

Comparing the Effectiveness of Acceptance and Commitment Therapy and Mindfulness Therapy on Wisdom and Social Adjustment among Aggressive Female Teenagers

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Submitted: 4 April 2022

Accepted: 26 April 2022

Int J Behav Sci. 2022; 16(1): 76-81

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Abstract

Introduction: Aggressiveness among teenagers is one of the most important problems that the scientists of this millennium face. The aim of this study was to evaluate the effectiveness of mindfulness, acceptance and commitment-based therapy on wisdom and social adjustment among aggressive teenagers.

Method: The present research was a quasi-experimental study with a pre-test and post-test design and a control group. The statistical population of the study consisted of female high school students in the second year in the academic year of 2019-2020. Three schools were selected by convenience sampling. After initial screening, by using the Arnold H. Bass and Perry Aggression Questionnaire, 45 aggressive students were randomly put into three groups of 15. For all groups before and after intervention, the Kember's wisdom and Matson's social skills and Bass and Perry aggression questionnaires were used. In order to compare two groups in the variables, ANCOVA method was used and covariance was used to evaluate each variable before treatment.

Results: The results showed that both treatments have positive effects on wisdom and social adjustment of aggressive teenagers ($p < 0/05$). Significant difference was observed between mindfulness therapy and acceptance and commitment-based therapy in both of the studied variables.

Conclusion: Acceptance and commitment based therapy was more useful than mindfulness on wisdom and social adjustment of aggressive teenagers.

Keywords: Aggressiveness, Acceptance and Commitment Therapy, Mindfulness

Introduction

As competition for peer status intensifies in teenagers, some teenagers feel insecure about their social status among their peers (e.g., social status insecurity). These teens sometimes use aggression to defend or promote their position [1]. Aggression is a type of emotion and reaction in which a person subconsciously manifests the pressures of deprivation and fails in the form of reactions of aggression, rape, malicious and aggressive behaviors. Aggression varies in response to the social environment, but we lack direct tests of how aggression evolves in response to internal competition. The nature of aggression often varies by gender [2]. On the other hand, due to the high prevalence of aggression among adults in Iran (54-30%), the problem of aggression is considered as a public health problem, therefore the importance of effective factors in adolescent aggression becomes more and more prominent [3]. Psychologists have recently concluded in their study of mental and social disorders that many disorders and injuries are rooted in the inability of individuals to properly analyze themselves, their situation, and their inadequacy to cope with difficult situations. The increasing complexity of society and the expansion of social relations, and

preparing adults to face difficult situations seems to be essential [4]. A study revealed that, in general, factors such as social incompatibility between parents, violence between parents, parental substance abuse, corporal punishment, and watching violent movies are the most important causes of aggression. According to above mentioned study, in situations where there are no proper and healthy relationships between family members and also the characteristics of adults on the other hand (lack of self-confidence, social incompatibility, and imbalance in emotions) causes aggression. Some researchers have begun to study specific features of aggression among adults and have offered desirable results to reduce and control it. Aggression is believed to be associated with many negative variables. One of the great troubles and problems that has occupied a lot of research in the new era is teenager's aggression and due to the crisis of it, the role of wisdom has become more and more prominent. By improving the wisdom social adjustment increases and thus aggression reduces [5]. Wisdom is a way of thinking, feeling and behavior which affects one's life along with others and appears in the context of life [6]. Ardelt [7] believes that aggressiveness limits wisdom and makes the domination on the crises of teenage period problematic; thus, through some therapeutic methods aggressiveness should be treated to affect wisdom and social adjustment of teenagers in a positive way. Social adjustment is a person's adaptation to the environment and this adaptation may be achieved by changing oneself or the environment. The results showed that Acceptance and Commitment Therapy (ACT) training increased social adjustment and self-compassion in the experimental group compared to the control group [8]. Another study compared the effectiveness of ACT in boosting self-esteem and adjustment. The results showed that in the post-test phase, ACT improved adaptation and self-esteem in women [9]. In another study, the effect of logical thinking training on social adjustment was investigated by third grade female students in the middle school, who emphasized the significant effect of logical thinking on social adjustment. One of the main problems of childhood and adolescence is the range of pharmacotherapy, behavioral therapy and cognitive therapy combined for this problem [9]. Therefore, finding a suitable treatment for adults is one of the major problems in psychotherapy. Today, most researchers support group therapy for adults as the treatment of choice for this age group [9]. There are currently two new and effective methods in aggression, mindfulness and ACT [10]. Training mindfulness is one of the therapy methods known for reducing tension in which one learns to represent the issues of life that may not be controlled immediately by human, mentally through breathing and thinking [8]. ACT originates in behaviorism; but, is analyzed through the cognitive processes [10]. This method aims to help the client access a more valuable and pleasing life through increasing psychological flexibility [11]. As specified before, the two therapeutic methods, mindfulness and ACT, are different attitudes. The results of research accomplished by Abyar et al. [12] showed that

