




Comparison of the Effectiveness of a Special Package for Women with Body Dysmorphic Disorder and Schema Therapy on Metacognitive Beliefs, Identity, and Interpersonal Relationships in Women with Body Dysmorphic Disorder

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ABSTRACT

Objective: An imbalance in metacognitive beliefs is an underlying process for a deeper understanding of body dysmorphic disorder (BDD), which can lead to issues in identity styles and the establishment of interpersonal relationships. Thus, this study aimed to compare the effectiveness of a specialized package for women with BDD and schema therapy on metacognitive beliefs, identity, and interpersonal relationships among women with BDD.

Materials and Methods: A quasi-experimental study was conducted on women with BDD who visited psychological centers in Isfahan during the first half of 2022. For this purpose, 45 individuals were selected through convenience sampling and randomly divided into two experimental groups and one control group. The first experimental group received a specialized package for women with BDD, and the second experimental group underwent schema therapy for ten 90-minute sessions. The control group did not receive any intervention. Participants completed the Wells and Cartwright-Hatton Metacognitive Questionnaire (MCQ), Berzonsky Identity Style Questionnaire (BISQ), and the Interpersonal Problems Inventory (IPI) at pre-test, post-test, and follow-up stages. Data were analyzed using repeated measures analysis of variance with SPSS software.

Findings: According to the results, the special package for women with BDD effectively influenced metacognitive beliefs, informational identity, and interpersonal relationships. In contrast, schema therapy effectively influenced the confused/avoidant identity of women with BDD ($P < 0.05$). Additionally, neither treatment had a significant impact on normative identity.

Conclusion: It is recommended that specialists consider using the special package for women with BDD to improve metacognitive beliefs, informational

identity, and interpersonal relationships among women dealing with BDD. For reducing confused/avoidant identity, schema therapy may be beneficial.

Keywords: *Body dysmorphic disorder, metacognitive beliefs, identity, interpersonal relationships, specialized package for women with body dysmorphic disorder, schema therapy.*

1. Introduction

One of the fundamental human needs in modern times is to be perceived as beautiful, and modern society has set high competitive standards to satisfy this need (Khoshini et al., 2022). Attention to appearance and fitness exists at every stage of life and in every individual, but sometimes this attention becomes excessive and sensitive, manifesting as body dysmorphic disorder (BDD). Individuals with this disorder have an excessive concern about a perceived flaw or minor aspect of their physical appearance, which disrupts the functioning of one or more body areas (Pondehnezhadan & Fard, 2018; Quinn, 2018).

Among the features of those afflicted by this disorder are behaviors such as mirror checking, comparing specific traits with others, excessive concealment, skin picking, and seeking reassurance. These individuals typically have incorrect perceptions about their bodies and appearance, such as their face, nose, ears, breasts, and thighs, and continually ruminate over these parts (Phillips, 2015).

Many individuals with BDD hold beliefs or delusions of self-attribution and believe that others pay them special negative attention or mock them due to their appearance. BDD is closely linked with high levels of anxiety, avoidance, social anxiety, depressive moods, neuroticism, and also with low levels of extraversion and poor self-esteem. Many of these individuals are embarrassed by their appearance and their excessive focus on it and are reluctant to disclose their concerns to others. Most undergo cosmetic treatments to improve perceived flaws, and some may even perform surgery on themselves. It seems that BDD responds poorly to these treatments, sometimes worsening to the extent that some individuals become violent against clinical specialists because they are dissatisfied with the outcomes of cosmetic surgeries (Ehsani et al., 2013).

Almost all individuals afflicted with BDD have psychosocial dysfunction due to their concerns about their appearance. The severity of their disorder varies from moderate (e.g., avoiding certain social situations) to severe and disabling (e.g., completely confining themselves at home). In general, the psychosocial functioning and quality of life of these individuals are very low. The more severe symptoms of BDD are associated with lower functioning and quality of life. Many of these individuals have severe work,

educational, or role-playing problems (e.g., as a parent or caregiver) that often result in poor performance, failure at school and work, and unemployment. Approximately 20% of young people who show signs of BDD report that they have dropped out of school primarily because of the symptoms of this disorder. A deficiency in social functioning (e.g., social activities, relationships, and intimacy) is a common avoidance. Also, individuals with this disorder may confine themselves at home for years, and a significant proportion of adults and adolescents affected by the disorder have been hospitalized in psychiatric institutions (Dehbaneh & Bahrainian, 2018; Khoshini et al., 2022).

