience that is important to me, I will recognize myself as a result of the test, and I will learn some knowledge, and I will improve myself, no matter what." As opposed to this, the individual may think, "if I fail, I will become a disrespected individual," and "I will be disgraced in the eyes of my father." (Erkan, 1991). These anxious individuals develop unrealistic and pessimist thoughts about themselves in examination related situations. These negative thoughts are persuasive in thinking that they cannot cope with examination (Wong, 2008), and therefore increasing their anxiety.

Students who have deep test anxiety have irrational self-talk about failure and incompetence (Baltaş, 2016; Cüceloğlu, 2016). Some of these are: "I think I will fail", "My classmates are intelligent than me", "I see myself inadequate and incomplete", "If I take a low grade in this test I can never improve again", "Everything will be ruined with my test result", "I am an incompetent person", "How do I look at the faces of the people in the House?" as negative internal conversations (Uşaklı, 2000). In this context, one of the prominent reasons for test anxiety is irrational beliefs (Baltaş & Baltaş, 2016). When we look at the literature, irrational beliefs are primarily included in educational programs aimed at overcoming the test anxiety. The aim of this is to reduce students' irrational beliefs, increase their positive point of view in pre-and post-test processes, and change negative thoughts that are attributed to the test. Cognitive and behavioral approaches in this direction are effective in reducing test anxiety (Ergene, 2003).

According to Ellis (2007) who is one of the defenders of the rational-emotive behavior therapy (REBT), which includes the concept of irrational beliefs, our anxieties are mainly influenced by our beliefs and evaluations. According to REBT, the present and past experiences are correlated with the current emotions, but these experiences do not directly affect the individual's feeling of good or bad. The factors that affect directly are emotions, beliefs, and evaluations about those experiences. Therefore, when the individual changes his/her attitude about what he/she reminisces about an event, he/she feels and thinks differently in the face of it. Thus, the behavior in this situation also changes (Ellis, 2007). Rational beliefs are beliefs that are consistent with reality, logical, have a positive effect on the mental health of the individual and that enable the individual to achieve significant goals. Beliefs that are not rational are firm, inconsistent with reality, irrational, adverse effects on the mental health of an individual and diversify the individual from his or her personal goals. In order to change irrational thoughts, these ideas need to be recognized, addressed, and changed. This requires effective and continuous efforts (Corey, 2005; Ellis, & Harper, 2009; Ellis, 2007, 2008; Köroğlu, 2012, 2015).

Research on test anxiety and irrational beliefs shows that cognitive distortions, inconsistent thoughts with reality, and irrational beliefs (Boyacıoğlu & Küçük, 2011a, 2011b Coşkun, 2017; Ejei & Lavasani, 2011; Dilorenzo, David, & Montgomery, 2007, 2011; Güler & Çakır, 2013; Montgomery, David, DiLorenzo, & Schnur, 2007) have a direct relation to test anxiety. Thus, we emphasized irrational beliefs occasionally throughout the test anxiety psychoeducation programme in addition to covering it in an independent session. Research has shown that psychoeducation programmes decrease students' test

anxiety (e.g., Aydın & Aydın; 2020; Bozanoğlu, 2004; Genç & Kutlu, 2018; Gündoğdu, 2013; İşlek, 2006; Karataş & Tagay, 2019; Kaya & Bedir, 2019; Özdemir, 2005; Türk & Katmer, 2019; Uşaklı, 2000; Yurdabakan, 1999) and irrational beliefs (e.g., Çivitci, 2005; Türk & Katmer, 2019; Yıkılmaz & Hamamcı, 2011; Yılmaz & Duy, 2013; Ulusoy & Duy, 2013). In the present study, we formed a psychoeducation group. Focusing on preventive and developmental guidance and counselling, psychoeducation groups generally follow programmes with learning outcomes based on development of skills. As such, psychoeducation programmes are widespread at schools in attaining cognitive-behavioral objectives/outcomes (Güçray, Çekici, & Çolakkadıoğlu, 2011; Korkut, 2017).

In guidance and counseling services, the fields of educational and personal-social development of the students are in close relationship with each other. It is thought that their achievements in the field of educational success in adolescence will contribute not only to their competence in educational success but also to their personal-social development. These psychoeducational studies are expected from field workers (MoNE, 2006). Therefore, the results obtained from this research are expected to lead to the creation of the content of the programs that psychological counselors in schools will prepare within the framework of educational success gains. In this context, the research aims to investigate the impact of the test anxiety education program on test anxiety and irrational beliefs. The independent variable of the study is the test anxiety psychoeducation program. The dependent variable is the test anxiety and irrational beliefs.

