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Original Article

Effect of Compassion-focused Choice Theory Training on Parent-child Relationship, Self-compassion, and Body Dysmorphic Disorder in High School Girls

Bahareh Ghademee[1], Mohammad Esmaeil Ebrahimi[1*], Ali Sahebi[2]

1. Department of Psychology, Hamedan Branch, Islamic Azad University, Hamedan, Iran.
2. Senior Instructor and Research Scientist, Institute for Choice Theory and Australian Reality Therapy .

***Corresponding author:**
Mohammad Esmaeil Ebrahimi (Associate Professor), Department of Psychology, Hamedan Branch, Islamic Azad University, Hamedan, Iran.
Tel: +989127849470
Email: Me.ebrahimi@iauh.ac.ir

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Abstract

Background and Objective: The present study was conducted to determine the effect of Compassion-Focused Choice Theory training on parent-child relationship, self-compassion, and body dysmorphic disorder in high school girls.

Materials and Methods: The research method was semi-experimental and employed a pre-test-post-test design with a control group. The target population consisted of all second-year high school girls in Hamadan, Iran, totaling 8,500 individuals. From this population, 36 students were selected through purposive sampling and randomly assigned to two groups of 18. During the intervention, each group was reduced to 15 participants. To collect data, the standard questionnaire of parent-child relationship by Fine and Scobell (1983), self-compassion by Neff (2003), and body deformity by Rabiei Salahian et al. (2011) were used. In addition, the intervention group received eight sessions of Choice Theory training. Moreover, no intervention was administrated to the control group. Data were analyzed using the analysis of covariance test with SPSS (version 25).

Results: The results showed that teaching Compassion-Focused Choice Theory had a positive effect on the father-child relationship and its dimensions (positive emotions, father involvement and involvement, communication and anger), mother-child relationship and its dimensions (positive emotions, hatred/role confusion, identification, communication), self-compassion (self-kindness, self-judgment, human commonalities, isolation, mindfulness and overidentification) and body dysmorphic disorder (metacognitive control strategies, thought fusion, negative metacognitive beliefs and safety behaviors) in high school girls ($p<0.05$).

Conclusion: Considering the nature of teaching Compassion-Focused Choice Theory, this treatment method is recommended for the parent-child relationship, self-compassion and body dysmorphic disorder in adolescent students.

Keywords: Body dysmorphic disorder, Choice theory, Compassion, Parent-child, Self-compassion

Background

Students are the cornerstone of the educational system, and prioritizing their needs contributes to the development of society [1]. Addressing students' affairs can prevent future problems. One such problem is body dysmorphic disorder (BDD) [2], which often causes psychosocial dysfunction due to concerns about appearance. The severity of BDD ranges from moderate (avoiding social situations) to severe (being housebound), with inadequate psychosocial functioning and quality of life [3]. Severe symptoms are linked to poor occupational, academic, and role functioning [4]. About 20% of children and adolescents with BDD drop out of school due to symptoms, and many experience social avoidance [5]. Some may remain housebound for years, and many require psychiatric hospitalization [6]. BDD is associated with depression, social anxiety [7], low self-esteem [8], suicidal behavior [9], impaired relationships, unemployment, and hospitalization [10]. The DSM-5 defines BDD as excessive preoccupation with perceived physical defects, leading to significant impairment [11]. The disorder is most prevalent during adolescence, especially among girls [6], and increases risk of developing other mental disorders [12].

Self-compassion is lower in people with BDD [13]. Higher self-compassion is linked to positive body image despite cultural pressures [14] and contrasts with the self-criticism underlying negative body image; fear of self-compassion relates to body shame, mediated by self-criticism [15]. Self-compassion promotes adaptive responses to stress [16], realistic acceptance of shortcomings, and balanced handling of negative emotions [17], while fostering empathy for others [18]. Studies highlight self-compassion's role in body appreciation, satisfaction, and less

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restrictive dieting [19]. It is considered an adaptive emotion regulation strategy in body image and eating disorders, predicting fewer concerns [20, 21]. Low self-compassion may increase body checking behaviors common in BDD [22], though some studies did not confirm its predictive role [23].

