



# Comparison of Effectiveness of Cognitive Behavioral Therapy and Parenting Styles Based on Reality Therapy in Mothers' Impulse Control, Flexibility, and Empathy

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## Abstract

**Background and Objective:** A healthy and balanced relationship between parents and children is one of the factors affecting their mental health. The purpose of this study was to compare the effectiveness of cognitive behavioral therapy (CBT) and parenting styles based on reality therapy in the impulse control, flexibility, and empathy of distressed mothers with adolescents within the age range of 11-16 years in Babol, Mazandaran, Iran.

**Materials and Methods:** This quasi-experimental study was carried out with a pre-test and post-test design and experimental and control groups. In this study, all the mothers with adolescents of 11-16 years in Babol were chosen as the studied population in 2019. Moreover, 75 female subjects were selected as a sample using the cluster sampling method and divided into two groups. Data collection tools included the Beck Anxiety Inventory, Impulse Control, Flexibility, and Empathy questionnaires. The data were analyzed by multivariate analysis of covariance in SPSS software (version 22).

**Results:** The obtained findings showed that CBT and teaching parenting styles based on reality therapy affected distressed mothers' impulse control ( $\text{Eta}=0.52$ ;  $P<0.0001$ ), flexibility ( $\text{Eta}=0.31$ ;  $P<0.0001$ ), and empathy ( $\text{Eta}=0.57$ ;  $P<0.0001$ ), and the degree of the effect of teaching parenting styles based on reality therapy on the studied variables was higher than that reported for CBT.

**Conclusions:** It can be concluded that CBT and parenting styles based on reality therapy were effective in the impulse control, flexibility, and empathy of distressed mothers with adolescents within the age range of 11-16 years in Babol. Parenting styles based on reality therapy were more effective in distressed mothers' impulse control, flexibility, and empathy than CBT.

**Keywords:** Cognitive behavioral therapy, Empathy, Mothers, Parenting, Reality therapy

## Background

Mothers play a key role in the growth and learning of their children, and the evidence suggests that the family and home environment and atmosphere are the most effective forces in early childhood learning [1]. Therefore, a healthy and balanced relationship between parents and children is one of the factors affecting their mental health; accordingly, among various factors influencing the development and healthy personality of children and adolescents is the interaction between a child and parent. The ways of interaction are considered the most important and fundamental factors [2]. On the other hand, the socialization of a child should occur within the family which is mainly due to the direct parent-child interaction [3].

Mental disorders have a significant impact on individuals and the family. Depression, anxiety, obsession, aggression, and physical pain are exacerbated by stress, and mothers are more

anxious in families with young children. Anxiety is a reaction to an unknown, intrinsic, and ambiguous danger and its origin is unconscious and uncontrolled with many causative factors [4].

Previous studies have usually only examined the effectiveness of cognitive behavioral therapy (CBT) in mothers' depression, anxiety, and parenting style, and even most previous studies have only investigated the relationship between these variables in terms of correlation schemes [5, 6]. Therefore, there are many limitations in this regard.

Impulsive behaviors, sometimes referred to as risky behaviors, encompass a wide range of actions behind which there is no thought. Impulsive behaviors are immature with the immediate occurrence and are shown without the ability to focus on a particular task in the absence of proper planning; accordingly, they are high-risk and dangerous [5]. Impulsivity is one of the characteristics of addiction types [5]. Some

individuals act impulsively (depending on the trait) in all situations; however, others act impulsively in particular situations [6]. Impulsive behaviors are also displayed by anxious individuals.

Flexibility also means maintaining positive compliance despite stressful experiences and achieving a good recovery after injury or trauma [7]. Psychological flexibility is obtained through six overlapping and interrelated processes, namely acceptance (i.e., the tendency to internalize experiences without attempting to change their frequency or state), cognitive faulting (i.e., the ability to separate thoughts, emotions, physical feelings, and impulses from real situations and choose behaviors fitting the context of the present), consciousness attention (i.e., being perfect at the present moment at all times), self as context (i.e., recognizing that the individual is something beyond his or her inner experiences), values (i.e., personal principles of choice and guidance defining and making sense of one's life path), and committed action (i.e., behaviors aligning with one's values and depending on the context in which they are located [8].

