The Effectiveness of Pennsylvania Resilience Training with Pharmacological Control on the Procrastination Symptoms in Gifted and Perfectionistic Adolescents in Tehran: Clinical Trials

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Abstract

Introduction: In this study, the effect of Pennsylvania resilience treatment program on the procrastination in perfectionist adolescents with perfectionism in Tehran was investigated.

Materials and Methods: The research method was experimental, and in the form of a pre-test post-test research design with a control group with Pharmacological Control. The statistical population of this study consisted of adolescent girls aged 12 to 16 years who responded positively to the call. They were invited to the clinic and filled out the perfectionism questionnaire. The experimental and control groups were divided. Pre-test was performed on both groups and after the treatment sessions, post-test was taken from both groups. Data collection tools were Solomon and Ratblom (1984) Academic Procrastination Scale questionnaires.

Results: Univariate analysis of covariance and analysis of covariance analysis defaults were used to analyze the data.

Conclusion: The results of the analysis showed that the Pennsylvania Resilience Program has led to a reduction in the academic procrastination of perfectionist intelligent adolescents.

Key words; Pennsylvania Resilience, Procrastination, Intelligent Adolescents, Perfectionism

Introduction

Advances in science and technology on the increasing spread of information in the new age have facilitated living conditions on the one hand, and on the other hand, rapid social changes, lifestyle changes and complexities of today's life threaten health, health and tranquility. Life problems increase human vulnerability (Kotler, 2003). (Since students as a basic element of the country's educational system have a special role and position in achieving the goals of the educational system, paying attention to this section of society in terms of education and training will lead to more fertility and prosperity of the educational system) Sampson, 2013).

According to the National Association of Outstanding Children (2015), a gifted student refers to a learner who, when compared to their peers in terms of age, experience, and environment, potentially exhibits higher levels of developmental experience. They are more successful in their education and show more progress (quoted by Moradizadeh, Wiskermi, Mirdrikond, Ghadampour and Ghazanfari, 1398). A gifted person is someone who does things significantly beyond his or her peers and has abilities and characteristics that require social and emotional preparation and support from family, community, and the learning environment (Simpson, 2013).

Khair and Sheikh Eslami (2002) believe that gifted people have more emotional and psychological problems than ordinary people, especially in adolescence and adulthood, and experience more stress. The results of Nasiran and Irvani (2016) research on the problems of gifted students from the perspective of students and parents showed that perfectionism is one of the most important problems

of these students.

Therefore, one of the problems among gifted school students is perfectionism. Man has an innate desire for growth and self-fulfillment, and this need compels him to strive to elevate his potential to the highest point. The perfectionist only wants to be perfect, but he makes no effort to investigate this desire. The notion of being perfect and having no weaknesses in him cultivates the roots of superiority over others (Beatle, Wald, Mingt, Green, Scroo et al., 2015). Based on the available evidence, perfectionism is associated with psychosocial difficulties, distortions in interpersonal relationships, inversely related to academic achievement, and academic misconduct (Yves and Reese, 2011; Gilman, Clay, & Carboni, 2014; Reese, Richardson and Ray, 2016)

The results of research by Aghajani et al. (2011) and Darvish (2011) showed that the degree of perfectionism of gifted students is higher than normal students. Perfectionism is the extreme dependence of self-esteem on the pursuit of strict personal and self-imposed criteria in at least one prominent area, despite its negative consequences (Mahmoudi, Barani, Foroughi and Shirinzadeh Arrest, 2016). From a theoretical point of view, perfectionism in two dimensions, including compromised and uncompromising perfectionism (Lou and Abbott, 2013), positive and negative (Cher and Chan, 2013), active and passive (Ma Hua and Yujuan, 2014), perfection Normal and abnormal orientation (Tri-Short, Owens, Slad, & Davy, 1995) are considered. Stober and Otto (2006) argue that a distinction must be made between the positive and negative dimensions of perfectionism, the positive dimension is striving for excellence and organization, and the negative dimension is worrying about mistakes. Normal perfectionists enjoy striving and competing for excellence and perfection and recognize personal limitations. In contrast, abnormal perfectionists are people who do not look good and satisfied even when they have the best performance. In other words, these people will never be satisfied with their performance due to unrealistic expectations (Duncanlis, Timco, Zenti, Rinaldi, Protas et al., 2014).