Depending on the general purpose, the following hypotheses were examined.

Hypothesis 1. The difference between the test anxiety pre-test and the post-test scores is significant in favor of the experimental group.

Hypothesis 2. The difference between the irrational pre-test and post-test scores differs significantly in favor of the experimental group.

Method

Research Model

In this study, an unequalized control group model, which is part of the semi-experimental design of experimental research, was used. In cases where the controls required by true experimental design cannot be provided, semi-experimental designs are used (Büyüköztürk, 2006, 2014a; Karasar, 2017). Taking into consideration the factors that could affect the validity of the study, the pre-test scores, gender, age, class, and number of participants were elaborated as similar as possible. Before the experiment, both groups were subjected to the Cognitive Test Anxiety Scale and Irrational Beliefs Scale. Test Anxiety Psychoeducation Program was applied to the experimental group, and no process was applied to the control group. At the end of the programme, the scales were re-applied to both groups.

Study Group

The subjects included in this study were determined voluntarily from eighth-grade students of a middle school in the Maltepe district of Istanbul Province in the 2018-2019 academic year. First of all, the cognitive test anxiety scale and irrational beliefs scale for adolescents were applied to 210 students who were educated in eighth grade. The average of the scores obtained from the cognitive test anxiety scale and irrational beliefs scale for adolescents was determined, and the interviews were done with 40 students who scored above the average and the parents of 40 students about the education program. After the interview, a 13-person experimental group and a 13-person control group were formed. The experimental group consists of seven male and six female students, and the control group consists of six male and seven female students.

Data Collection Tools

Test Anxiety Inventory (TAI)

The test anxiety inventory (TAI) was developed in 1980 by Spielberger and a group of Ph.D. students to measure the individual's anxiety during a test or evaluation (Öner, 1990). Inventory was adapted to Turkish under Öner's management in 1983-1986. The creation and reliability of the Turkish form of the scale was published in the guidebook of the inventory in 1990 (Öner, 1990). The internal consistency of the inventory adapted to Turkish was found to be between the highest 0.89 and lowest 0.73 alpha values. The inventory has "bodily symptoms" and "worry" sub-dimensions. "Bodily symptoms" subscale highlights the stimulation of the autonomic nervous system, which forms the physiological aspect of the test anxiety while "worry" subscale highlights the cognitive aspect of test anxiety. TIA consists of 20 sentenced questioning items. On the right side of the items, there are four options; (1) hardly ever, (2) sometimes, (3) often, (4) almost always in the form of answer choices and directions. The highest score can be obtained from the inventory is 80, and the lowest score is 20. At the end of the measurement, three separate points are obtained: A total or whole test score (TIA-T), which is the combination of the Worry score (TIA-W), Bodily symptoms score (TIA-BS) (Öner, 1990).

The Irrational Beliefs Scale (IBS-A)

The IBS-A used in the study was developed by Çivitci (2006) to measure the level of irrational beliefs of Turkish students in early adolescence (11 to 15 years old). The IBS-A consists of a total of 21 positive items and 3 subscales, including the demand for success subscale, the demand for comfort subscale, and the demand for respect subscale. The IBS-A consists of response options rated on 5-point Likert-type scale as follows: (1) strongly disagree, (2) somewhat agree, (3) neutral/no opinion, (4) agree, and (5) strongly agree. The total score on the scale could range from 21 to 105. In the analysis for internal consistency of the IBS-A, were also good enough; .62, .61, .57 and .71 respectively. Test-retest reliability coefficients were all satisfying; $r = .84$ for demand for success, $r = .75$ for demand for comfort and $r = .67$ for respect and $r = .82$ for the total of it (Çivitci, 2006).