Teaching compassion-based choice theory may improve parent-child relationships. Lack of parental attention, especially by mothers, can cause emotional and motivational problems such as feelings of rejection [24, 25]. Positive relationships (support, intimacy, approval) reduce depression and rejection, while conflicts predict maladjustment, aggression [26, 27], negative emotions, depression, anxiety, and low self-esteem [28, 29]. Parent-child conflict is defined as incompatibility or behavioral opposition [30], and is linked to children's social functioning [31]. Parenting style affects development in areas, such as cognition, emotions, academics, feeding, substance use, and self-esteem [32, 33].

Choice theory is based on five basic needs: survival, love and belonging, power, freedom, and recreation [34–37]. Teaching its principles fosters responsibility, builds resilience in the face of failure, and promotes healthier decision making [38, 39]. It helps individuals plan, move from external to internal control, and shift from a "failure identity" to a "success identity" [40]. Glasser emphasizes that all behavior is chosen, and the theory teaches responsibility, cultural sensitivity, and problem-solving by focusing on present needs.

Objectives

Given the high prevalence of BDD, depression, and substance dependence, and the role of poor relationships in mental disorders [37], improving self and interpersonal relationships is essential. Since choice theory emphasizes relationships, combining it with mindfulness and compassion techniques may strengthen its effect on both interpersonal and intrapersonal health. The research question remains: does adding compassion techniques enhance the effectiveness of choice theory in improving relationships and mental health?

Materials and Methods

The research method was quasi-experimental and employed a pretest-posttest design with a control group. The target population in this study included all second-year female high school students in Hamedan, Iran. From this population, 36 students were selected through purposive sampling and randomly placed in two groups of 18. During the intervention, each group was reduced to 15 participants. To collect the required data, the standard questionnaires of parent-child relationship by Fine and Scobell (1983), self-compassion by Neff (2003), and BDD by Rabiei Salahian et al. (2011) were completed in two stages of the research, including pre-test and post-test. The intervention group received eight sessions of Choice Theory training (in the form of education and skills). No intervention was administered to the control group. The inclusion criteria for the study were: a minimum age of 15 years; consent to participate in the study; and, in cases of dysmorphic disorder, confirmation through both a questionnaire and a psychologist-conducted interview. The exclusion criteria included absence from two consecutive intervention sessions and three instances of irregular and incomplete questionnaire responses. The research instrument included the Parent–Child Relationship Questionnaire, developed by Fine and Scobell in 1983, which consists of 24 items. This questionnaire has two forms, one for measuring the child-mother relationship and the other for measuring the child-father relationship. The subscale was the father version component and the subscale was the mother version component. The questionnaire was scored based on a 7-point Likert scale. The total score is the sum of the means of the subscales [41]. The normalization of this scale in a study by Fine and Scobell [41] yielded an overall alpha coefficient of 0.96. Parhizgar, Mahmoudnia and Mohammadi [42] calculated the final coefficients of 0.93 for the father form and 0.92 for the mother form, indicating good internal consistency. The internal consistency of the scale in this study was calculated through Cronbach's alpha coefficient and was obtained as 0.79 for the entire scale.

Self-Compassion Questionnaire: To measure the compassion construct, the Neff Compassion Scale (2003) was used, which consists of 26 items and is scored on a Likert scale from 1 (almost never) to 5 (almost always). The range of scores on the questionnaire is between 26 and 130. This scale measures three bipolar components across six subscales. The average scores of the six components are combined to calculate the total compassion score [18]. In Neff's research [18], the internal consistency of the scale, measured by Cronbach's alpha, was 0.92 for the total scale, with subscale coefficients of 0.78, 0.77, 0.80, 0.79, 0.75, and 0.81, respectively. In the study by Ghazelsaflo, Mirahmadi, and Jazayeri [43], the Cronbach's alpha for the total scale was 0.89, and for the subscales, it was 0.79, 0.78, 0.76, 0.77, 0.79, and 0.80, respectively. In this study, the Cronbach's alpha for the entire scale was 0.89.