Based on the available evidence, perfectionism is associated with psychosocial difficulties, distortions in interpersonal relationships, inversely related to academic achievement, and academic misconduct (Yves and Reese, 2011; Gilman, Clay, & Carboni, 2014; Reese, Richardson and Ray, 2016). Prospective learners are exposed to a wide range of negative consequences such as academic stress and avoidance coping strategies (Mayfield, Parker-Peters, and Chakraborty-Gush, 2016) due to their perfectionist tendencies to respond to the demands of academic life. The relationship between ingenuity and perfectionism is one of the topics that is widely used in the teacher grading scale to identify outstanding students (Renzoli, 2005). Scholer (1999) showed that perfectionism is a characteristic of some intelligent people, and in fact 87.5% of gifted adolescents have perfectionist tendencies. Nihart Ridge, Robinson and Moon (2002) showed that gifted students are more prone to perfectionism and related under-learning.

Many variables affect the academic performance of adolescents that these variables can appear both in the role of reducing and increasing the academic performance. The main point here for teachers, administrators, parents and especially researchers is the careful scientific study of these variables rather than in the shadows. Scientific research can identify the various motivating factors in adolescents 'academic performance to identify the motivating and disturbing factors of adolescents' optimal performance. Academic procrastination is one of the variables that has a significant impact on academic performance and adolescent development.

Procrastination leads to a fruitless task. Procrastination is a thief of time and causes a person to feel guilty and change the way others look at him. Procrastination means postponing doing a task and referring it to the future (Satin, 2009).).

Many intervention programs so far in the field of treatment of mental illness Also, the field of prevention has been considered by researchers who have left favorable effects and has attracted the attention of researchers and researchers in the field of education to use these interventions in solving

the educational problems of students and their academic advancement. One of these effective interventions is the "Pennsylvania Resilience Program", which is taken from a positive psychological approach. The Pennsylvania Resilience Program - as a documentary retraining program - is one of the most widely used intervention programs to equip people with negative cognitive experiences in the face of negative life experiences, both academic and non-academic (Seligman, Ernst, Gilham). , Review and Linkins, 2009; Forgrid and Seligman, 2012). Based on a positive psychology approach, the Pennsylvania Resilience Program can play an important role in providing students with the right environmental conditions. The program emphasizes teaching problem-solving skills as well as explanatory techniques to help teens and young adults cope with everyday stressors (Gillham, Gallup, & Seligman, 2007). The concept of optimism and explanatory practices form the theoretical basis of the Pennsylvania Resilience Program. Examination of empirical evidence shows that the Pennsylvania Resilience Program is one of the most widely used intervention programs based on the cognitive-behavioral model used to equip individuals psychologically.

Dealing with the negative experiences and emotions of life, whether academic or otherwise, is of undeniable importance. A 15-year study by the research team of Seligman et al. (2009) using the Pennsylvania Resilience Program found that students' well-being is enhanced and their ability to manage anxiety, depression, and everyday problems is enhanced.

Given the importance of high school, an important period in the life of students to enter educational centers, adulthood, labor market and accept new responsibilities and due to the lack of research in this area, the present study aims to address this The question will be whether Pennsylvania-style resilience training has an effect on the symptoms of perfectionism in gifted adolescents.

Materials and Methods:

The present study is a quantitative study in terms of the nature of the collected data and an applied study in terms of purpose. The research method was quasi-experimental with pretest-posttest design with two groups of control and experimental.

The statistical population of this study included gifted adolescent girls (Tehran girls' sages) in the 98-99 academic year who were in the age range of 15-12 years, using the available sampling method from a gifted school (Farzanegan 2). After announcing the call for participation in the study, among the gifted teenage girls aged 12 to 15, those volunteer teenage girls who responded positively to the call were invited for an initial interview at a counseling and psychology center in Tehran, and From among them, 30 people who received a higher perfectionism score were selected and then randomly assigned to the experimental and control groups and also signed the ethical consent to participate in the research.

Sampling method of this study was available and voluntary sampling. 30 volunteers were selected after reviewing the inclusion and exclusion criteria and were replaced in two experimental and control groups.

The intervention group received the Pennsylvania Resilience Training in 10 sessions and the control group did not receive any intervention. Of course, both groups had drug control, and each patient took 20 mg of fluoxetine daily. It should be noted that in order to fill in the questionnaires, students are first provided with information such as explaining the objectives of the research, the right to leave the study, obtaining informed consent from the units under study. , given. Members were pretested before the intervention. In this study, 2 sessions of absence were allowed and 3 sessions of absence were determined as the criterion of decline. Finally, after the intervention, all tests were performed again in the post-test stage in both research groups.