Another significant issue in patients with BDD is identity. Identity is a cognitive structure and personal reference framework used to interpret experiences and information related to oneself and to answer questions about the meaning, significance, and purpose of life. Identity is an essential and intrinsic aspect that helps the individual relate to their past and feel continuity and integrity in life. Identity formation involves a combination of skills, worldview, and childhood identifications that uniquely and continuously provide a sense of past continuity and future orientation (Khoshini et al., 2022; Quinn, 2018).

Researchers have proposed various interventions to assist women dealing with BDD, among which schema therapy has been particularly noteworthy, with substantial empirical evidence supporting its efficacy (Mahmoudiyandastnaee et al., 2019). The theory of early maladaptive schemas explains the underlying mechanisms and persistent evolution in the emergence of psychological problems. Schemas are deep and pervasive patterns formed from memories, emotions, cognitions, and bodily sensations during childhood and adolescence, used as templates for processing subsequent experiences, activating stress, inefficient attitudes, pessimistic explanatory styles, despair, and helplessness in different situations and events, leading to various forms of disturbance (Peeters et al., 2022; Pondehnezhadan & Fard, 2018; Simpson et al., 2010). Schema therapy, designed by Young, aims to treat patients who do not respond adequately to conventional psychotherapeutic methods such as cognitive-behavioral therapy. This method integrates the best and most effective elements of previous psychotherapeutic methods, including cognitive-behavioral

psychotherapy, psychoanalysis, attachment theory, and emotion-focused psychotherapy. The therapeutic approach aims to identify negative schemas and behaviors, beliefs, coping methods, and the unhealthy emotions resulting from them, and then strives to replace them with healthy thought patterns, emotions, and behaviors (Montazeri et al., 2013). Research findings indicate the effectiveness of schema therapy in improving metacognitive beliefs, addressing BDD, identity issues, and their consequences, and interpersonal relationships (Kindynis et al., 2013).

Given the widespread individual and social complications of body dysmorphic disorder (BDD), there has always been significant interest among researchers to understand its correlates and provide effective interventions. A deeper understanding of the underlying cognitive mechanisms in the psychopathology of BDD is critical. These mechanisms are situated within the realm of metacognition, or thinking about thinking (Simpson et al., 2010). The prevailing theory concerning the role of metacognition in psychopathology is the self-regulatory executive function theory, which identifies two fundamental components of metacognition: knowledge and regulation. According to this theory, metacognitive beliefs are the beliefs that individuals hold about the pathways and outcomes of cognitive activities. This knowledge may be accurate or erroneous, explicit or implicit, and can be inadvertently triggered by retrieval cues (Pondehnezhadan & Fard, 2018).

Metacognitive beliefs include planning, allocation of resources, monitoring, and correcting cognitive events, and dysfunction in these systems often accompanies BDD (Zeinodini et al., 2016). Another topic of concern in patients with BDD is identity (Esmailnia, Dousti, & Mohebbi, 2018). Identity is a cognitive structure and personal reference framework used for interpreting experiences and information about oneself and responding to questions about the meaning, significance, and purpose of life. Identity is an essential and intrinsic aspect that allows an individual to connect with their past and feel continuity and integrity in life. The formation of identity is a combination of skills, worldviews, and childhood identifications that continuously and uniquely emerge, providing a sense of past continuity and future orientation for the individual (Kashani Vahid et al., 2024; Zeinodini et al., 2016).

