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A comparison of the effectiveness of acceptance and commitment therapy (ACT) and choice theory on the procrastination among female third-grade high school students in Shahriar county

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Abstract

Introduction: The present study sought to compare the effectiveness of acceptance and commitment therapy (ACT) and choice theory on the procrastination among female third-grade high school students. The population consisted of all female third-grade high school students of Shahriar County in the educational year of 2015-2016.

Materials and Methods: The sample of the study included 60 students selected through the multistage cluster sampling. Solomon and Rothblum questionnaire was used for procrastination assessment. The first experimental group was treated by an eight-session weekly group teaching based on the acceptance and commitment therapy and the second one was treated by an eight-session weekly group teaching based on the choice theory.

Results: The results of the study indicated that teaching based on the acceptance and commitment therapy as well as the choice theory was effective in reducing procrastination among female third-grade high school students, but there was not a significant difference between the effectiveness of the two theories on procrastination reduction. Teaching based on the acceptance and commitment therapy as well as the choice theory had a desirable stable effect on the procrastination among female third-grade high school students over time.

Conclusion: Teaching based on the acceptance and commitment therapy as well as the choice theory had a desirable stable effect on the procrastination among students.

Keywords: Acceptance and commitment therapy, Choice theory, Procrastination

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Introduction

Students are the major elements of education. The advancement of any potential nation and society depends on education and successful

students. Students build the future generation of the country. The first step to achieving such advancements is identifying factors affecting students' activity quality. One of these factors is

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'procrastination or negligence. Procrastination is a psychological attribute seen among different strata and age categories. It is especially very common among learners in educational environments, causing harmful consequences like low scores and even periodical withdrawals from school (1).

Procrastination may be favorable for the individual in the short term but causes negative consequences such as lower scores, social anxiety, depression, and illness (2). Procrastination has various kinds, and the most common of which is seen among students is called academic procrastination, meaning postponing planning to do an assignment which finally causes anger (3).

Among the counseling and psychotherapy approaches, acceptance and commitment therapy is one of the new theories in psychology and counseling. This theory was introduced in the 1980s by Hayes (1987) at the University of Nevada and identified by the acronym of ACT. It is a form of cognitive-behavioral therapy which is based on functional contextualism and springs from the rational frame theory (RFT[2]) (4). In acceptance and commitment therapy, it is presupposed that human beings think that many of their internal feelings, emotions, and thoughts are irritant and are constantly trying to either change these internal experiences or be freed from them. However, these struggles do not control anything, and the client needs to be helped to free himself/herself from the avoidance and cognitive fusion cycle (5). In the ACT, instead of trying to control or avoid them, the clients try to increase contact with the present moment and accept the disturbing thoughts or feelings (6). This approach includes six psychological processes: acceptance, cognitive diffusion, self as context, contact with the present moment, values, and committed action, all of which lead to psychological flexibility (7).

In this regard and among different therapeutic approaches, reality therapy, more than the other approaches, is known for treating adolescents in educational environments (8). William Glasser introduced reality therapy, and its name changed to the choice theory; he believed that the purpose behind any behavior is to fulfill one of the basic needs. When people cannot afford to fulfill their needs, they follow a specific behavior and action

so that they may fulfill their needs (9). According to this theory, some behaviors may realize a certain objective and fail to fulfill other needs. For example, procrastination is favorable in a short time, inefficient, and harmful in the long term.

According to the principles of the choice theory, it is only needed to eliminate the short-term balance by changing and modifying the individual's perceptual qualitative world so that the individual can stop procrastination and other problematic behaviors and select an effective behavior (10).

One of the main concepts in the choice theory is to emphasize individual responsibility by counseling or teaching children and adolescents such that they can feel responsible for their own life and thus more effectively control them (11).

Regarding the fundamental concepts and literature review of acceptance and commitment therapy and choice theory, the present study seeks to investigate these two approaches and assess and compare the result of teaching their principles and concepts on students' procrastination.

