

Original Article

Comparison of Effectiveness of Transactional Analysis, Exposure and Response Prevention and Intensive Short Term Dynamic Psychotherapy on Students' Academic Anxiety

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Abstract

Background and Aim: Academic anxiety is the anxiety that occurs during student learning and is the most important type of anxiety in adolescence. This study aimed to compare the effects of transactional analysis, exposure and response prevention, and intensive short-term dynamic psychotherapy on reducing academic anxiety among students in Tehran.

Materials and Methods: The present study was a semi-experimental pre-test and post-test with the control group. The statistical population of this study was all male students of second-grade high school in Tehran. 60 subjects were selected by purposive sampling method and were placed in three experimental groups and one control group (each group=15). Data were collected using Phillips Anxiety Test. Data analysis was performed by multivariate and univariate analysis of covariance by SPSS software version 22.

Results: The results of exposure and response prevention and the intensive short term dynamic psychotherapy were effective in reducing students' anxiety ($P < 0.001$). The effect of intensive short term dynamic psychotherapy treatment on reducing students' anxiety was more than exposure and response prevention treatment, as the adjusted mean of the intensive short term dynamic psychotherapy group was lower than the adjusted mean of the exposure and response prevention group ($P < 0.001$). Considering that the mean difference between the transactional analysis group and the control group was not significant, it can be said that the transactional analysis treatment was not effective in reducing students' academic anxiety.

Conclusion: The results of this study show that all three treatments of transactional analysis, exposure and response prevention, and the intensive short term dynamic psychotherapy can be effective in reducing anxiety symptoms in students, but their effectiveness is different. The most effective treatment was the intensive short term dynamic psychotherapy, and the least effective method was transactional analysis. In explaining this finding, it can be stated that in the intensive short term dynamic psychotherapy method all the existential aspects of the conscious and non-conscious person are explored, and the person becomes mastered, it has had more effect.

Keywords: Academic anxiety, Exposure and response prevention, Intensive short-term psychotherapy, Transactional analysis

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Introduction

Anxiety is one of the factors that affect students' well-being (1). One of the types of anxiety is academic anxiety which is characterized as an undesirable emotional state that is characterized by distress and concern and is formed by situational and trait factors and its main source is fear of assertiveness and lack of self-confidence (1). Academic anxiety consists of four components including academic anxiety, fear of assertiveness, physiological reactions, and lack of self-confidence. Academic anxiety is the anxiety that occurs during student learning and is the most important type of anxiety in adolescence (1).

Most cognitive theorists emphasize that anxiety disorders result from inappropriate beliefs. Alice believes that human is not anxious by external objects but by defective thoughts. The person is inherently feeling inadequate and worthless and cannot face the dangers of threat (2). Some therapists have emphasized metacognition in the treatment of generalized anxiety disorder. One of the theories that have attracted the attention of many researchers for the treatment of mental disorders is the theory of transactional analysis (TA). TA is a transactional treatment approach that emphasizes the cognitive, rational, and behavioral aspects of the treatment process and aims to increase people's awareness and ability to make new decisions thereby changing their lives (1). Results showed that TA had a significant effect on reducing anxiety syndrome and increasing self-esteem, and patients were more likely to use their adult personality and supportive parenting after treatment (2).

The person with anxiety disorder usually tries to avoid situations in which they may be evaluated, and symptoms of anxiety appear or act in ways that make them feel embarrassed. Another cognitive-behavioral therapy used to treat anxiety is exposure and response prevention (ERP) techniques (3). The ERP method consists of two separate parts. The first part

of Exposure, which can be done in imagination, is placing the patient in imaginary situations (mental imagery) in situations that arouse anxiety associated with their anxiety (4). The purpose of this method is that the patient faces fear to reduce her anxiety responses. This hierarchical exposure can be on the level of reality or imagination. The second part of this method is Response Prevention. In research, the effectiveness of the regular desensitization method on test anxiety and academic performance was tested by age control in female students. The results showed that the regular desensitization method reduced test anxiety and increased the academic performance of female students in the experimental group compared to the control group (5).

