



The Effectiveness of Group-Based Dialectical Behavior Therapy in Aggression and Social Adjustment of Single-Parent Adolescents

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Abstract

Background: The absence of each parent impairs the psychological and social adjustment of single-parent adolescents. The objective of this study was to investigate the effectiveness of group-based dialectical behavior therapy in reducing aggression and increasing social adjustment of single-parent adolescents.

Methods: The research method was quasi-experimental using a pre-test and post-test design with a control group. The statistical population included single-parent adolescent boys in the junior high schools of Baghmalek city. The sample consisted of 24 students who were randomly assigned to the experimental and the control groups. The experimental group received dialectical behavioral therapy during eight sessions. The research instruments included Ahvaz aggression questionnaire (AAI) and Bell's adjustment inventory (BAI). Data were analyzed using descriptive statistics (mean and standard deviation) and inferential statistics (multivariate analysis of covariance). The significant level was set at 0.05.

Results: Findings showed that group-based dialectical behavior therapy reduced aggression and increased social adjustment of the experimental group compared to the control group (P -value < 0.05). In fact, the results showed the effect of dialectical behavior therapy in reducing aggression and improving social adjustment in single-parent adolescents.

Conclusions: According to the research results, counselors and psychotherapists can use dialectical behavior therapy to intervene in aggression and social adjustment.

Keywords: Dialectical behavior therapy, Aggression, Social adjustment, Single-parent adolescents.

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Introduction

When children live with one parent and are cared for by just one parent, a single-parent family is formed. In fact, in single-parent families, one parent is separated from the family due to death or divorce. The absence of each parent is problematic. Generally speaking, with the absence of the father, more economic problems occur, and with the absence of the mother, more emotional problems occur.¹ The loss of a parent makes a significant difference in the children's life.² Research has shown that the absence of each parent has a negative effect on the mental and educational status of their children, and leads to anxiety and the lack of proper

communication.³ Moreover, single-parent adolescents have less academic achievement, are more aggressive, and have less public health than adolescents living with their parents.⁴ The absence of a parent and the lack of sufficient affection in the family can be a factor of aggression in these adolescents. In addition, some of these adolescents have lived in an environment where there is no positive outlook on life and other people; this fact leads to violent behaviors. These adolescents face many contradictions in their relationships. They can neither understand nor adapt to them.⁵ Aggressive behavior in childhood and adolescence can predict delinquency, depression, substance abuse, and academic problems in adulthood.⁶ Another problem that awaits single-parent adolescents is the low level of social adjustment. Social adjustment is the reflection of how one communicates, the way he is satisfied with his plans, and how he performs his plans, which are influenced by his initial personality, cultural values, and family expectations. Etiological studies suggest that various aspects of health are associated with maintaining social adjustment.⁷ Social maladjustments which occurs as a result of the process of unfavorable social adjustment has a negative effect on motivation and mental health.⁸ Aggression and severe behavioral problems can impair personal growth, learning opportunities, social adjustment, and ultimately the quality of personal life.⁹

Various approaches have been proposed to treat behavioral problems. One of these treatments includes dialectical behavior therapy (DBT), which is one of the third wave therapies that have been adapted for adolescents. It is a supported experimental treatment to reduce recurrent suicide attempts and non-suicidal self-harm in adolescents.¹⁰ It is one of the new therapeutic approaches with promising effectiveness in aggression and social adjustment. This approach was proposed in 1993 by Marshall Linhan. In this approach, cognition, emotion, and behavior form an interconnected set and are synthesized which results in the improvement of cognition and emotions and the emergence of new behaviors.¹¹ The primary therapeutic objectives of DBT include reducing life-threatening behaviors and disturbing behaviors.¹² In fact, the skills of observational thinking, interpersonal effectiveness, anxiety tolerance, and emotional regulation are learned through this approach.¹³

Various studies indicate the effectiveness of this therapeutic approach in behavioral performance,¹⁴ cognitive flexibility,

emotional control, impulsive behaviors, and social adjustment,¹⁵ compassion, reduction of mental pain and difficulties of emotional regulation,^{16,17} sense of connection and marital relations,¹⁸ healthy anxiety, psychosocial adjustment, and cognitive regulation,¹⁹ prevention of anti-social behaviors,²⁰ depressive symptoms,²¹ suicidal thoughts,²² anxiety, stress and irrational beliefs²³ and self-injuries.¹⁷