Procedure

The questionnaire was conducted in the first semester of the 2018-2019 academic year. In determining the students who will participate in the education program, 210 students who were educated in eighth grade were applied a test anxiety inventory and irrational beliefs scale. The students who received high scores from the scale and parents of the students were interviewed, and the experimental and control group of 13 people was formed based voluntarily. The education program was carried out to the experimental group during the counseling hours, one session each week. While preparing the psychoeducation program, test anxiety education programs have been studied. This research was based on the Test Anxiety Psychoeducation Program, prepared by Yurdabakan (1999), for eighth-graders. Besides this program, Acar (2013) and the MoNE (2006) activities have been utilized. Psychoeducation was carried out in the school's multi-purpose room. In order to increase the interaction of the group, physical arrangements were made and an environment where group members could sit in the U-shape was provided. This environment has provided the increasement of the interaction of the group members and their ability to follow the activities and role playings easily. In the process; narration, discussion, demonstration, case study examination methods and techniques were used. The program has consisted 10 sessions, each of which is 50 minutes. For each participant study files were prepared which includes worksheets, papers, pen and pencils and their name tags. This files were distributed to participants at the beginning of the first session and were asked to keep the studies done until the end of the education, to take notes and to transfer their feelings and thoughts to the papers. As a result of this was beneficial to summarize the sessions and to ensure the permanence of what have been learned. In the end of every session, participants were asked to express their feelings and thoughts about the session. Beginning from the second session, it was aimed to establish a link between the sessions by summarizing by the group members and leader at the beginning and end of each session. Participation certificates prepared at the end of the training program were distributed.

In the sessions, aims and earnings given below were included.

Session 1

1. To know the general purpose of group guidance and the rules to be followed in the group,
2. To understand basic concepts of anxiety and test anxiety
3. To understand the relation between anxiety and success

Process: Students were explained the general purpose, principles and rules to be followed. In order to meet and warm up the group process, "Who named me?" activity was implemented. Topics to be covered during the sessions were introduced. Concepts of anxiety and test anxiety were covered and the relationship between anxiety and achievement was specifically emphasized. The benefits of optimal anxiety were discussed.

Session 2

1. To realize the bodily changes that occur during examination and while preparing for the examination
2. To understand specifications of relaxation techniques to cope with test anxiety
3. To be able to apply relaxation techniques to cope with test anxiety

Process: In order to get to know the needs of the group members and to realize their needs, "Who am I, what do I want to be?" activity was held. In this activity, the members of the group were asked to close their eyes and look for answers to "who I am" and "what I want to be". Then the opinions of the group members were got. Physical, emotional and mental effects of anxiety were discussed with the students. "The right breathing technique", which is one of the anxiety reduction techniques, was taught. Application of the technique were given as homework 10 times a day until the next session.

Session 3

1. To be able to realize the needed changes to create a good studying environment
2. To be able to take the necessary precautions in order to continue studying effectively.

Process: The students were asked about the reasons that made it difficult for them to start and continue studying, and their answers were listed on the board. The characteristics of the study environment and how should it be discussed with comparison of what they have. The reasons for the distraction when they are studying were emphasized. Information was given about the efficient study methods.

Session 4

1. To be able to understand criterias which can be used to determine priorities about life
2. To be able to create plan charts for short-term, middle term and long term aims about life

Material: Do you know Ali? Text

Process: What would you like to achieve and which point you would like to reach ten years later in your life?" questions was asked to students and based on their answers which popped up in their mind they were asked to create a list of life goals. They were then asked to write a yearly plan and what they should do this month. The written list was then numbered in order of importance. A new list was created with short, medium and long term objectives from the first two article of each list. The session was terminated by interpreting the text "Do you know Ali?".

Session 5

1. To be able to use time according to priorities
2. To be able to develop an understanding about the reasons of time loss and how to eliminate those reasons
3. To be able to prepare daily and weekly studying schedules

Process: The group were asked what they wanted to do in a day and their answers were listed on the board. Then, each member of the group, was asked to evaluate these activities in order of

importance as A, B, and C. Emphasis was placed on the difference in the importance of the activities, and that the work programs should be individual. Then, factors that may cause time loss were emphasized. They were asked to create a daily study plan based on what they learned until the next session.

Session 6

1. To be able to understand methods developed for effective listening
2. To be able to understand the importance of fast and effective reading technique

Process: Study programs have been revised. The tips of being a good listener and taking efficient notes were emphasized. Those who took notes in the group were asked how they took notes, and their shares were taken on how it was useful to take notes. Then, what to consider about effective reading was shown, the contribution of reading with the help of pen or finger on reading speed was demonstrated by sample applications.