Body Dysmorphic Disorder Questionnaire: This questionnaire was developed by Rabiei et al. in 2011 [44] and has 31 items that assess the metacognition of BDD. The questionnaire was scored from 1 to 4. After factor analysis, four factors were extracted, which were named: metacognitive control strategies,

thought-action unity or thought fusion, positive and negative metacognitive beliefs, and safety behaviors. Metacognitive lack of control strategies, thought fusion, negative metacognitive beliefs, and safety behaviors were assessed. Cronbach's alpha coefficient reported in the study by Cooper and Osman [45] was 0.80. In the present study, the Cronbach's alpha for the entire scale was 0.87.

Protocol for training in Compassion-Focused Choice Theory: In the present study, training in Compassion-Focused Choice Theory was implemented based on the Compassion-Focused Choice Theory training program by Movahedi Rad, Ebrahimi, and Sahebi [46] during eight group training sessions, one session per week for 90 minutes.

Results

In the present study, the main variables include the parent-child relationship, self-pity, and BDD, which in Table 2 shows the central indices and dispersion related to the aforementioned variables among high school girls, separated into control and experimental groups, in two pretest and posttest conditions.

Table 1. Training protocol for compassion-focused choice theory

Sessions	
First	Welcome and introduction of group members to the therapist and to each other Discussion of session goals, including increasing happiness through more effective need satisfaction and better relationships with others, more compassionate relationship with oneself, and acceptance of one's own characteristics; Homework: Needs Test
Second	Inquiry and ice-breaking again Review of homework. Explain the 5 basic needs and the need to satisfy them responsibly and realistically for happiness. Examine their relationships with their parents: Homework: Record individual and group actions to satisfy needs
Third	Review of homework and share experiences of group members Group members Exercise of gratitude letter and explanation of Paul Gilbert's three brain circuits: Homework: Complete the letter and practice the safe place
Fourth	Review of homework; Smart Plan planning and training and practicing self-compassionate letters Teaching constructive and destructive behaviors in relationships (criticism, threats, etc.) versus (respect, negotiation, etc.): Homework: During the week, write down the destructive behaviors you had with others and your constructive behaviors.
Fifth	Review homework; We ask group members to read their notes and we talk about them. The effects of the first circuit as a judge or, as Steven Hayes calls it, the "inner dictator." Group members realize that the source of shame and embarrassment about their bodies is the hyperactivity of the first circuit, which they can balance with compassion exercises: Homework: Letter of appreciation to parents
Sixth	Review homework; Group discussion on destructive and constructive behaviors in relationships Group discussion on five acts of kindness each week and re-practice of compassion with body scan
Seventh	Review of homework and its impact on individuals Group discussion: Practice a smart plan for their goals
Eighth	Review of homework: Practice self-care. Group members are asked to caress their bodies with motherly kindness.

Table 2. Main variables of the study

Variable Name	Group	Mode	Mean	SD	Variance
Parent-child relationship	Control	pre-test	240.85	30.51	931.26
		post-test	239.82	27.68	766.3
	Experimental	pre-test	240.59	24.03	577.48
		post-test	262.86	24.09	580.55
Self-pity	Control	pre-test	67.67	6.82	46.52
		post-test	67.93	8.33	69.49
	Experimental	pre-test	68.27	6.04	36.49
		post-test	78.27	7.05	49.78
Body deformity	Control	pre-test	80.73	8.01	64.21
		post-test	80.27	7.49	56.21
	Experimental	pre-test	82.6	8.68	8.68
		post-test	67.2	7.71	59.45

Table 2 presents that the mean parent-child relationship score in the control group changed slightly from 240.85 ± 30.51 (pretest) to 239.82 ± 27.68 (posttest), indicating no notable change. In contrast, the experimental group increased significantly from 240.59 ± 24.03 to 262.86 ± 24.09, showing that compassion-focused choice theory training improved this variable.

For self-compassion, the control group scores remained almost unchanged (67.67±6.82 to 67.93±8.33), while the experimental group scores increased markedly from 68.27 ± 6.04 to 87.27 ± 7.05.