Given the behavioral and adjustment problems of these adolescents in the community and the importance of regulating cognitions, emotions, and behaviors in improving maladaptive behaviors and aggression, it is necessary to conduct research studies to improve these behaviors in these adolescents. This research study sought to investigate the effectiveness of group-based dialectical behavior therapy in reducing aggression and increasing social adjustment of single-parent adolescents. Research hypotheses were raised as follows:

1- Group-based dialectical behavior therapy increases the social adjustment of single-parent adolescents.

2- Group-based dialectical behavior therapy reduces the aggression of single-parent adolescents.

Materials and Methods

The current study was conducted through a quasi-experimental method using a pre-test and post-test design on a sample consisting of 24 students. The statistical population included all single-parent boy students in the junior high schools of Baghmalek. The sample was selected through the purposive sampling method. Thus, from among the statistical population, 24 students had higher scores in social adjustment inventory (max=18.87, min=15.13) and the aggression test (max=65.3, min=59.36) were selected. They were randomly assigned to the experimental and the control groups. In other words, 12 students were in each group. First, the demographic characteristics of the participants were collected. Then, the experimental group received eight 90-minute dialectical behavior therapy sessions. The control group did not receive any intervention during this period. At the end of the course, a post-test was administered to both experimental and control groups. In addition, in the present study, the following instruments were used to collect data:

Bell's Adjustment Inventory (BAI): This 32-item inventory consists of the five components of home adjustment, job

adjustment, health adjustment, emotional adjustment, and social adjustment. The validity of this inventory ranged from 0.70 to 0.93, and its internal consistency coefficient ranged from 0.74 to 0.93. Bell reported the validity coefficient for each of the subscales of home adjustment, health adjustment, social adjustment, emotional adjustment, job adjustment, and the whole inventory as 0.91, 0.81, 0.88, 0.91, 0.85, and 0.94, respectively. Inventory validity was assessed using Cronbach's alpha coefficient. It turned out to be 0.89. In the present study, the reliability coefficients for social adjustment obtained by Cronbach's alpha and split-half methods were 0.92 and 0.94, respectively.²⁴

Ahwaz aggression questionnaire (AAI): This questionnaire contains 30 items; 14 items are devoted to anger, 8 items are devoted to aggression, and 8 items are devoted to resentment. A mean score of 45 was used to distinguish between the aggressive and the non-aggressive individuals. Criterion validity was used to assess the validity of this questionnaire. This questionnaire was administered simultaneously with Beck's depression inventory, Eysenck's personality questionnaire, and minnesota's personality questionnaire (MMPI). The correlation coefficient between them was significant, and the validity of this questionnaire was reported to be acceptable; it could measure aggression. The test-retest method (0.70) and Cronbach's alpha (0.87) were used to evaluate the reliability of this questionnaire.²⁵ In the present study, the reliability coefficients for aggression obtained through Cronbach's alpha and split-half methods were 0.86 and 0.88, respectively.

Table 1 illustrates the treatment protocol followed in the current study. This protocol is Linhan's dialectical behavioral therapy approach¹⁴ which was implemented during eight sessions.

Moreover, ethical considerations such as observance of scientific honesty and trustworthiness, conscious consent to participate in research, observance of the right of anonymity, and confidentiality of the data were considered in this study. Statistical analyses were performed through IBM SPSS software (version 24). In the descriptive statistics section, the characteristics of the participants were summarized. In addition, multivariate analysis of covariance (MANCOVA) was used to analyze the data. Furthermore, the significance level in all tests was set at 0.05.