The intensive short term dynamic psychotherapy (ISTDP) perspective derives from the Freud psychoanalysis model designed and developed by an Iranian scientist named Dovanlou at McGill University in which the long-term, ineffective, unorganized, and uncertain method of analytical psychology is converted to a short-term, effective organized and certain (6). In this context, Malan stated that Freud discovered the unconscious, and Dovanlou discovered how to use it for treatment (6). According to Malan, following Freud's discovery of the unconscious, this method is the greatest advance in psychotherapy (7). This therapy method is called dynamic therapy, which, like analytical psychology placed the experience of real emotion, overcomes resistance and attentive attention to transmission phenomena as the basis of its work. The focus of this therapy method is on the therapeutic relationship and the nature of the disclosure (8). This treatment helps patients adjust their anxiety and change their defenses so they can deal with the emotions they have avoided. Mowlaie, Hajloo, Sadeghi Hashjin, Mikaieli, and Heidari (9) investigated the effectiveness of short-term dynamics therapy on reducing anxiety syndrome in students and the results showed that training had a significant effect on reducing anxiety.

It is widely seen that students who are at the same

level of learning ability exhibit different academic performance when examining and learning pre-exam content. Many students, despite their good ability to continue their education, suffer from academic failure and in some cases are forced to drop out. There are many factors involved in this issue, and academic anxiety is one of the most important ones. Research findings show that academic anxiety can affect student performance. It is noteworthy that variables have been studied separately in different research, but so far no research has been conducted to compare the effectiveness of training methods. To determine how and to what extent each of these variables affects students' academic anxiety and the effectiveness of which method is more effective in controlling academic anxiety, it is necessary to investigate this research. Also, given that some of these studies have been done outside of Iran and with different cultures, the necessity of investigating this research in the cultural and educational context of Iranian society cannot be ignored. The purpose of the present study was to compare the effectiveness of three methods of TA, ERP, and ISTDP on reducing academic anxiety in students.

Materials

The present study was a semi-experimental pre-test and post-test with the control group. The statistical population of this study was all male students of second-grade high school in Tehran during 2016-17. Of these, 60 subjects were selected by purposive sampling method and were placed in three experimental groups and one control group (each group of 15). The required sample size was calculated 60 in total based on effect size = 0.40, $\alpha=0.95$, $1-\beta$ (err prob) = 0.80 test power and 10% loss for each group. Inclusion criteria were patients with irritable bowel syndrome (based on medical records) 15 to 17 years old, having the ability to participate in treatment sessions, giving informed consent to participate in the study. Exclusion criteria included reluctance to complete the course or complete the questionnaire, and refusal to continue attending and continuing the sessions. The study took two and a half months. The first group was exposed to short-term psychodynamic training for ten

sessions. The second group was exposed to the interaction behavior training method for ten sessions and the third group was exposed to the imaginary exposure and response prevention method for five sessions, but the control group did not receive any training.

The ethical considerations of the present study were as follows: all subjects received written information about the research and participated in the research if they wished. This assurance was given to individuals that all information is confidential and will be used for research matters. Participants' names and surnames were not registered to respect their privacy. Also, after the end of the study, more effective treatment was performed for the patients in the control group. The following tools were used in the research.

Academic Anxiety Inventory (AAI)

Academic anxiety inventory has 52 items and measures 4 areas of fear of assertiveness, test anxiety, lack of self-confidence, and physiological reactions (10). The subject received a score of 3 for each yes response, 2 for sometimes, and 1 for no, and the total score is obtained from the sum of the scores on these four components. Abolmaali *et al.* (10), based on the triple evidence of face validity, concurrent criterion, and constructs validity, confirmed the validity of this test, and calculated its reliability as 0.93. In this study, a retest method with intervals of three weeks was used and the reliability was obtained equal to 0.80. Also, using Cronbach's alpha, the reliability of each subtest was found which be 0.80 for fear of assertiveness, 0.87 for test anxiety, 0.70 for lack of self-confidence, and 0.78 for physiological reactions, respectively.