For BDD, the control group showed minimal change (80.73±8.01 to 80.27±7.49), whereas the experimental group decreased significantly from 82.6 ± 8.68 to 67.2 ± 7.71, indicating improvement.

Since the parent-child relationship was assessed using the 48-item questionnaire (24 father–child items and 24 mother–child items) developed by Fine and Scobell [41], Table 3 presents descriptive indices of these subscales across pretest and posttest conditions in both groups.

Table 3. Types of parent-child relationships

Variable Name	Group	Mode	Mean	SD	Variance
Father-child relationship	Control	pre-test	126.05	2024	409.68
		post-test	125.99	18.4	338.85
	Experimental	pre-test	121.92	17.34	301.02
		post-test	137.66	18.16	329.95
Mother-child relationship	Control	pre-test	114.79	13.24	175.51
		post-test	113.82	12.29	151.1
	Experimental	pre-test	118.67	11.04	121.93
		post-test	125.2	10.91	119.02

Table 3 illustrates that scores for both father-child and mother-child relationships in the control group remained almost unchanged between pre-test and post-test. In the experimental group, post-test scores increased for both relationships, with a greater improvement observed in the father-child relationship than the mother-child relationship.

Table 4 presents the dimensions of father-child and mother-child relationships, along with central and dispersion indices for high school girls in the control and experimental groups across pre-test and post-test conditions.

Table 4. Dimensions of the father-child relationship

Variable Name		Group	Mode	Mean	SD	Variance
Father-child relationship	Positive emotions	Control	pre-test	54.87	7.15	51.12
			post-test	55.33	6.07	36.95
		Experimental	pre-test	49.47	8.62	74.41
			post-test	57.27	8.98	80.69
	Father conflict and involvement	Control	pre-test	41.67	8.34	69.59
			post-test	41.2	8.18	67.02
		Experimental	pre-test	42.48	8.17	66.85
			post-test	87	9.47	89.83
	Communication	Control	pre-test	25.19	7.88	62.1
			post-test	24.93	7.48	56.06
		Experimental	pre-test	25.07	6.7	45.92
			post-test	28.33	5.32	28.38
	Anger	Control	pre-test	4.33	1.44	2.08
			post-test	4.53	1.68	2.83
		Experimental	pre-test	5.39	1.76	3.11
			post-test	3.2	1.2	1.45
Mother-child relationship	Positive emotions	Control	pre-test	60.59	7.89	62.26
			post-test	61.07	8.59	73.78
		Experimental	pre-test	62.53	9.1	82.98
			post-test	69	7.64	58.42
	Hate/disorientation	Control	pre-test	23.36	3.04	9.28
			post-test	22.69	3.38	11.47
		Experimental	pre-test	25.47	6.31	29.82
			post-test	20.93	5.61	13.49
	Identification	Control	pre-test	9.65	1.95	3.83
			post-test	9.53	2.16	4.69
		Experimental	pre-test	9.53	1.72	2.98
			post-test	11.47	1.59	2.55
	Communication	Control	pre-test	21.2	4.42	19.6
			post-test	20.53	3.79	14.41
		Experimental	pre-test	21.13	2.85	8.12
			post-test	23.8	2.33	5.45

Table 4 depicts that in all four dimensions of father-child and mother-child relationships, the control group scores remained largely unchanged between pre-test and post-test. In the experimental group, following Compassion-Focused Choice Theory training, post-test scores showed significant increases in positive emotions, involvement, and communication. Conversely, scores for anger (father–child) and hatred/disorientation (mother–child) decreased. The greatest improvements were observed in positive emotions, while the smallest gains were seen in communication (father–child) and identity (mother–child). This indicates that the intervention effectively enhanced parent-child relationship quality in multiple dimensions.