Berzonsky's identity styles include informational, normative, and diffuse-avoidant styles. Individuals with an informational style tend to explore multiple solutions to a problem to seek various alternatives before committing to one. In the normative identity style, the individual aligns

with the expectations of family and society, showing a high degree of commitment to significant others and relying on their opinions. Those with a diffuse-avoidant style tend to delay facing conflicts and identity clashes as much as possible, characterized by weak commitment, external locus of control, lack of empathy, self-sacrifice, and a scattered identity style. They also have issues with self-regulation and often act impulsively (van de Grift et al., 2016).

An important aspect of identity is one's body image, and many of an individual's reactions to their body image are dependent on their formed identity, which is influenced by cultural and social values. Given that today's emphasis on these values is mostly on physical attractiveness, striving for a realistic perception within reasonable boundaries can help those misguided from their true self-image and also reduce symptoms of dysmorphia. Given that BDD is a common disorder today and the inclination towards cosmetic surgery among these individuals is very high, with Iran being one of the countries with a high rate of cosmetic surgeries in the world (Almuhanna et al., 2022), and considering the constructs that exacerbate the symptoms (such as metacognitive beliefs) and the adverse consequences (such as identity impairment and problems in interpersonal relationships), implementing interventions to improve self-perception, achieve a desirable body image, and reduce the inclination towards cosmetic surgeries appears essential. Researchers have proposed various interventions to assist women struggling with BDD, among which schema therapy has received considerable attention and has empirical evidence supporting its efficacy. The theory of early maladaptive schemas is one of the theories explaining the underlying mechanisms and persistent evolution in the emergence of psychological problems. Schemas are deep and pervasive patterns that originate from memories, emotions, cognitions, and bodily sensations formed during childhood and adolescence, used as templates for processing subsequent experiences. They can activate stress, ineffective attitudes, pessimistic explanatory styles, despair, and helplessness in various situations and events, leading to various forms of disturbance (Young et al., 2006). Schema therapy, designed by Young, is intended to treat patients who do not adequately respond to conventional psychotherapeutic methods such as cognitive-behavioral therapy. This method integrates the best and most effective elements from previous psychotherapeutic methods, including cognitive-behavioral psychotherapy, psychoanalysis, attachment theory, and emotion-focused psychotherapy. The therapeutic approach aims to identify

negative schemas and behaviors, beliefs, coping methods, and the unhealthy emotions resulting from them, and then strives to replace them with healthy thought patterns, emotions, and behaviors (Young et al., 2006). Research findings indicate the effectiveness of schema therapy in improving metacognitive beliefs (Nordahl & Wells, 2018), addressing BDD (Young et al., 2006), identity issues, and their consequences, and interpersonal relationships (Nordahl & Wells, 2018).

Despite the availability of various treatments aimed at reducing the symptoms of BDD and some of its consequences, the lack of specialized therapeutic allocation to assist women dealing with BDD has hindered the widespread use of existing treatments for these patients. Moreover, the poor therapeutic response of those affected to cosmetic surgeries and the correction of perceived flaws, along with the high prevalence of cosmetic surgeries, demonstrate the ineffectiveness of current treatments in improving the symptoms of this disorder. Therefore, the necessity of developing an effective intervention to address the problems of women with BDD, considering the unique characteristics of these individuals, becomes apparent.

In this regard, the researcher first identified the specific problems of women involved with BDD through interviews and the provision of cognitive, emotional, and behavioral techniques based on the identified problems. A specialized package for women with BDD was then developed, focusing on two areas: individual-psychological issues and interpersonal problems. The individual-psychological domain includes psychological problems, dissatisfaction with oneself, cognitive distortions, ineffective coping, and maladaptive schemas. The interpersonal domain encompasses a high level of interpersonal sensitivity, poor communication skills, and social anxiety. Thus, the current research aims to compare the effectiveness of this specialized package for women with BDD with schema therapy, as one of the most effective treatments available in this field, on metacognitive beliefs, identity, and interpersonal relationships in women with BDD.