In the first stage before the intervention, the schools were selected and after explaining the purpose of the study, (pre-test) academic anxiety questionnaires were given to the four groups. The second stage, the follow-up test was after the training (post-test) and after 2 months to inform the sustainability of the training. Interventions were performed in the following ways. The first group (control) did not receive any intervention between the two stages and received no training practice. In the intervention, the second group received 10 sessions of TA training course, the third group, ERP for 5 sessions, and the fourth group received 10 sessions of ISTDP. The description of intervention sessions is presented in Table 1.

Table 1: Description of intervention sessions.

ISTDP method	TA method	ERP method
Session 1- Getting to know the anxiety and the physiological states that follow	Session 1- Getting to know the anxiety	Session 1- Getting to know the anxiety and the physiological manifestations associated with it
Session 2- Getting to know the main and tactical defenses	Session 2- Getting to know the parent-adult-child mental states	Session 2- Relaxation training with mental imagery
Session 3- Asking the subjects about their anxiety and clarifying the physiological states that they will experience.	Session 3- Describing and discovering the contaminants	Session 3- Encouraging subjects to mental imaginary of anxious situations at a moderate level and to act relaxation after the emergence of anxiety symptoms
Session 4- Identify common defenses of each subject	Session 4- Rubber cache	
Session 5- Encouraging subjects to set aside defenses and challenge their defenses	Session 5- Hide messages and nonverbal behavior	
Session 6- Facilitating the experience and touch of emotion and challenge the with defenses in the session	Session 6- Petting and petting filters and discovering desired petting for each subject	
Session 7- Trying to transition resistance	Session 7- Draft of life and deterrents	
	Session 8- Destructive and Genuine feelings	
Session 8, 9, and 10- Analysis of resistance and transmission and clarification of the transmission process	Session 9- Psychological games	Sessions 4 and 5- Narration of anxious situations in step-by-step and regular modes and prevention of response to reduce sensitivity
	Session 10- Clearing and psychological games and challenging with them	

For data analysis, mean and standard deviation, analysis of covariance, and the Bonferroni test were used. It is worth noting that to investigate the assumptions of the inferential test, Levene's test (to investigate the homogeneity of variances), Kolmogorov Smirnov test (to evaluate the normality of data distribution), M-box test, and Mauchly spherical test were used. Statistical analysis was performed using SPSS software version 22.

Results

Descriptive results of the present study (i.e., means, Standard Deviation (SD),) are presented in Table 2. To determine the statistical significance of the difference between academic anxiety scores between the four study groups, a Multivariate Analysis of Covariance (MANCOVA) was applied. To meet the

study assumptions, the results of Box's M test and Levene's test were checked before performing MANCOVA. The Box's M test was not significant for any of the study variables (Box's $M=10.99$; $df=12$; $p>0.05$), so the assumption of homogeneity of variance-covariance matrices was correctly met. The non-significance of any of the variables in Levene's test showed that the assumption of intergroup variance equality was also met and that the amount of dependent variable error variance was equal in all groups. The results showed that the three experimental groups and control groups were statistically different in terms of academic anxiety. It is worth mentioning that the results of the Wilks Lambda test (0.06) and F-test (34.67) indicated significant differences between the three experimental groups, and control in terms of academic anxiety ($P<0.0001$).

Table 2: Mean and standard deviation of anxiety variable and its components.