Table 5. Dimensions of self-compassion

Variable Name	Group	Mode	Mean	SD	Variance
Self-compassion	Control	pre-test	240.85	30.51	931.26
		post-test	239.82	27.68	766.3
	Experimental	pre-test	240.59	24.03	577.48
		post-test	262.86	24.09	580.55
Self-judgment	Control	pre-test	67.67	6.82	46.52
		post-test	67.93	8.33	69.49
	Experimental	pre-test	68.27	6.04	36.49
		post-test	78.27	7.05	49.78
Human Commonalities	Control	pre-test	80.73	8.01	64.21
		post-test	80.27	7.49	56.21
	Experimental	pre-test	82.6	8.68	8.68
		post-test	67.2	7.71	59.45
Isolation	Control	pre-test	13.87	3.81	14.55
		post-test	13.93	4.59	21.06
	Experimental	pre-test	13.27	3.73	13.92
		post-test	16.47	2.94	8.69
Mindfulness	Control	pre-test	14.33	3.75	14.09
		post-test	14.27	3.75	14.06
	Experimental	pre-test	14.47	3.44	11.83
		post-test	11	3.79	14.42
Extreme Identification	Control	pre-test	9.89	1.7	2.89
		post-test	10.73	2.91	8.49
	Experimental	pre-test	11.07	2.63	6.92
		post-test	8.2	1.78	3.17

Table 5 highlights that self-compassion scores in the control group remained largely unchanged between pre-test and post-test. In the experimental group, post-test scores increased significantly. Among the dimensions, self-kindness, common humanity, and mindfulness showed increases, while self-judgment, isolation, and over-identification decreased. The largest improvement was observed in the isolation dimension, and the smallest in common humanity, indicating that the training effectively enhanced overall self-compassion.

Table 6. Dimensions of physical deformity

Variable Name	Group	Mode	Mean	SD	Variance
Metacognitive strategies	Control	pre-test	38.4	4.77	22.83
		post-test	38.6	4.76	22.68
	Experimental	pre-test	39.2	5.24	27.45
		post-test	33.07	4.99	24.92
Thought fusion	Control	pre-test	22.53	4.06	16.55
		post-test	22.07	3.47	12.06
	Experimental	pre-test	22.93	3.73	13.92
		post-test	19.53	3.2	10.26
Metacognitive beliefs	Control	pre-test	13.4	2	5.11
		post-test	13.27	26	6.49
	Experimental	pre-test	14	2.54	4.57
		post-test	10.53	2.13	2.83
Safety behaviors	Control	pre-test	6.4	1.18	1.4
		post-test	6.33	1.17	1.38
	Experimental	pre-test	6.47	0.99	0.98
		post-test	4.07	0.79	0.63

Table 6 outlines that BDD scores in the control group remained largely unchanged between pre-test and post-test. In the experimental group, post-test scores decreased significantly. Among the dimensions, the greatest reduction was observed in metacognitive strategies, while the smallest occured in safety behaviors, indicating that the intervention effectively reduced BDD symptoms.

Table 7. Examination of the main hypothesis of the study

Independent variable	Dependent variables	Sum of squares	df	Mean squares	f	sig	Effect size
Compassion-focused choice theory training	Parent-child relationship	3784.32	1	3784.32	84.81	0.001	0.722
	Self-compassion	611.43	1	611.43	35.89	0.001	0.589
	Body deformity	1575.87	1	1575.87	141.44	0.001	0.85

Table 7 indicates that Compassion-Focused Choice Theory training significantly affected all dependent variables ($p<0.05$). The largest effect was observed on the parent-child relationship, followed by self-compassion and BDD, confirming the overall effectiveness of the intervention in high school girls.

Discussion

Analysis of the results showed that Compassion-Focused Choice Theory training has an effect on the parent-child relationship, self-compassion, and BDD in high school girls. This finding is consistent with that of Nikkhah Sarvandani et al. [47], Eslami Hassanabadi et al. [48], Pighan et al. [49], Riziki [50], Jonathan et al. [51]. In explaining this finding, it can be concluded that since choice theory teaches individuals they can sometimes replace failed goals and desires with new ones to satisfy their needs, and in this way, to a large extent, they can transform unpleasant feelings into pleasant ones, thereby enhancing their problem-solving abilities.

when combined with ethics and realism, enhances flexibility—an essential tool to overcome rigid beliefs and life problems [40]. Choice theory encourages unconditional self-acceptance, internal control, responsibility for one's decisions, and a focus on the present rather than being determined by past experiences [49, 52]. It promotes goal-setting, intrinsic motivation, self-assessment, effective decision-making, and selecting appropriate behaviors in various situations [40, 47]. Group sessions create a supportive environment that enhances relationships and performance.