In Rosenberg's view, the best way to control aggression and reduce violence is to cultivate empathic, non-violent, and loving relationships. Empathic and non-violent communication is one of the important emotional abilities the signs of which start in early childhood. Studies have shown that loving and non-violent parenting behaviors and parents' relationship with children are related to their empathy development. Empathy and non-violent communication are the keys to the formation of non-aggressive and holistic behaviors. In addition, some studies have suggested that there is a positive relationship between non-violent empathy-based communication with self-efficacy and community-based behaviors [9].

Parents are anxious to feel successful and reach the right level of satisfaction. They need to think about the parenting style and effectiveness of their role because parents who are confident in their parenting abilities perform their parenting duties more effectively and have more positive results regarding their children's development [10]. Parenting styles are child-rearing activities promoting growth in many areas [11]. Tyrannical parenting styles try to shape and control children's behaviors and attitudes following a set of standards of conduct that are usually absolutist, belief-driven, and exalted [12]. Nevertheless, powerful parents with great support and scrutiny create democratic conditions [13]. The style of parenting is authoritative and resolute but logical, warm, nurturing, and loving. Relaxing parents provide a calm and welcoming environment for their children, have few demands from their children, and

have no control over what they do [14].

The CBT, applied in this study, is a combination of cognitive and behavioral approaches helping the patient identify and modify distorted patterns and dysfunctional behaviors. Much of the treatment is based on the here-and-now approach, and the main purpose of the treatment is to help patients make the best changes in their lives. Therefore, this treatment emphasizes providing an opportunity for new adaptive learning as well as making changes outside the clinical setting. The most important goals of CBT include improving the patient's motivation, training coping skills, changing attitudes, strengthening the control of painful emotions, improving interpersonal functioning, and enhancing social skills [15].

The theory of choice, as a theory explaining human behavior, is a very new perspective. The theory of choice is about human behavior and explains how we, as human beings, choose what we want to achieve. According to this theory, all humans show behaviors and all behaviors are intentional and triggered within individuals. The theory of choice states that due to scientific reasons humans choose all of what they do and feel, including negative feelings, such as anger, anxiety, depression, and misery [16]. Others cannot make us miserable or happy. All of what humans can get or give is information. However, information alone cannot make individuals feel or act. Information enters the human brain; it is processed there, and then an individual decides what to do [17].

### Objectives

The purpose of the present study was to compare the effectiveness of CBT and teaching parenting styles based on reality therapy in mothers' impulse control, flexibility, and empathy.

### Materials and Methods

This quasi-experimental study was carried out with a pre-test and post-test design and experimental and control groups. The statistical population of this study consisted of all the mothers with adolescents of 11-16 years ( $n=871$ ) in Babol, Mazandaran, Iran, in the first quarter of 2019. In this study, all of the mothers with children of 11-16 years in Babol were chosen as the study population. Furthermore, 269 individuals were selected as a sample by the cluster sampling method according to Krejcie and Morgan Table, and those with a score lower than the cut-off point of the questionnaire were chosen. In the present study, 75 participants were divided into three groups by simple random sampling (25 subjects in the control group, 25 participants in experimental group 1, and 25 cases in experimental

group 2). Among the students, 37, 22, and 16 subjects studied humanities, experimental sciences, and mathematics, respectively.

The inclusion criteria were mothers of children within the age range of 11-16 years, participants who were interviewed, filled out the questionnaire, and scored lower than the cut-off point of the questionnaire, and mothers who lived in Babol. The exclusion criteria were 1) disorder or other illness noticed in the individual during education reducing the psychological variables studied in the individual and preventing the treatment and education process, 2) mental problems and components examined in individuals solved during treatment and group training sessions, and 3) individuals not continuing to receive treatment during the treatment and training period and not attending the sessions.

### Beck Anxiety Inventory

This questionnaire was designed by Beck in 1990 for the measurement of the level of anxiety with 21 items. Each item is a reflection of the symptoms of anxiety that is usually experienced by clinically anxious individuals or those who are in an anxious state. Each item in the questionnaire has four options, including never, mild, moderate, and severe, with scores of 0, 1, 2, and 3, respectively. The score of the questionnaire is within the range of 0-63. High scores indicate that anxiety is more severe. The scores of 0 to 21 and 26 to 35 show very low and moderate anxiety, respectively. In addition, scores higher than 36 indicate high anxiety and require follow-up and treatment [18]. Beck [18] reported 0.92 for the reliability of the questionnaire. Kaviani and Mousavi [19] reported 0.72, 0.83, and 0.92 for the validity, reliability, and consistency of the questionnaire, respectively.