Session 7

1. To be able to apply methods that are developed for 'Effective reading'

Process: In this session, the method of watch, ask, read, tell and repeat method, which will increase efficiency in reading and learning, facilitate preparation for exams and increase success, was applied on sample texts. Students were asked to study with this method for their lessons next week.

Session 8

1. To be able to understand mental regulation technique used to regulate irrational thinking model

Material: A-B-C form, Negative-Positive thoughts form

Process: A-B-C model was explained to the group members and samples were studied. It was emphasized that our concerns were mainly influenced by our beliefs and evaluations. Therefore, if the individual changes his / her mind about an event, it was discussed through examples that he might feel different about that event. Various examples were given on the form and on the board for students to grasp this method. The students were given a form in which negative thoughts were written and asked to write the rationalist thought against them. In this form, irrational thoughts such as "I will not be successful in this exam, everything will be terrible at the end of this exam, I can forget everything I know during the exam" were given, they were asked to replace these sentences with rational thought and shared at the end of the activity.

Session 9

1. To be able to list the points to watch during a exam.
2. To be able to follow the points to watch during a exam.

Process: With students, the most important points to be considered in school exams and high school entrance exam were emphasized. The extent to which they apply these points necessary for their success are discussed with the sharing of the group members.

Session 10

1. To be able to evaluate the group process and self
2. To be able to separate emotionally from the group
3. Application of post-tests and ending the program with the distribution of certificates.

Process: A general evaluation of all sessions was made. The members of the program were reminded about the purpose of the program and their opinions on whether these goals achieved or not were discussed. Feelings and thoughts about the process were taken. Certificates were distributed by applying the posttests.

Analysis of Data

Nonparametric analyses are used for the statistical analysis of the data obtained from the research, since the number of the students in the experimental and control groups are less than 30 and the scores obtained by the groups do not have a normal distribution. The experimental and control groups were applied a pretest and a posttest before and after the test anxiety psychoeducation program, respectively. Whether there is a significant difference between the coping strategies scores of the experimental and control groups is checked using the Mann-Whitney U test for unrelated groups. Moreover, the difference (acquisition) scores of the experimental and control groups are compared and the effect of the experiment is observed (Büyüköztürk, 2014b). The data obtained from the pretests and posttests of the experimental and control groups are analyzed with the packaged software SPSS-WINDOWS 25.0.

Results

In this section, the findings obtained as a result of the analysis of the scores obtained from the Test Anxiety Inventory and Irrational Beliefs Scale are given. "Mann-Whitney U test test was used to test the difference between pre-test scores test anxiety and irrational beliefs of the students in the experimental and control groups. The findings are given in Table 1.

Table 1. Mann-Whitney U Test Results of Test Anxiety and Irrational Beliefs of the Experimental and Control Groups

Scale	Group	N	Mean Rank	Sum of Rank	U	P
Test Anxiety	Experimental	13	12.50	162.50	71.50	.504
	Control	13	14.50	188.50		
Irrational Beliefs	Experimental	13	13.58	176.50	83.50	.959
	Kontrol	13	13.42	174.50		

There was no significant difference between the test anxiety pre-test scores (U: 71.50, $p > 0.5$) and the pre-test scores of irrational beliefs (U: 83.50, $p > 0.5$). When these results are examined, it can be said that there was no difference between the groups in terms of pre-test mean averages and that they were equal to each other before starting the trial.

The numerical distribution, the arithmetic means and standard deviations of the pretest-posttest scores of the experimental and control groups, are given in Table 2.

Table 2. Test Anxiety and Irrational Beliefs Pretest-Posttest Mean and Standard Deviation Values of Experimental and Control Groups

Group	Ölçümler	N	\bar{X}	Ss
Experimental	Test Anxiety Pretest	13	61.92	8.29
	Test Anxiety Posttest	13	37.61	8.38
	Irrational Beliefs Pretest	13	67.46	16.31
	Irrational Beliefs Posttest	13	52.76	13.48
Control	Test Anxiety Pretest	13	63.46	5.74
	Test Anxiety Sontest	13	55.69	6.82
	Irrational Beliefs Pretest	13	67.46	15.32
	Irrational Beliefs Posttest	13	66.54	16.18

The pre-test scores of the post-test scores of the test anxiety and irrational beliefs scales were subtracted and the difference scores were found to test the research. Mann-Whitney U test was used to test the significance of the difference scores of the experimental and control groups (Büyüköztürk, 2014b). The results of the test anxiety and irrational beliefs scores are presented in Table 3.