the difference between the two therapeutic methods is not significant. However, the results of a previous research [13] showed that the effectiveness of ACT and mindfulness is different regarding different psychological variables. Therefore, this research aims to determine the differences between the effectiveness of two therapy methods, mindfulness and ACT, on wisdom and social adjustment among aggressive teenagers.

Method

This research is quasi-experimental, having pre-test, post-test and control group. The required permits and questionnaires were confirmed by Tabriz Department of Education, district 4. The statistical population of research consisted of the female students of high school, 2nd grade, studying at the district 4 of Tabriz Education Department, in the school year of 2019-2020 (42031 subjects). Through available sampling method three schools were selected. In this research, the control variables were age and education. So generally, high school girls which studied in second grade were chosen. Totally, 600 questionnaires were distributed to realize the screening of aggressiveness in the schools. Among them, 100 students were qualified (score point more than 94); 15 female students of each school were selected voluntarily and were divided into three groups randomly: mindfulness, ACT and control group. The inclusion criteria included: Female students studying at high school, 2nd grade, having the letter of satisfaction from their parents, not having information about mindfulness and ACT, and being qualified as aggressive based on the Arnold Buss questionnaire of aggressiveness.

The exclusion criteria included: not completely answering all the questions of questionnaires, and missing more than two sessions of therapy.

During this research, the following tools and material were used:

Buss-Perry Aggressiveness Questionnaire (BPAQ) (1992): This tool is a self-reporting scale using paper and pen. This questionnaire has 30 questions; eight questions for "anger", six questions for "verbal aggression", eight questions for "hostility aggression", and eight questions for "physical aggression" [14]. The attending subject answers the questions using one of five options: completely disagreed, to some extent disagreed, slightly agreed, so on and quite agreed; each option has its own score respectively: 1, 2, 3, 4 and 5. The total score of this questionnaire is between 38 and 142 and is acquired through adding the scores of questions; except for question No. 12 and 30 which have a negative factor load and its direction of scoring is conversed. Total score lower than average (90 point) represents low aggressiveness. Samani [15] had a cross-section study and studied 492 students (between 18 and 22 years old) in Shiraz University using this questionnaire. The coefficient of stability for this questionnaire was 0.78 and was acquired through retesting. Moreover, high correlation between the factors and the total score of questionnaires, low correlation of factors with each other and the amounts of alpha coefficient represent the sufficiency and efficiency

of this questionnaire in Iran.

Fundamental Value Scale (FVS): This scale was designed by Jason et al. which is one of the four measurement scales of wisdom [16]. They believe that wisdom is a set of fundamental values including vitality, harmony, good judgement and relation to nature. This scale consists of 23 items, question 1-3 spirituality, harmony and intelligence (having meaning and purpose in life, openness and good judgment, genius and ability to solve problems), question 14-15 for humor and question 16-23 measure living in the present and being kind. This scale consists of 23 items with a 5-degree Likert Scale, between: "1 = I definitely do not have this feature" and "5 = I definitely have this feature". The average score is between 23 and 115 (more than average which means a person has higher wisdom than others). The reported Cronbach alpha was respectively 0.78, 0.75, 0.62, and 0.78 for harmony, heat, intelligence and relation to nature. The stability of this scale, measured in Iran by Noghabi [17] through retesting, was 0.62 to 0.78; the internal consistency of the components of this scale was reported 0.88.