Variables	Index	Pre-test				Post-test			
		ERP	ISTDP	TA	Control	ERP	ISTDP	TA	Control
Anxiety	M	39.20	10.60	40.66	30.61	29.06	29.13	34.33	30.33
	SD	1.26	1.59	2.16	4.83	5.89	5.22	6.11	4.80
Academic anxiety	M	11.46	12.00	11.13	8.46	8.13	9.66	9.73	8.46
	SD	0.99	0.84	1.55	1.50	2.32	1.75	1.98	1.64
fear of assertive	M	11.73	12.20	12.40	9.84	8.60	9.33	10.26	9.60
	SD	1.27	1.32	0.98	2.37	2.44	1.91	2.05	2.55
fear of assertive	M	11.73	12.20	12.40	9.84	8.60	9.33	10.26	9.60
	SD	1.27	1.32	0.98	2.37	2.44	1.91	2.05	2.55
Lack of self-confidence	M	9.13	8.73	9.13	7.61	7.46	6.33	8.26	7.66
	SD	0.83	0.59	0.35	1.26	1.68	1.34	1.27	1.17
Physiological reaction	M	6.86	7.80	8.00	4.69	4.86	3.80	6.06	4.60
	SD	1.68	0.86	0.75	1.25	1.64	1.14	1.75	1.18

According to the results of Table 3, after adjusting the pre-test scores, the difference between the three experimental and control groups in the academic anxiety variable with a significance level ($P > 0.05$) was confirmed. Covariance analysis was also used to investigate the differences between the methods of training in TA, ERP, and ISTDP in reducing the components of students' academic anxiety, the results of which are presented in Tables 4 and 5.

In Table 4, the results of the multivariate analysis of covariance for comparing the 3 experimental and control groups in the components of academic anxiety show that there is a significant difference between the three experimental and control groups

with a significance level of 0.001, that is, the effect of ERP, ISTDP and TA treatments were significant on the linear combination of the components of academic anxiety. The results of univariate analysis of covariance in the context of multivariate analysis of covariance are presented in the table below to determine which components of academic anxiety have significant differences among the four studied groups.

According to the results of Table 5, after adjusting for pre-test scores, the difference between the three experimental and control groups in all four components of academic anxiety (test anxiety, fear of assertiveness, lack of self-confidence, and

Table 3: Results of univariate analysis of covariance for comparing the four studied groups in the academic anxiety variable.

Changes source	SS	DF	F	P	Effect size
Pre-test	357.55	1	14.48	0.001	0.20
Group	469.34	3	6.33	0.001	0.25

Table 4: Multivariate covariance test results for comparing the mean scores of the four subject groups in the components of academic anxiety.

Source	Value	F	DFHypothesis	DFError	P	
Group	Pillais trace	0.77	4.43	12.00	153.00	0.001

Table 5: Results of univariate covariance analysis in the context of multivariate covariance analysis for the components of academic anxiety.

Changes source	Dependent variable	SS	df	F	P	Effect size
Group	Test anxiety	50.87	3	8.30	0.001	0.32
	Fear of assertiveness	49.28	3	4.89	0.005	0.22
	Lack of self-confidence	30.93	3	8.74	0.001	0.33
	Physiological reactions	42.57	3	7.22	0.001	0.29

physiological reactions) was significant at the level of $P < 0.012$.

Discussion

The purpose of this research was to compare the effectiveness of TA, ERP, and ISTDP training courses in reducing students' academic anxiety. The results of ERP and ISTDP treatment have been effective in reducing students' anxiety. The effect of ISTDP treatment on reducing students' anxiety was more than ERP treatment, as the adjusted mean of the ISTDP group was lower than the adjusted mean of the ERP group. Considering that the mean difference between the TA group and the control group was not significant, it can be said that the TA treatment was not effective in reducing students' academic anxiety. The results of this study show that all three treatments of TA, ERP, and ISTDP can be effective in reducing anxiety symptoms in students, but their effectiveness is different. The most effective treatment was ISTDP, and the least effective method was TA. In explaining this finding, it can be stated that in the ISTDP method all the existential aspects of the conscious and non-conscious person are explored, and the person becomes mastered, it has had more effect. On the other hand, in explaining the low effect of the TA method, it can be pointed out that public or implicit rules are subject for children in every family that allow for a limited range of feelings for the child and that some must be suppressed. And this is followed by anxiety which is called stamp collecting in behavior analysis. The coincidence of these rules and the lack of a justification of parents for adjustment in behaviors and rules may have led to the effect of training not having a sufficient effect on students' anxiety.