Academic Procrastination Scale: The Academic Procrastination Scale was first developed by Solomon and Ratblum (1984). This scale has 27 statements that examine three components. These components are: 1- Preparation for the exam (8 questions, which are 2 questions for feeling uncomfortable about

procrastination and tendency to change the habit of procrastination), 2- Readiness for homework (11 questions, 2 questions for feeling The discomfort of procrastination and the tendency to change the habit of procrastination) and 3 - readiness to write an article (8 questions, 2 questions to feel discomfort of procrastination and the desire to change the habit of procrastination). How to answer is that respondents agree with any choice by choosing one of the options (score 1), rarely (score 2), occasionally (score 3), often (Score 4) and always (score 5). In this scale, items 2, 4, 6, 11, 15, 16, 21, 23, and 25 are scored in reverse. In a study by Solomon and Ra Tablum (1984), the validity of this scale was reported to be 0.84 using internal consistency and its reliability was reported to be 0.64 using Cronbach's alpha coefficient. In Iran, among students, the validity of this scale using Kaiser-Mir-Olkin test in factor analysis method is 0.88 and its reliability using Cronbach's alpha coefficient for the whole scale is 0.91 (Jokar and Delavarpour, 2007).

The Perfectionism Scale: The Frost Multidimensional Perfectionism Scale was developed in 1990 by Frost, Martin, Lahart, and Rosenbilt based on the multidimensional model of perfectionism and includes six subscales. These six subscales are measured using 35 questions on a five-point Likert scale from Strongly Agree to Strongly Disagree, and include six components: Concern about Mistakes, Doubt about Action, Parental Expectations, Parental Criticism, and Standards Personal is organization. These six dimensions are highly correlated with each other, but the organization has the least correlation with other dimensions and the overall score of perfectionism. For this reason, in calculating the overall score of perfectionism, the score of this dimension is not considered. From the 4 subscales of worry about mistakes, doubts about actions, parental expectations, parental criticism, the overall score of negative perfectionism is obtained, and from the 2 subscales of personal standards and organization, the score of positive perfectionism is obtained. Cronbach's alpha value for errors was reported to be 0.88, individual criteria 0.83, parental expectations 0.84, parental criticism 0.84, skepticism about tasks 0.77, tendency to order and organization 0.93 (Frost Et al., 1990). The coefficients of the subscales of this scale in a community of Iranian students are equal to 0.83, 0.72, 0.77, 0.63, 0.77 and 0.81, respectively, and also the validity of the test-retest of this scale is equal to / 86. 0 and internal consistency was equal to 0.75 (Abbaspour, 2006).

Pennsylvania Resuscitation Program:

It is a preventative treatment program based on the cognitive-behavioral model developed by Gilham, Jikax, Review, Seligman, and Silver (1990) at the University of Pennsylvania. The program emphasizes teaching problem-solving skills as well as explanatory techniques to help teens and young adults cope with everyday stressors. The program is run in groups and can be used in schools, universities, clinics, and other social organizations (Gilham, Revich, Farz, Lutcher, Leitzinger et al., 2006).

Table 1. Pennsylvania Resuscitation Program

Session	Title	Content of meetings	homework	
1 - 2	Introduce group members together and explain the resilience program	After introducing the people and explaining the goals of the meeting and performing the pre-tests, confidentiality, restrictions, roles, rules and related responsibilities are discussed along with the importance of completing homework. Relationships between positive and negative thoughts and feelings and their relationship to behaviors will be described to individuals using the experience cycle and	People use an event log to record events in which a negative and dysfunctional belief has led to destructive behaviors and emotions.	

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Session	Title	Content of meetings	homework		
		cognitive model. In order to help people better understand the ABC pattern after designing several scenarios that involve a disturbing event (A), the consequences of dealing with these events (C) and the underlying beliefs of these consequences are considered. In this section, the pivotal and determining role of the belief element (B) in predicting distinct patterns of emotional and behavioral experiences of individuals in the face of adverse events is discussed.			
3 -4	Teach optimistic and pessimistic documentary style	Evaluate the documentary pattern of people in the face of unpleasant events. In this session, people find that the visible difference in the pattern of their emotional reactions to unpleasant events, through the feature Most of the professors used by them can be explained. People are taught to define the concept of documents and their characteristics. Documents indicate the preferred method of individuals in explaining the causes of various events. The concept of attribution style and the three defining dimensions of stable / unstable, specific and internal external and its relationship with the ABC model are taught to individuals.	Individuals should use the table of attributional styles to record cases in which they adopted a pessimistic style and to record the adverse consequences according to the ABC model. Then evaluate the same pessimistic styles using the optimistic style and record the behavioral and emotional consequences arising from it.		
5 - 6	Controversy and confrontation with catastrophic attitudes and beliefs	In this section, in order to teach effective confrontation with catastrophic beliefs, two factors of controversy (D) and energizing (E) are added to the ABC model. D represents the controversy with misconceptions (B) and indicates the amount of energy provided by the change in consequences. In this section, people learn that the realization of an effective debate is based on four principles. The first principle is to gather evidence. The second principle is to propose alternative interpretations. The third principle is to avoid catastrophe. The fourth principle is to draw up an attack plan.	Using ABCDE analysis in the face of unpleasant events in real life, people provide a good platform for effective debate with events. For this purpose, people are advised to pay attention to the conversations they go through in their minds in the face of any unpleasant		