Materials and Methods

The population was all female third-grade high school students of Shahriar County in 2015-2016. This clinical research has a control group, two experimental groups, and a follow-up test. Finally, 260 students were selected based on multistage cluster sampling. First, the students completed the procrastination questionnaire, and 60 people were selected based on the highest-score order; they were randomly put in the experimental and control groups.

The first experimental group was treated by eight-session teaching based on acceptance and commitment therapy, and the second was treated by eight-session teaching based on the choice theory. The control group received no training in this period. At last, the post-test was carried out on the three groups.

These groups were given the follow-up test after one month of education, and the effectiveness of the independent variable on tests and the stability of the teaching effect was investigated using statistical methods.

Research instrument

A) *Procrastination Assessment Scale-Student (PASS)*: It was used to assess procrastination. This scale was developed by Solomon and Rothblum (1984) to study academic procrastination in three areas doing assignments, preparing for the exams, and providing semester reporting; it contains 21 items. There is a five-alternative range in front of each item extending from never (1 point) to always (5 points). In addition to the 21 questions, another six questions (7, 8, 18, 19, 26, and 27) are included to assess two attributes: feeling sad because of being negligent and willing to change the procrastination habit. Solomon and Rothblum (1984) obtained the validity of this questionnaire as 0.84, and its reliability has been obtained as 0.64 by using Cronbach's alpha. To determine validity in their study in the Iranian context, Jokar and Delavarpour (2007) calculated the Kaiser-

Meyer-Olkin Measure of Sampling Adequacy (KMO) as 0.88 and the numerical value of X² in Bartlett's test of sphericity as 2158.384, being significant at the level of 0.000. Besides, the correlation of the items with the total score of the questionnaire was significantly desirable. Jokar and Delavarpour also obtained the reliability of the questionnaire as 0.91 by using Cronbach's alpha (3).

Results

First, Box's test was used to examine the default homogeneity of the presented covariance matrices, and the results indicated that Box's m index (0.148) is not statistically significant, and the default homogeneity of multivariate variance is confirmed ($P>0.05$).

Table 1. Multivariate mixed Analysis of variance tests

Change Resources	Indices	Sum of Squares	Degree of Freedom	Mean Square	F	P	Eta-squared
Stages	Sphericity	1209.23	2	604.617	42.219	0.000	0.426
	Green House	1209.23	1.926	627.869	42.219	0.000	0.426
	Hyun- Feldt	1209.23	2.000	604.617	42.219	0.000	0.426
	Lower bound	1209.23	1.000	1209.233	42.219	0.000	.426
Stages*Group	Sphericity	662.83	4	165.708	11.571	0.000	0.289
	Green House	662.83	3.852	172.081	11.571	0.000	0.289
	Hyun- Feldt	662.83	4.000	165.708	11.571	0.000	0.289
	Lower bound	662.83	2.000	331.417	11.571	0.000	0.289
Error	Sphericity	1632.60	114	14.321			
	Green House	1632.60	109.778	14.872			
	Hyun- Feldt	1632.60	114.000	14.321			
	Lower bound	1632.60	57.000	28.642			

The next assumption is the sphericity condition examined by Mauchly's test of sphericity. At last, the Mauchly coefficient was 0.962 and

insignificant at the $P>0.334$. This insignificance indicates that the assumption is confirmed.

Table 2. The results of within-group test

Change Resources	Sum of Squares	Degree of Freedom	Mean Square	F value	Sig.	Eta-squared
Stage	806.00	1	806.008	47.05	0.000	0.452
Stage*Group	439.11	2	219.55	12.81	0.000	0.310
Error	976.37	57	17.12			

Table 2 indicates that there is a significant difference between the three measurement stages

($F=47.05$, $P<0.0001$). Furthermore, there is a significant difference in the association between

the group and measurement stages ($F=12.81$, $P<0.0001$). The results indicate that acceptance, commitment therapy, and choice theory have significantly affected procrastination among female third-grade high school students. Then, for an in-depth investigation, post hoc tests are used. Levene's test examined the assumption of the equality of variances before getting into the test of the effects between experimental groups.