Matson Social Skill Questionnaire (2004): The scale for measuring the social skill of children was composed by Matson et al. [18]. This questionnaire was used for people between 4 and 18 years old. The questions were answered

using a 5-grade Likert Scale, scoring from 1 (never) to 5 (always). The scale includes 56 terms to measure the proper social adjustment, the unsocial behavior, aggressiveness and the impulsive behaviors, supremacy, excessive self-assurance, and relating with the people of the same age. The total score of this questioner was between 56 and 280 (low points mean the weakest social skill and higher points mean better social skills). In this test, satisfied validity and reliability was reported by its own designer. In Iran, Youseffi and et al. [19] have studied Matson's scale for social adjustment for 562 students. Its validity was favorable and also, its stability was reported 0.86. The amount of the coefficient of Cronbach alpha for the whole research considering the whole scale was 0.78. During this research, the protocol of Williams and Segal [20], Mindfulness cognition- based therapy, was used. Mindfulness practices were executed in eight sessions; one session per week, each lasting for 1.5 to 2 hours. For the ACT group, the protocol of book (for the first time in Iran) was used, under the title of "ACT on live, not anger" [21] that was taught for 10 sessions; one session per week, 1.5 to 2 hours each. The program of each session has been briefly stated below.

The theories were tested using covariance (Ancova) analysis. Data analyses were done with SPSS 24 software.

Table 1. Summary of Mindfulness Protocol

Session	Subject, Aim and Contents
1 st .	Greeting, determining the place of holding sessions, the number of sessions, course period and the duration of each session, explaining the summary of therapeutic method and the aim of sessions, and performing pre-test.
2 nd .	Explaining the summary of contents related to the previous session considering the clients, providing some assignments and emphasizing on the accomplishment of them, receiving feedback.
3 rd .	Receiving the feedback of the previous session, reviewing the assignments provided at the previous session, and providing some assignments to accomplish at home.
4 th .	Receiving the feedback of the previous session, discussing the assignments accomplished at home, and receiving feedback again.
5 th .	Receiving the feedback of the previous session, training the technic of wandering mind and practicing it.
6 th .	Receiving the feedback of the previous session, reviewing the assignments accomplished at home, training the technic of verbal circle and practicing it.
7 th .	Receiving the feedback of the previous session, reviewing the assignments accomplished at home, training the method of clouds illustration and practicing it.
8 th .	Reviewing the assignments accomplished at home and answering the questions, practicing the trained technics, and performing post-test.

Table 2. Summary of ACT Protocol

Session	Subject, Aim and Contents
1 st .	The initial introduction to clients, establishing a proper relationship with the aim, performing pre-test, evaluation, diagnostic interview and therapy regulation.
2 nd .	Getting familiar with the therapeutic concepts of "acceptance and commitment", creating the insight of problem among the clients, and challenging the inhibition.
3 rd .	Training the creative re-hoping and getting familiar with the list of worries and problems that the clients have tried to get rid of.
4 th .	Establishing acceptance and mindfulness through getting rid of the struggle done for inhibition, creating the cognitive fault, and reviewing the previous session and assignments.
5 th .	Training the norm-oriented life, reviewing the previous sessions selectively and providing some assignments.
6 th .	The evaluation of aims and deeds, specifying them and their obstacles.
7 th .	Re-evaluating the norms, aims and deeds; introducing eagerness and commitment to cooperate through them.
8 th .	Identifying the obstacles of deeds accomplished with commitment and eliminating them, and establishing commitment.
9 th .	Repeating and remembering the uncontrolled cases, creating the feeling of anger, composing the actual aims and accessing them, creating commitment and initiating, flexibility
10 th .	Reviewing the assignments provided, re-discussing them and performing the trained technics, reviewing the obstacles which lead to the failure of execution, discussing the way of choosing proper technics by person during the anger crisis, answering the questions, and performing post-test.