The results of this research were in line with the results of research by Vos & van Rijn (14), Agahheris *et al.* (15), Mohammadinia *et al.* (16), and Gorji *et al.* (17). In dynamic psychotherapy, the root of mental disorders of emotional conflicts is assumed to escape from the individual's initial experiences to reduce anxiety caused by institution and freeman from real emotions and use non-adaptive methods. This method uses certain techniques such as gradual desensitization and staircase visualization. This method uses guided visualization techniques and gradual desensitization mildly and empathetically causes the person to face past conflicts and anxieties and recognize and experience active and deterrent emotions to solve his anxieties. The ability to bear the full effect of severe repressed reactions and emotions from the past, activated in a new communication situation with the therapist, without resorting to regressive defenses, increases the patient's compromising capacity. Therefore, the patient's new experience in his transitional relationship with the therapist rebuilds the patient's defense systems (17). In this study, students with high academic anxiety reduced their internal emotional conflicts by implementing the techniques of this method and by facing unfounded defenses of their past and putting them aside, they were able to reduce their anxiety.

Perhaps the most central focus of ISTDP is on emotional or psychological pain, where life is perceived as a difficult and overwhelming process, the psyche is built into the struggle to endure and copes with it and creates defenses or mechanisms of pain avoidance. Ways of seeing, thinking, feeling, and behaving which most of these activities occur outside of consciousness. These non-conscious efforts often fail to avoid emotional pain, but because our

awareness is limited, they have repeated over and over again (11). The mechanism of ERP is in a way that exposes the student to anxious thoughts and situations. In this way, the student realizes that the things he fears do not happen in practice. As a result, possible exposure to anxious stimuli will no longer lead to anxiety in the individual.

On the other hand, considering the results of the ANCOVA table (one-way analysis of variance) in the MANCOVA context, the effects of TA, ERP, and ISTDP on test anxiety, fear of assertiveness, and lack of self-confidence have no different. But the ISTDP affects the physiological reactions component. The manifestation of anxiety in some people is usually in their voluntary muscles. Patients whose anxiety manifests involuntary muscles report their anxiety in the form of physical stress. These people usually know the cause of their anxiety, which indicates the relative integrity of thoughts and emotions and reflects a fairly good level of functioning of me in the individual (12). The second context is the manifestation of involuntary muscle anxiety, and usually, the digestive tract and lungs are the pathway that expresses this anxiety (13). This group of people is usually unaware of the relationship between their physical discomfort and emotional states of anxiety. The therapist usually creates the usual remedies based on standard, intensive and short-term therapy techniques to rebuild the defensive structures necessary for the anxious person so that one can findability to endure anxiety and improve the poor performance of me. In dynamic psychotherapy, the root of mental disorders is assumed the emotional conflict that arises from one's early experiences (14). Emotional conflicts cause one to escape from the real feelings to reduce anxiety induced by conflict and use non-adaptive ways. This technique deals with the patient's defenses and emotions by specific techniques such as gradual desensitization and guided visualization. In summary, this technique utilizes an empathetic and participatory relationship to rebuild defenses and anxieties that block real feelings about them and others (15-16-17).

One of the limitations of this research was that in the analysis of this study the role of variables such as academic performance, family history, and parental anxiety background were uncontrolled, and thus may

influence the research results. Also, the lack of supervision over training assignments outside of training sessions was one of the limitations of this study. Researchers are suggested to apply this therapy method in other communities as well as to investigate the effectiveness of such therapies in people with severe problems and disorders in future research. Also, according to the findings of the present research, it is suggested that education authorities and private counseling centers use TA, ERP, and ISTDP methods to treat anxious students.

Conclusion

The results of this study show that all three treatments of TA, ERP, and ISTDP can be effective in reducing anxiety symptoms in students, but their effectiveness is different. The most effective treatment was ISTDP, and the least effective method was TA. In explaining this finding, it can be stated that in the ISTDP method all the existential aspects of the conscious and non-conscious person are explored, and the person becomes mastered, it has had more effect.

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Conflict of Interest

The authors declare that they have no conflict of interest.

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