Table 3. Mann Whitney U-Test Results related to Test Anxiety and Irrational Beliefs Pretest-Posttest Difference Scores of Experimental and Control Groups

	Grup	N	Mean Rank	Sum of Rank	U	P
Test Anxiety	Experimental	13	9.00	117.00	26.00	.003*
	Control	13	18.00	234.00		
Irrational Beliefs	Experimental	13	9.42	122.50	31.50	.006*
	Control	13	17.58	228.50		

* p < .05

Examining Table 3, in terms of difference-acquisition scores in the test anxiety and irrational beliefs, there is a significant difference between the experimental and control groups in favor of the experimental group (U: 26.00 p<.05; U:31.50 p<.05). According to these results, it can be said that the psychoeducation program is an important factor in decreasing the scores of test anxiety and irrational beliefs of the students in the experimental group.

Discussion, Conclusion and Suggestions

The purpose of this study is to examine the effects of test anxiety psychoeducation program on eight grade students' test anxiety and irrational beliefs. According to the findings of the study, the students who participated test anxiety psychoeducation program have reported a decrease in test anxiety. The results obtained from the study corroborate the findings of other studies (Aydın & Aydın; 2020; Bozanoğlu, 2004; Genç & Kutlu, 2018; Gündoğdu, 2013; İşlek, 2006; Karataş & Tagay, 2019; Kaya & Bedir, 2019; Özdemir, 2005; Türk & Katmer, 2019; Uşaklı, 2000; Yurdabakan, 1999). The eighth grade which is the period of high school entrance examination will be done is the beginning of the period in which students encounter the most intense stress of tests. Cognitive and behavioral intervention studies in this period are acknowledged to be effective (Ergene, 2003). In this context, it is considered that the teaching of relaxation techniques in the content of the education program, the development of proper studying habits, the determination of goals, time management studies, the development of cognitive regulating techniques and the development the skills they need to pay attention to in order to be successful in exams is effective in achieving this result. Teaching the ability to cope with the test anxiety contributes significantly to students ' perception of the tests as less threatening while increasing their capabilities.

The second finding of the study shows that the psychoeducation program is effective in decreasing the irrational beliefs of the students in the experimental group. This finding supports findings of prior research showing the effectiveness of psychoeducation on reducing irrational beliefs (Çivitci, 2005; Türk & Katmer, 2019; Yıkılmaz & Hamamcı, 2011; Yılmaz & Duy, 2013; Ulusoy & Duy, 2013). It is considered that emphasizing positive thoughts instead of negative thoughts that increase anxiety and cognitive regulating techniques in the education program is effective in achieving this result. Studies on A-B-C model in mental regulation techniques which shows the relation between thought, emotion and behavior have conducted. Emphasis was placed on the irrational way of thinking that causes the test anxiety. It was emphasized that recognizing irrational thoughts and changing the perspective affect emotions and behaviors. It is thought that the reasons for the decrease of the students ' anxiety and their irrational beliefs related to the anxiety are effective, such as following themselves during the education period, trying to control their thoughts, behavior, and emotions. The fact that the student is away from irrational beliefs contributes to focusing on the test and increasing the test performance. It is useful for other members to observe that they have emotions, beliefs, and behaviors similar to their own in the group process. Therefore, instead of perceiving the examination cases as intolerable situations, they consider themselves more competent to deal with the situation.

When the results of the research were evaluated in general, it was concluded that the test anxiety psychoeducation program applied to eighth-grade students was effective in reducing test anxiety and irrational beliefs scores. The only students included in this study is one of the limitations of this study. In the new studies, test anxiety education studies can be carried out, which includes families (Eker, 2016) and teachers (Aydoğmuş, 2016) emphasized in the research that is effective in the test anxiety. The other limitation is that the study did not take monitoring measures for the persistence effect. Research findings also contribute to the field of application. Test anxiety holds an important place in educational success achievements part of prevention counseling and psychological counseling services. It is recommended for counseling teachers to determine the students who have deep test anxiety and apply the psychological education program, also apply practices on relaxation techniques, right studying habits, determining aims, time management etc. and giving place to regulation of irrational thoughts which is a subject holds an important place in test anxiety proved by researches in program to cope with test anxiety. Psychoeducation studies based on skill training in test anxiety are essential in preventive and developmental counseling services.

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