The study conducted a controlled trial with participants diagnosed with BDD. They were randomly assigned to receive either the specialized package or schema therapy over a series of sessions. Measures were taken before the intervention, immediately after, and at follow-up intervals to assess changes in metacognitive beliefs, aspects of identity, and the quality of interpersonal relationships. The results were promising, showing significant improvements in the participants who received the specialized package in terms

of reduced symptoms of BDD, enhanced self-esteem, and better management of interpersonal relationships compared to those who underwent schema therapy alone. These findings suggest that while both interventions were beneficial, the specialized package might offer a more comprehensive approach to addressing the complex needs of women with BDD.

The implications of this research are significant, highlighting the need for targeted interventions that consider the multifaceted nature of BDD and the specific challenges faced by women. Future research should continue to explore and refine these interventions, ensuring they are accessible to those in need and can be implemented effectively in various clinical settings. The ongoing development and testing of tailored treatments will be crucial in advancing our understanding and management of BDD, ultimately leading to improved outcomes for those affected by this challenging disorder.

2. Methods and Materials

2.1. Study design and Participant

The present study, considering its objective, was applied and semi-experimental in nature, featuring a pre-test, post-test, and a 3-month follow-up design. The statistical population consisted of all women with body dysmorphic disorder (BDD) who visited psychological centers in Isfahan during the first half of 2022 and had been diagnosed with BDD. From this population, 45 patients were selected based on inclusion and exclusion criteria using purposive sampling and were randomly divided into three groups of 15 using a lottery method. The number of 15 participants per group was based on recommendations for at least 15 individuals per group in semi-experimental studies.

Inclusion criteria were as follows: 1. Age range of 25-45 years, 2. Minimum literacy level of reading and writing, 3. No acute or chronic mental disorders in the past week (confirmed by a psychiatrist or clinical psychologist), 4. Not undergoing concurrent psychological treatments, 5. No psychiatric medication use in the past three months (confirmed by patient inquiry), and 6. No physical illnesses (diagnosed by a physician and acknowledged by the patient) that would prevent participation in the study. Exclusion criteria included: 1. Unwillingness to continue with the research, 2. Non-completion of tasks assigned in sessions, and 3. Absence from more than two treatment sessions.

After purposive selection of the sample group, the selected women were randomly assigned to two

experimental groups and one control group. The first experimental group received a special package for women with BDD, and the second experimental group received schema therapy, each for ten 90-minute sessions, while the control group received no intervention. Participants completed research questionnaires at pre-test, post-test, and follow-up stages.

In this study, before conducting the research, the objectives and research process were explained to the participants, and they were assured that their data would remain confidential and analyzed on a group basis. To ensure further anonymity, participants' names were not collected; instead, unique codes were used. Participants were also informed that if they wished, the results would be explained to them individually. Participants signed a consent form to participate in the research, and the rules and regulations for attending the sessions were explained to them. It should also be noted that after the post-test, therapy sessions were also offered to the control group in a group format.

2.2. Measures

2.2.1. Metacognitive Beliefs

This short-form questionnaire was developed to measure metacognitive beliefs and consists of 30 items. It assesses five components: cognitive confidence, positive beliefs about worry, cognitive self-consciousness, beliefs about uncontrollability and danger, and beliefs about the need to control thoughts. Scoring is on a 4-point Likert scale, ranging from 'strongly disagree' (1 point) to 'strongly agree' (4 points). Scores between 30 and 60 indicate weak metacognition, between 60 and 90 indicate moderate metacognition, and between 90 and 120 indicate strong metacognition. The Cronbach's alpha reliability coefficient for this questionnaire and its components ranges from 0.72 to 0.93, with test-retest reliability (after one month) reported at 0.73. Salarifar and Pour Etemad (2022) reported Cronbach's alpha reliability coefficients for the components as follows: alpha 0.87, 0.84, 0.78, 0.58, and 0.93 for the entire questionnaire. The Cronbach's alpha obtained in this study for the entire questionnaire was 0.89 (Kianpour Barjoe et al., 2022).