Results

In this research, 45 female students of high school who were aggressive, participated.

As it can be seen in Table 3, the mean scores of the social adjustment and wisdom test for aggressive female adolescents in the experimental groups (ACT and mindfulness) and control were almost equal. ACT and mindfulness is very different from the mean scores of the control group. If the significance level in Shapiro-Wilk test, which is shown in this table with significance, is more than 0.05, the data can be assumed to be normal with high confidence. To study the requirements of establishing equality between the variances of three groups, Levene's Statistical Test was used. Taking into account the results, the assumption of equal variance for all groups was accepted ($P < 0.05$). The initial analysis for the evaluation of the homogeneity between the slopes shows that the interaction between pre-test variable and

factor was not significant. So, the assumptions of approximate normality and the homogeneity of variances are established and the essential requirements of using the test of covariance analysis are provided ($P < 0.05$).

According to Table 4, there is a significant difference between wisdom and social adjustment in the experimental and control groups in pre-test and post-test. In general, this indicates the effect of ACT and mindfulness on the wisdom and social adjustment of aggressive female teenagers.

Table 5 shows that there is a significant difference between the wisdom and social adjustment scores in the experimental group of ACT with the experimental group of mindfulness. There is also a significant difference between the experimental group based on ACT with the control group and there is also a significant difference between the experimental group of mindfulness and the control group.

Table 3. The Descriptive Indices of Research Variables and Shapiro-Wilks's test Normality in Three Groups

Variables	Group	Stage	Number	Average	SD	Statistics	P
Social adjustment	Control	Pre-test	15	149.52	31.27	0.48	0.18
		Post-test	15	149.87	10.07	0.94	0.33
	Mindfulness	Pre-test	15	149.40	15.46	0.83	0.49
		Post-test	15	163.33	17.08	0.80	0.54
	ACT	Pre-test	15	149.73	21.12	0.74	0.63
		Post-test	15	177.80	22.32	0.53	0.93
Wisdom	Control	Pre-test	15	57.40	31.27	1.08	0.18
		Post-test	15	148.66	12/52	0.94	0.33
	Mindfulness	Pre-test	15	57.80	15/40	0.74	0.63
		Post-test	15	67.60	11/53	0.67	0.75
	ACT	Pre-test	15	57.20	13.14	0.59	0.86
		Post-test	15	75.60	10.39	0.94	0.33

Table 4. Results of Univariate Analysis of Covariance in Wisdom and Social Adjustment

Variable	Origin of changes	Sum of squares	D.F	Average of squares	F	P	Eta	Test power
Wisdom	group	2519.61	2	1259.81	9.97	0.001	0.85	1
	Error	5177.09	41	126.27				
	Total	210160.00	45					
Social adjustment	Group	14.43	2	2923.53	54.2	0.001	0.93	1
	Error	53.91	41	1496.7				
	Total	1219641.00	45					

Table 5. Tukey Post Hoc Test Results for Three Groups in Wisdom and Social Adjustment

Variable	Stage	MD	SE	P
Wisdom	ACT-Mindfulness	8.39	4.10	0.04
	ACT-control	4643.22	4.10	0.001
	Mindfulness-control	5487.66	4.10	0.001
Social adjustment	ACT-Mindfulness	14.43	5.16	0.001
	ACT-control	27.91	5.16	0.001
	Mindfulness-control	13.47	5.16	0.01

Table 6. Results of Intergroup Analysis of Covariance in Wisdom and Social Adjustment

Variable	Comparison	Sum of squares	D. f	Average of squares	F	P	Eta	Test power
Wisdom	Mindfulness-Control	2515.55	1	2515.55	19.70	0.001	0.83	1
	ACT- Control	3736.47	1	3736.47	31.11	0.001	0.91	1
Social adjustment	Mindfulness-Control	1362.94	1	1362.94	26.64	0.001	0.88	1
	ACT- Control	5849.86	1	5849.86	50.88	0.001	0.90	1