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Session	Title	Content of meetings	homework		
			event, and then try to use countermeasures in dealing with them.		
7 - 8	Teach the five steps of problem solving skills	In this section, people learn that successful and efficient problem solving requires five steps. Step # 1- Discovering Your Purpose Step # 2- Discovering Your Purpose Step 3: Set goals; Step 4: Choose a method of action after determining the positive and negative cases; Step 5: Test the effectiveness of the selected solution	People practice this skill using the five steps of problem solving in real life situations and record its behavioral and emotional consequences in relation to themselves and others.		
9 - 10	Social skills Decisive behavior with assertiveness (boldness) and negotiation	In this section, the activities required to teach social skills of assertiveness and negotiation are briefly described. Learning the skill of assertiveness requires that people communicate their views to others in a nonaggressive, assertive manner. In fact, people learn that assertiveness - as an effective strategy - is a useful point between passivity and aggression. In the section on courage training, the emphasis was on non-invasive transmission of one's views to others. However, sometimes interacting with others causes the correctness of people's thoughts and ideas to be challenged. Or people find that others pursue different goals. In such situations, people are trained to be able to reach a solution through negotiation skills, which is pleasant and acceptable to both parties.	People practice assertiveness in relation to other people in their real life by creating different scenarios. They also practice conversation and negotiation skills.		
11	Teach self- confidence and self- esteem skills	This skill is one of the basic skills in social skills training. In this session, people learn four types of self-confidence (real high, real low, false high and false low) in the dimension of ability and belief, and understand their differences along with examining the obstacles to not believing in abilities. In self-confidence building skills, people learn the four steps. Step # 1- Discovering Your Purpose Step 2: Understand the difference between performance and capacity. Step 3: Gain awareness of capacities. Step # 4- Discovering Your Purpose Summarize topics and perform post-test	Individuals practice self-confidence techniques in the real world and record their association with the ABC pattern, optimistic attributional style, and behavioral and emotional consequences.		

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Session	Title	Content of meetings	homework
12	final	Summarize and run the post-test	

Results

Table 2. Age status of participants in the experimental group and the control group

group	Average	SD
Test age	15.53	4.64
Control	15.06	4.79

In the table of mean age of participants in the experimental group (15.53) and standard deviation (64 \pm 4.64) and the control group (15.06) and standard deviation (4.79 \pm) can be seen.

One of the presuppositions of using parametric tests is the assumption that the distribution of dependent variable scores is normal. In this study, Shapiro-Wilk test was used to test this hypothesis (p = 0.47, F = 0.96), so we did not violate the assumption of regression slope homogeneity. To investigate the default homogeneity of variance of academic procrastination in case groups (p = 0.68, F = 0.16).

Due to the normality of the research variables, homogeneity of regression slope and uniformity of variance, the assumptions of the univariate analysis of covariance test have been observed and this test can be used to analyze the data.

Table 3. Mean and standard deviation of academic procrastination scores in experimental and control groups in pre-test and post-test

Variables	group	Number	Pre-test		Post-test	
			Average	SD	Average	SD
Academic procrastination	experiment	15	27.53	3.06	12.20	1.26
procrastillation	Control	15	20.33	3.47	17.33	4.71

Comparison of the means in Table 3-4 shows that the scores of academic procrastination in the experimental group decreased in the post-test phase and the score of decline indicates low academic procrastination.

In order to evaluate the effectiveness of the Pennsylvania resilience approach on academic procrastination, univariate analysis of covariance was used, the results of which are presented in Table 3-4.