### Impulse Control Questionnaire

This questionnaire (Eleventh Edition) is developed by Ernest Barth et al. in 2004 and is based on Barth's personality theory with 30 items. The items are graded as four options (multiple-choice) from rarely to almost always, with the highest and lowest scores as 120 and 0, respectively. The cut-off point of the tool is a score of 60. The reliability of Bart's impulsivity scale was determined by the internal consistency method, and Cronbach's alpha coefficient formula was used for this purpose. According to the results, Cronbach's alpha coefficient was 0.77 of the total scores [20]. The validity and reliability of the Persian version of this questionnaire were evaluated by Ekhtiyari et al. [21]. The results indicated that the validity and reliability of the questionnaire were 0.89.

### Flexibility Questionnaire

Dennis and Vander Wal developed this questionnaire in 2010 with 10 items. The main psychometric properties of the original version will be discussed. The results of 2,816 participants in six studies showed that this tool had satisfactory reliability, validity, and construct validity. The questionnaire is scored on a 7-point Likert scale based on agreement (1=never to 7=always). The minimum and maximum scores obtained in this questionnaire are 10 and 70, respectively. The cut-off point of the questionnaire is 45. Higher scores indicate greater psychological flexibility [22]. The reliability and internal consistency of the Iranian version of this questionnaire were 0.71 and 0.86, respectively [23].

### Empathy Questionnaire

Davis introduced the Empathy Questionnaire in 1983. The questionnaire consists of 21 items and assesses empathy in individuals. The questionnaire is scored based on a 5-point Likert scale and ranged from strongly agree to disagree strongly. The highest and lowest scores in this questionnaire are 105 and 21, respectively. The cut-off point is the score of 55. Davis reported the reliability of the questionnaire using Cronbach's alpha as 0.81 [24]. The reliability of this tool was 0.71 reported in the Iranian population [25].

After the collection, the data were analyzed using SPSS software (version 22), and descriptive and inferential statistics were analyzed. Mean and standard deviation (SD) indices were used to describe the data. Furthermore, in inferential analysis, after testing the validity of the underlying assumptions, multivariate analysis of covariance was applied. The present study was approved by Islamic Azad University, Sari Branch, with the ethics code of IR.IAU.SARI.REC.1397.037.

### Results

The mean (SD) age of the reality therapy, CBT, and control groups were  $36.7 \pm 7.4$ ,  $35.8 \pm 7.9$ , and  $35.1 \pm 6.7$  years, respectively. The two experimental and control groups were similar in age ( $F=1.17$ ;  $P>0.05$ ). The following tables show the mean and SD of sexual intimacy in the pre-test and post-test of the experimental and control groups:

As observed in Table 1, the significance levels of all the study variables in both pre-test and post-test phases in the experimental and control groups are higher than the error level of 0.05. Given the number of significance levels, the data distribution is considered to be following the normal distribution.

As Table 2 tabulates, while controlling for the pre-test effect, there is a significant difference between

**Table 1.** Mean and standard deviation of the scores of dependent variables studied in pre-test and post-test cognitive behavioral therapy and parenting styles based on reality therapy

Statistical variable		Pre-test				Post-test			
		Control		Experimental		Control		Experimental	
		Mean	Standard deviation	Mean	Standard deviation	Mean	Standard deviation	Mean	Standard deviation
Cognitive behavioral therapy	Impulse control	25.7	6.21	12.2	6.28	24.2	5.86	24.4	8.41
	Flexibility	22.2	7.65	21.88	7.85	21.6	7.33	24.3	1.36
	Empathy	33.6	1.06	33.84	1.06	33.2	9.41	54.3	9.23
Parenting education	Impulse control	25.7	6.21	26.1	4.79	25.2	5.86	46.6	6.96
	Flexibility	22.2	7.65	21.3	6.44	21.6	7.33	45.1	9.86
	Empathy	33.6	1.06	32.9	7.50	33.2	9.41	56.7	7.87

the post-test scores of the experimental and control groups in terms of impulse control, flexibility, and empathy. Table 2 shows the effect of CBT on

impulse control ( $F=53.50$ ;  $P<0.0001$ ), flexibility ( $F=22.17$ ;  $P<0.0001$ ), and empathy ( $F=63.87$ ;  $P<0.0001$ ).