Table 1. Topics of dialectical behavioral therapy sessions

Session	Content
First	Familiarity with the objectives and the rules of the group, familiarity of the group members in the field of mindfulness skills with logical, emotional, and rational mental states
Second	Practicing the mental state of the previous session, teaching "what" skill of mindfulness, including observing, describing, and participating, and "how" skill of mindfulness, including taking a non-judgmental position, self-awareness, and acting effectively
Third	Practicing "what" and "how" skills as the core of DBT
Fourth	Reviewing previous sessions' exercises, teaching parts of emotional regulation skills such as defining emotion and its components
Fifth	Teaching other skills of emotional regulation, including pattern recognition and labeling of emotions, increases the ability to control emotions
Sixth	Teaching emotion acceptance skills (even negative ones), and teaching skills to reduce vulnerability to negative emotions
Seventh	Teaching parts of the tolerance component (i.e. survival strategies in crisis), including distraction skills and self-relaxation through five senses
Eighth	Reviewing previous instructions, training and practicing moment improvement skills and profit and loss techniques when faced with failure and anger, practicing survival strategies in crisis, teaching how to generalize skills to other contexts

Results

Table 2 shows the mean and the standard deviation of aggression and social adjustment of adolescents in the experimental and the control groups in the pretest and post-test phases. Before analyzing the data, the hypotheses were checked to ensure that the assumptions of covariance analysis (MANCOVA) were met. In fact, two main assumptions (i.e. homogeneity of variances and normality of data distribution) were investigated, the results of which are described as follows. To examine the homogeneity of variances, Levene's test was performed. Table 3 shows the results of this test for dependent variables (aggression and social adjustment) in the experimental and the control groups. According to this table and due to the non-significance of Levene's test, the experimental and the control groups were homogeneous in terms of variance before the intervention (i.e. in the pre-test phase). In addition, the Kolmogorov-Smirnov test was used to check the normality of the data distribution (Table 4). As it is evident in table 4, the null hypothesis considering the normality of the distribution of scores in the two groups with regard to the variables of aggression and social adjustment was supported.

Since the dependent variables in the study are more than one variable, the statistical test of multivariate analysis of covariance (MANCOVA) was used to test the hypotheses and to examine the significance of the difference between the experimental and the control groups in terms of the research variables (Table 5). As table 5 shows, it can be concluded that there was a significant difference between the experimental and the control groups in terms of at least one of the dependent

variables (i.e. social adjustment and aggression) (Pvalue=0.004 and $F=7.35$). The effect size was equal to 0.634, which depicts that 63% of the individual differences in aggression and social adjustment post-test scores were related to the effect of the group-based dialectical behavior therapy on single-parent adolescents.

To determine in which variable there was a difference between the two groups, a one-way analysis of covariance was used for each variable, and the results are reported in table 6. As table 6 indicates, with pretest control, there was a significant difference between the experimental group and the control group in terms of aggression (Pvalue=0.001 and $F=14.17$). Therefore, the first hypothesis was supported. In fact, considering the aggression mean in the experimental group compared to that of the control group, dialectical behavior therapy reduced the aggression of the experimental group. In addition, the effect size was equal to 0.46, which shows that 46% of the individual differences in aggression posttest were related to the effect of dialectical behavior therapy. Furthermore, with the pretest control, there was a significant difference between the experimental group and the control group in terms of social adjustment (Pvalue<0.0001 and $F=463.41$). Therefore, the second hypothesis was also supported. With regard to the social adjustment mean score of the experimental group compared to that of the control group, dialectical behavior therapy increased the social adjustment of the experimental group. Moreover, the effect size was equal to 0.8610 which that 86% of the individual differences in posttest scores of social adjustment were related to the effectiveness of group-based dialectical behavior therapy.

Table 2. Mean, standard deviation minimum, and maximum scores of the dependent variables of the two groups in the pre-test and post-test

Variable	Group	Phase	Mean	S.D	Min	Max
Aggression	Experimental group	Pre-test	62.66	2.24	60	65
		Post-test	50.75	1.29	49	53
	Control group	Pre-test	62.33	2.97	60	65
		Post-test	62	3.273	60	65
Social adjustment	Experimental group	Pre-test	18	1.45	16	20
		Post-test	7.58	0.447	7	9
	Control group	Pre-test	17	1.78	16	20
		Post-test	17.83	1.97	16	20

Table 3. Results of Kolmogorov-Smirnov test to check the normality of data distribution

Normality of the distribution of the scores	Experimental group			Control group		
	Z	df.	Sig.	Z	df.	Pvalue
Aggression	0.255	12	0.3	0.16	12	0.2
Social adjustment	0.213	12	0.13	0.233	12	0.7