The results indicated that the assumption of homogeneity of variances is favorably confirmed in all three stages of procrastination measurement.

In the last stage of calculations, the Tukey and Bonferroni post-hoc tests were used to more precisely examine and identify the changes in the three groups and stages, the results of which are presented in Table 3.

Table 3. The Results of the Tukey and Bonferroni posthoc tests

Bonferroni				
Group 1	Stage 2	Mean Difference	Standard Error	Sig.
Pretest	Posttest	5.767*	0.656	0.000
Pretest	Follow-up	5.183*	0.756	0.000
Posttest	Posttest	-0.583	0.657	0.378
Tukey				
Group 1	Group 2	Mean Difference	Standard Error	Sig.
Acceptance and commitment	Choice	-2.233	2.461	0.368
Acceptance and commitment	Control	-5.567*	2.461	0.028
Choice	Control	-3.333	2.461	0.048

In Bonferroni's test, there was a significant difference between the pretest and post-test stages, but the control group can also affect the changes. Tukey's test completed the results; it indicated a significant difference between the acceptance treatment and the choice theory groups, and the control group. As such, the two approaches have effectively reduced procrastination. However, there is no significant

difference between the two approaches' effectiveness levels.

Moreover, the results of table 3 indicate no difference between the follow-up and post-test stages, and this shows that the scores have significantly reduced compared to the pretest stage; this reduction remained in the follow-up stage. There is no significant difference between the two approaches regarding affect stability.

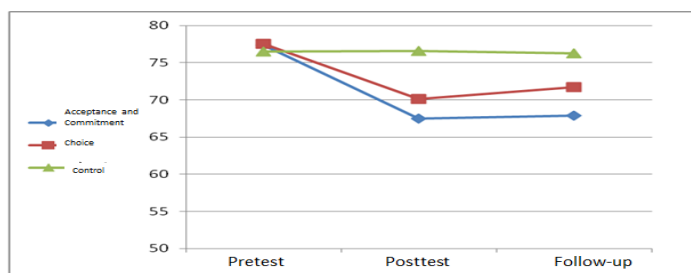


Figure 1. The procedure of score change in the three measurement stages

Figure 1 illustrates the procedure of the groups' changes in the three stages of the study. There is no considerable difference in the control group. However, there is a reduction in the post-test scores of the acceptance and commitment therapy and the choice theory compared to the pretest.

Then, the increase in post-test has maintained. The figure indicates that the scores of the acceptance and commitment group decreased more than the choice group; however, the reduction was not significant.

Discussion

The results of the study conducted by Nikbakht et al. (12) indicated that reality therapy has reduced educational negligence. Mohsenzadeh et al. (13) stated that the choice theory is useful for reducing procrastination. Najafabadi (14) also believes that the choice theory reduces negligence. Chen (15) mentions that reality therapy increases self-esteem and implicitly reduces procrastination. Scent and Boes (16) showed that teaching ACT effectively reduces students' procrastination. Halliburton and Cooper (17) used acceptance and commitment therapy in their study and concluded that the adolescent participants achieved problem-solving and decision-making skills and managed to control their problems. Finally, Moosavi Feyzabadi (18) conducted a study and concluded that there is not a significant difference between the acceptance and commitment therapy and the choice theory in terms of the students' adjustment increase; this is in line with the result of the present study indicating that there is no difference between the two approaches regarding procrastination reduction.

The negligent behavior may spring from motivational factors, and the motivation to avoid accepting responsibility is regarded as an emotional orientation to adjust to some situations (12).

As such, the reality therapist tries to tell the client that it is he/she who should change the condition, and only he/she can achieve a different result through different choices. The emphasis of reality therapy on the assessment of one's behavior and acceptance of the responsibility to succeed can help students reduce procrastination (19).