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Table 4. Results of univariate analysis of covariance related to the general scores of academic procrastination

Sources of changes	Total squares	DF	Average squares	F	P	Squared	Statistical power
pre-exam	348/53	1	348/53	145/5	32/0	160/0	0/59
group	065/240	1	065/240	150/23	001/0	462/0	0/996
total	985/279	27	370/10	-	-		
error	000/7238	30	-	-	-		

The results of univariate analysis of covariance in Table 3-4 show that the effect of pre-test scores is significant (= 0.059, p = 0.32, F = 5.145), meaning that between pre-test scores academic procrastination and grades So the test of this variable has a significant relationship.

Discussion

Pennsylvania resilience training significantly improves the academic procrastination of gifted students with perfectionism in the experimental group compared to the control group. The results of statistical analysis showed that the hypothesis of the present study was confirmed. In other words, it was observed that resilience training by Pennsylvania method was more effective in significant improvement of the experimental group than the control group.

This finding is consistent with Cardmil, Revich, and Seligman (2012); Brown Wasser and Gilham (2008); Branauser, Gilham and Kim (2009) and Charlotte, Gerhad and Hans Peter (2017).; Shocker and Romer (2016); Shahriari, Yazdi and Qasemzadeh (2018); Kathir Sadegh et al. (2015) was consistent and there were no inconsistent results.

In general, it can be said that developing competencies such as resilience can play an effective role in improving students' academic procrastination. In explaining this finding, it can be said that one of the factors affecting the academic achievement or lack of academic achievement of students can be academic procrastination. Academic procrastination is one of the major factors that can be a serious obstacle to students' achievement and academic achievement. In fact, academic procrastination is the act of delaying or deliberately postponing the tasks that must be done, especially knowledge High-intelligence students who are more procrastinating due to high perfectionism not only do not feel tired and frustrated when they learn to do a task spontaneously with increased resilience, but also feel an increase in energy and strength, which in education Increasing effort and perseverance increases students' interest in education, but also increases their academic strength, ability and motivation, their academic resilience and academic performance, and provides the necessary mobility to successfully complete a task or goal. Because gifted students have low procrastination because they have more energy in addition to learning, they are looking for why they learn and use it. And this training improves resilience of specialized procrastination.

In other words, one of the most important resilience skills in the Pennsylvania style is problem-solving skills. If a student learns problem-solving skills, he will be successful in facing the problems and challenges of education and will reduce academic procrastination. And if the student does not learn problem-solving skills, he will not be successful in facing the problems and challenges of

education and will suffer from academic failure. In other words, some intelligent students are successful in the face of academic obstacles and challenges and some are unsuccessful. Generally, the reason for failure is students' lack of motivation, not participating in the class, not enjoying school, not communicating with teachers, irrational teacher responses, negative teacher feedback, not attending on time, holding extracurricular activities at inappropriate times, not having an effective curriculum .

Here, one of the structures that has the most role in students' academic procrastination is the structure of hope and motivation. When the student has no hope and motivation, does not show effort and perseverance, feels tired and frustrated, is pessimistic, has low resilience and high academic procrastination; But the student who has hope and motivation, shows effort and perseverance, feels happiness and hope, is an optimistic person, has high resilience and low procrastination.

Pennsylvania resilience is an approach that works more on changing the style of documents and believes that the cause of apathy and frustration in the style of documents is pessimistic and should become optimistic and by changing the style of documents can be hope and motivation. Increased in the individual. In fact, changing the style of attributes helps gifted students to identify their false beliefs that lead to pessimistic interpretations and replace them with optimistic beliefs.

In this process, beliefs are corrected in three areas: changing the source of control from internal to external, which provides the ground for increasing self-confidence, changing the cause of unpleasant events from stable to unstable, and changing the general cause of events to specificity that increases effort and Provides perseverance to succeed. If one can shift one's attribution style from pessimistic to optimistic, it will increase one's academic resilience and minimize academic procrastination.

One of the limitations of this study was high school students and sampling method was available, so one should be careful in generalizing the findings. Conducting research on the volunteer sample that may have affected the effects of treatment on the motivation of the participating members to improve and the lack of sufficient opportunity to conduct diagnostic interviews before selecting the sample group to prove that the subjects did not have psychiatric disorders and diagnoses. Also a small sample size of research that reduces the power of generalizability. As a suggestion, due to the special emphasis of Pennsylvania resilience training on youth and family, this treatment can be used as one of the main approaches in youth and family counseling by colleagues, as well as various training courses in the field. Pennsylvania resilience training should be conducted at the level of treatment clinics using the techniques of this perspective.

Conclusion: The results of the analysis showed that the Pennsylvania Resilience Program has led to a reduction in the academic procrastination of perfectionist intelligent adolescents.

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