Table 4. Results of Levene's test of equality of variances to examine the homogeneity of variances

Variable	F	Df1	Df2	Pvalue
Social adjustment	0.328	1	22	0.572
Aggression	3.49	1	22	0.075

Table 5. Results of MANCOVA regarding the aggression and social adjustment post-tests (while controlling the pre-test effect)

Index	Value	F	df	Error's df.	Pvalue	Eta squared	Effect size
Pill'i trace	0.436	7.354	2	19	0.004	.634	0.896
Wilks lambda	0.564	7.354	2	19	0.004	.634	0.896
Hotelling trace	0.774	7.354	2	19	0.004	.634	0.896
Roy's largest root	0.774	7.354	2	19	0.004	.634	0.896

Table 6. Results of ANCOVA on the aggression and social adjustment post-tests (while controlling the pre-test effect)

Index	SS	df.	MS	F	Pvalue	Eta squared	Effect size
Aggression	42.64	1	42.64	17.14	0.001	.461	0.971
Social adjustment	110.12	1	110.12	41.463	0.001	.861	1

Discussion

This study aimed to investigate the effectiveness of group-based dialectical behavior therapy in reducing aggression and increasing social adjustment of boy single-parent adolescents. The results of the data analyses showed that group-based dialectical behavior therapy reduced aggression and improved social adjustment of boy single-parent adolescents.

The findings of this study are in line with those of Miller & et al,²⁶ Wetterborg,¹⁹ Pardo & et al,²⁰ Panos & et al.²⁷, Tomlinson,²⁸ Safitri,¹⁷ Shelton & et al,²⁹ Berzins and Trestman,³⁰ and Saito & et al.²¹ Berzins and Trestman³⁰ used dialectical behavior therapy to control the impulsive and aggressive behaviors of incarcerated adolescents. They showed that the participants' physical aggression reduced as a result of the treatment. The results of meta-analyses that investigated the effect of dialectical behavior therapy on suicidal behaviors also supported the positive effects of dialectical behavior therapy on reducing violence and the frequency of psychiatric crises in the studied samples.²² Furthermore, Perepletchikova & et al.³¹ showed that dialectical behavior therapy improved the adaptive coping skills of the participants. It seems that the effectiveness of DBT in reducing aggression and increasing adjustment is due to familiarizing the individuals with their healthy thoughts and emotions since, in dialectical behavior therapy, the effects of information processing systems, emotional and biosocial regulations of the individuals are considered. In fact, the emotional disorder affects cognitive self-control, and the inability to solve problems leads to a crisis that makes behavior out of control. Berzins and Trestman³⁰ showed that dialectical behavioral therapy causes neurological changes in the hippocampus, sinus, and forehead. Decreased activation in the prefrontal cortex and parahippocampus in response to frightening negative emotional stimuli is one of the results of this approach. This structure plays an important role in highlighting emotional stimuli and at the same time using cognitive strategies to reduce negative emotions. In fact, the basic skill taught in group sessions is the skill of emotional regulation. DBT is effective in reducing adolescents' aggression through training and practicing distress tolerance skills (discomfort), emotional regulation, and mindfulness skills.

In addition, the effectiveness of DBT in social adjustment can be explained by referring to the fact that adjustment means accepting appropriate behaviors in accordance with environmental changes, adapting to internal and external stimuli as well as having a satisfactory psychological

relationship with the environment. Human beings who have an appropriate level of adjustment are responsible for their actions, behaviors, and thoughts, examine the consequences of their behaviors, and have characteristics such as the ability to tolerate and cope with failures, acceptance and tolerance of anxiety, and the ability to control their behaviors. Dialectical behavior therapy promotes problem-solving styles and adjustment of single-parent adolescents to different stimuli and emotional states, helps individuals to generalize the learned skills to the non-treatment environment, increases the ability of individuals to take acceptance-oriented and change-oriented measures, and finally makes the treatment environment a suitable environment for changing behaviors.²⁸ The findings of this study can be used in counseling centers as well as schools for the sake of teaching behavioral and emotional skills. Since this study was conducted on boy adolescents, it is recommended that researchers replicate this study with girl participants of different ages, and evaluate its effectiveness in different groups.

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Conflict of Interest

The authors declare that they have no conflict of interest.

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