The results of Table 6 showed that both methods are significantly superior to the control group. The size of the calculated wisdom effect for the effect of ACT compared to the control group ($\eta^2=0.91$, $F=31.11$) is more effective than mindfulness compared to the control group ($\eta^2=0.83$, $F=19.70$). Specifically, the effect of ACT is 91.3% and the effect of mindfulness therapy is equal to 83.2% on wisdom. In regards to social adjustment, both methods are significantly superior to the control group. The calculated effect of social adjustment for the effect of ACT compared to the control group (0.90 , $\eta^2=F=50.88$) is more than the effect of mindfulness treatment compared to the control group ($\eta^2=0.88$, $F=29.64$). Specifically, the effect of ACT is 90.4% and the effect of mindfulness treatment is 88.6% on social adjustment. They have been effective on social adjustment and wisdom scores, but the effect of ACT is greater.

Discussion

The results of the first hypotheses showed that in general, there is a significant difference between social adjustment in the experimental and control groups in pre-test and post-test, which generally indicates the effect of ACT and mindfulness therapy on social adjustment and wisdom of aggressive female teenagers. Sternberg et al. [22] is one of the researchers who has focused on the context of schools after providing the explanatory theory regarding the importance of training wisdom [22, 23]. Mindfulness therapy may include special skills and the methods of thinking as the prerequisite of wisdom or components of it during the therapy through reinforcing wisdom; skills like classic literature, dialectic thinking (challenge mode) and encouraging students to think and discuss about their values [24]. Findings reveal that mindfulness therapy improves wisdom [24]. Research in relation to the relationship between social adjustment and mindfulness showed that this structure has a positive correlation with mindfulness, identifying the contents of emotion and the capacity of sympathy, self-awareness, social and emotional adjustment, emotional welfare and life satisfaction [25]. The results of research about the relationship between mindfulness and social skills showed that there is a significant relationship between the two variables [26]. In addition, ACT improves social adjustment and wisdom. Also, in explaining the effectiveness of this method of treatment, it can be said that according to the relevant theories, changes in the field of adaptation occur when people react to their internal private events, which reduce their involvement with negative thoughts and increase their acceptance. Reducing negative thoughts and increasing acceptance improves interpersonal relationships and helps people to observe negative relationship reactions and get rid of the pattern of avoidance and conflicting behaviors, which in turn leads to improved and enhanced social adjustment. The results of this research corresponds with the findings of previous research [4, 27-36]. Research on the effectiveness of ACT on social adjustment and fear on individuals with physician disability, reported that ACT has a positive effect on social skill and reduces fear of them. During ACT, the

existence of a trainer is emphasized. As the social nature of wisdom shows, wisdom training during this type of therapy is accessible through observing, interaction and consultation with a trainer who facilitates training during therapy [37].

The effect of ACT treatment is greater than the method of mindfulness treatment. The results of this research cross results with the findings of previous research [12, 13, 38-42]. People pay attention to new information about their thoughts and feelings and through this they can control what comes after these thoughts and feelings (actions) to control, empower patients, in order to move towards awareness. In this research, the subjects were selected from among female teenagers; therefore, the results may not be generalized to the other evolving ages or groups, like children and male teenagers. In line with Previous research [2, 43] have also emphasized on the importance of gender and age on social skills.

Conclusion

Consequently, it could be stated that both treatments were useful for wisdom and social adjustment on female teenager aggression. However, ACT was more effective than mindfulness in order to improve these variables on female teenagers aggression.

Conflict of Interest

The authors declare no conflicts of interest.

Ethical approval

All ethical considerations were applied in this study. The ethical code of this study was (IR.IAU.TABRIZ.REC.1398.055).

Acknowledgment

This study is part of the doctoral dissertation of the first author in the faculty of psychology of Tabriz Islamic Azad University. The authors of this article would like to thank all those who participated this study.

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