Procrastinators avoid judgment about their performance by delaying doing their assignments. ACT emphasizes the present moment orientation and completion of the early tasks enabling the individual to put his/her energy into doing what seems unfavorable and avoiding procrastination (20). ACT can effectively reduce procrastination by moderating the role of increased psychological flexibility (cognitive diffusion, developing mindfulness skills, attention to the present moment, overcoming avoidance, and coming to acceptance) (21).

Regarding the theoretical justification of the insignificant difference in terms of the two

approaches' effectiveness, the choice theory is useful for investigating lack of confidence, lack of accountability, lack of self-judgment, lack of a positive identity, and purposelessness. However, acceptance and commitment therapy is effective in studying procrastination with the perspectives of avoidance, emphasis on the present moment, moving toward values, emphasis on the role of self as context, and separating thoughts and language from the concept of self. Furthermore, the two approaches have a lot in common: emphasis on the present moment, emphasis on planning, emphasis on changing behaviors instead of feelings, moving toward values and wants, and emphasis on commitment and planning. That is why the two approaches did not significantly differ, respecting this hypothesis, and it can be said that both of them, regarding the condition of the sample and its characteristics, can be equally effective in reducing procrastination.

Wubbolding (22) states that reality therapy results in children's intellectual development, enjoying life, and mental flexibility over time. Thoreau (23) and Syllabus (24) concluded that teaching choice theory to students leads to behavior management, increased accountability, and growing effect over time. The study done by Hor et al. (25) showed that acceptance and commitment therapy effectively reduced diabetic patients' depression and had a long-lasting effect over time. Pourfaraj Emran (26) used acceptance and commitment therapy to reduce the students' social phobia and reported that the stability of the effect remained after the one-month follow-up. Besides, the results of the study are consistent with the study conducted by Öst (27) stating that the effect of ACT treatment does not reduce in the long term, and also with the study of Villatte et al. (28)

Self-esteem is an important structure and is related to negligence. In this regard, preserving personal self-esteem and supporting social self-esteem is considered the early motive for negligence (3). Glasser argues that successful people have two main attributes. Firstly, they are sure that another person, in the world, likes them as they are and they also like another person in their life. Secondly, they have such an understanding and feeling that they are valuable (29). One of the important aspects of reality

therapy is planning and is committed to programs as the individual accepts responsibility. Finally, it aims to teach people how to make more effective choices for life management and prepare themselves to cope with tensions and problems in life (30). Procrastination means escaping from or postponing dealing with a certain task (avoidance behavior), and one must substitute the avoidance motivation with a tendency to overcome it. ACT highly stresses encouraging clients to lead a valuable life and be committed to objectives helping them to overcome problems and presenting a rational solution to reduce experimental avoidance (4). If the client can be treated by self-contextualization, he/she would live more easily without avoiding or integrating thoughts and feelings. The main purpose of this process is to help clients recontact a fixed concept of self which consists of paying attention to and observing the moment-to-moment flow of thought and feeling and, in this way, keep the changes. Therefore, regarding the fact that the two approaches can take factors causing procrastination into consideration, these factors result in individual identification and development by education and the changes each

person has experienced; this development paves the way for keeping the stability of the effect of the variables.

As the interventions had a positive effect, it is proposed that a special course (in-service training course) be provided to train the counselors, teachers, and school employees on the acceptance and commitment therapy as well as the choice theory so that they can use them to solve the students' problems. Moreover, simultaneously using acceptance and commitment therapy (ACT) and the choice theory in individual counseling and group sessions can improve the results. It is also proposed to conduct other studies on a comparison of the effectiveness of acceptance and commitment therapy and choice theory on procrastination among male students, other educational levels, and other geographical places.

Conclusion

Teaching based on acceptance and commitment therapy, as well as the choice theory, had a desirable stable effect on procrastination among students.

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