In this study, compassion was integrated with choice theory. Compassion involves kind, supportive behavior, and acceptance of all experiences, reducing self-criticism and performance anxiety. Teaching compassion helps students focus on the present, accept difficulties as part of life, prevent negative self-judgment, and build psychological resilience. Greater self-compassion improves mental capacity, flexibility, and tolerance for challenges, whereas lack of compassion erodes these capacities.

On the other hand, the effect of compassion on the parent-child relationship and students' dysmorphic disorder can be attributed to the influence of education on students' self-confidence. In a way, teaching self-kindness makes students aware of the fact that no one is perfect and that all people have unique weaknesses in their lives; therefore, mistakes, difficulties, and failures should not disrupt the psychological dimensions of their lives. Therefore, when faced with problems, instead of running away, they take a problem-oriented and positive approach to solving them.

Positivity acts as a healing medicine, helping students release tension in any challenging event. Focusing solely on the negative aspects of a problem not only worsens the experience but also drains the student's energy, making it harder to cope with even minor difficulties. In contrast, concentrating on the positive aspects, which is an outcome of self-kindness training, helps shift the mind away from harmful influences. This perspective also clarifies many concepts for the student, fostering greater flexibility when facing challenges.

Compassion training uplifts the student's spirit and provides the energy to rise and pursue his goals. The stronger the student's spirit, the greater his mental capacity to respond to external events. Self-kindness helps ensure that the mental directives he receives are framed in a way that prevents negative emotions from overwhelming him.

A student who has been trained in the method of compassion can have a better relationship with himself and, by reaching an acceptable level of satisfaction, shows more flexible behavior in facing challenges. In other words, he does not interpret and analyze life challenges in a way that completely and negatively affects him and does not spend his energy on issues that may not even be in his hands, and with a logical and wise approach, he distances himself from any risk factor of the safe image built in his mind.

In this study, the two training programs, Choice Theory and Compassion, equipped students with

valuable psychological resources. The outcomes of these approaches helped resolve many problems.
Accessing the teachings of these two approaches can have very positive consequences for students.
Every research study inevitably faces certain limitations that may affect its process and the generalizability of its findings. The present study was no exception and encountered the following challenges:
(1) Although parental consent for student participation was obtained prior to the study, convincing parents remained difficult, and concerns about their children's involvement persisted throughout the research; (2) Since the participants were in the second year of secondary school, it was difficult to encourage them to continue attending the sessions and continued attendance required special skill and delicacy; (3) Due to time constraints, it was not possible to implement the follow-up phase; therefore, to avoid these limitations, the following recommendations are proposed:
The suggestions include: Parents should be encouraged to attend the educational sessions during the research period to help reduce their concerns. It is recommended that the study be conducted during the summer to avoid interfering with students' schoolwork. To increase participant recruitment, strategies such as offering incentives may be useful. Future studies should examine the effect of Choice Theory training on parent–child relationships, self-compassion, and body dysmorphic symptoms in high school girls. In addition, the impact of Compassion-Focused Choice Theory training on other psychological variables—such as aggression and psychological well-being—should be explored. Finally, it is recommended that future research investigate the effects of Compassion-Focused Choice Theory training on parent–child relationships, self-compassion, and body dysmorphic symptoms in high school boys as well.

Conclusion

Considering the nature of Compassion-focused Choice Theory education, this treatment method is recommended for enhancing parent-child relationship, self-compassion, and physical deformity in adolescent students.

Ethical Considerations

This research was derived from the first author's psychology thesis and has been approved by the Research Expert Council under the Code of Ethics No. 142 IR.IAU.H.REC.1402. from Islamic Azad University, Hamedan Branch, Hamedan, Iran.

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Authors' Contributions

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Conflicts of Interest

The authors of this article report no conflicts of interest.

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