**Table 2.** Results of covariance analysis between control and experiment groups regarding impulse control, flexibility, and empathy scores

Source of variance	SS	df	MS	F	P	Eta squared
Impulse control	2812.50	1	2812.50	53.50	0.0001	0.52
Flexibility	2664.50	1	2664.50	22.17	0.0001	0.31
Empathy	5554.58	1	5554.58	63.87	0.0001	0.57

**Discussion**

According to the obtained findings of the present study, CBT was effective in controlling the anxious mothers of adolescents within the age range of 11-16 years which is in line with the findings of a study by Whiting et al [24]. It can be concluded that CBT is effective in improving the control of the impulse of anxious mothers. Cognitive restructuring, also known as logical empiricism, helps mothers to use logical reasoning to test the content of their anxiety-filled thoughts against the reality of their own life experiences, identify the flow of thoughts filled with their anxiety, and even test their dominant anxiety thoughts (i.e., testing the reality of the probability of something happening that causes them to be anxious) [14].

Based on the results of the current study, CBT influenced the flexibility of anxious mothers of adolescents within the age range of 11-16 years which is consistent with the findings of studies by Whiting et al. [24] and Raes et al. [22]. This finding suggests that the cognitive behavioral approach to anxious mothers, who often have cognitive errors, irrational beliefs, and destructive beliefs in their lives, has led to increasing the individuals' awareness of documents and irrational beliefs. In addition, conducting training sessions and out-of-session assignments helps to correct false beliefs and attributions reducing the flexibility of anxious mothers. The modification of individuals' beliefs, irrational expectations, and false attributions have increased flexibility and recognition of the positive aspects of each other's behaviors [10, 11].

According to the obtained findings of the present study, CBT affected the empathy of anxious

mothers of adolescents within the age range of 11-16 years which is in line with the results of studies carried out by Chambless [1]. In explaining this finding, it can be reported that ineffective negative thoughts are images or cognitions that are reported by the individual as a result of cognitive schema or fundamental beliefs activated in a particular situation [1]. These images and thoughts reflect the meaning that an individual attaches to a particular situation and is closely related to the emotional and behavioral response to that situation. Furthermore, self-reflections play an important role in the healing process, are used as preferred pathways to access the cognitive system, and help to perceive the beliefs underlying several psychological disorders.

Low empathy is due to processing errors. These errors can cause receptions and perceptions of the experience to be compromised. In addition, these beliefs overwhelm mothers' empathy expectations, perceptions, and destructive and illogical documents; therefore, cognitive training can correct misconceptions and attributions, eliminate misunderstandings, reduce anger, give attention to positive aspects of each other's behavior, and lead to improved empathy of distressed mothers [24].

The current study had several limitations. Firstly, the statistical population of the study consisted of a specific group of mothers, namely mothers with children of 11 to 16 years, which makes it impossible to generalize the results to other populations. In this study, the training was only for mothers, and better results would be achieved if both parents participated in this study. The use of two methods of instruction might affect disrupting the curriculum for the researcher. The study design

was semi-experimental and did not have the benefits of real experimental designs. Because these reports are prone to distortion due to unconscious defenses, there would be bias in response, self-presentation methods, and overall social desirability.

### Conclusions

It can be concluded that CBT and parenting styles based on reality therapy were effective in the impulse control, flexibility, and empathy of the distressed mothers with adolescents within the age range of 11-16 years in Babol. Parenting styles based on reality therapy were more effective in distressed mothers' impulse control, flexibility, and empathy than CBT.

### Compliance with ethical guidelines

All ethical principles were considered in this study. The participants were informed about the purpose of the study and implementation of the stages. In addition, informed consent was obtained from all the study subjects. The participants were also assured of the confidentiality of their information. Moreover, the subjects were free to withdraw from the study at any time, and the results of the study would be available to them if desired.

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### Authors' contributions

Conceptualization [Sekineh Mohammad Yousefi]; Methodology [Ghodratollah Abbasi]; Investigation [Ghodratollah Abbasi]; Writing Original Draft [Seyedeh Olia Emadian]; Writing, Reviewing, and Editing [All authors]; Funding Acquisition [All authors]; Resources [All authors]; Supervision, [Ghodratollah Abbasi]

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### Conflicts of Interest

The authors declare that there is no conflict of interest.

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