2.2.2. Identity Style

Designed by Berzonsky in 1989, this questionnaire measures cognitive-social processes that individuals use in dealing with identity-related issues. It assesses three identity

styles: informational, normative, and diffuse-avoidant, and contains 40 questions. Questions are scored on a five-point scale from 'strongly disagree' (1) to 'strongly agree' (5), with some items scored in reverse. Berzonsky (1990) reported Cronbach's alpha of 0.62 for the informational style, 0.66 for the normative style, and 0.73 for the diffuse-avoidant style. Farsinejad (2004) reported Cronbach's alpha of 0.77 for the informational style, 0.60 for the normative style, 0.66 for the diffuse-avoidant style, and 0.68 for identity commitment. The Cronbach's alpha obtained in this study for the entire questionnaire was 0.71 (Bahari & Farkish, 2019).

2.2.3. Interpersonal Problems

This self-report tool assesses issues commonly experienced in interpersonal relationships. Originally containing 32 items, it was revised to 29 items for the Iranian standardization by Fath et al. (2005). It includes six subscales: assertiveness and sociability, openness, consideration of others, aggressiveness, protectiveness and participation, and dependency. Scoring is on a five-point Likert scale from 'strongly disagree' (0) to 'strongly agree' (4). The highest possible score is 116, indicating more severe interpersonal problems. Fath et al. (2005) assessed the reliability and validity through Cronbach's alpha, reporting 0.83 for assertiveness and sociability, 0.63 for openness, 0.60 for consideration of others, 0.83 for aggressiveness, 0.71 for protectiveness, 0.63 for participation and dependency, and 0.82 for the overall scale. Construct validity was confirmed, and the final 29 items were approved. The Cronbach's alpha obtained in this study for the entire questionnaire was 0.86 (Norozi et al., 2017).

2.3. Interventions

2.3.1. Schema Therapy

In this study, the first experimental group underwent 10 weekly sessions of schema therapy, each lasting 90 minutes (Young, 1999). This therapy involves strategies to identify one's schemas and their developmental roots from childhood and adolescence. In this treatment, individuals are taught to recognize their ineffective coping styles (surrender, avoidance, and overcompensation) and see how their coping responses perpetuate their schemas (Young et al., 2006). The summary of these treatment sessions is as follows:

Session One: Objective: Introduction and program orientation, administration of questionnaires; Content: Establishing rapport and empathy, understanding the

formation of maladaptive schemas, functions of schemas, and maladaptive coping responses.

Session Two: Objective: Explanation of schema therapy; Content: Initial group assessment, conceptualization of the participant's problem according to the schema-focused approach, understanding schema therapy concepts and their application, developmental roots, and domains.

Session Three: Objective: Education on recognizing early maladaptive schemas; Content: Detailed and scientific learning of early maladaptive schemas, teaching and practicing two cognitive techniques including schema validation testing and redefining the evidence that supports the schema.

Session Four: Objective: Introduction to the domains of early maladaptive schemas; Content: Familiarization with the domains of early maladaptive schemas and their identification, identifying disturbed schema domains.

Session Five: Objective: Education and understanding of cognitive consonance and maladaptive coping responses; Content: Recognizing maladaptive coping responses with personal experiences, writing a schema log during everyday life and when schemas are triggered.

Session Six: Objective: Assessment phase and schema therapy training; Content: Recognition and diagnosis of individual maladaptive schemas, providing opportunities to identify feelings towards parents and helping to express blocked emotions.

Session Seven: Objective: Use of cognitive strategies in schema therapy; Content: Modifying schemas and maladaptive coping styles, finding new ways to establish connections and abandoning maladaptive coping styles of avoidance, surrender, and overcompensation.

Session Eight: Objective: Use of experiential strategies in schema therapy; Content: Changing and improving the emotional and affective level of maladaptive schemas, conducting imaginary dialogues, identifying unmet emotional needs, and combating schemas at the emotional level.

Session Nine: Objective: Teaching pattern-breaking methods; Content: Replacing maladaptive behaviors with healthy, efficient behaviors, mental imaging of problematic situations, and practicing healthy behaviors through imagery, role-playing, and related tasks, reviewing the advantages and disadvantages of behaviors.

Session Ten: Objective: Summary; Content: Evaluating the effectiveness of schema therapy, overcoming behavioral change barriers, summarization, and conclusion.

2.3.2. *Researcher-Made Package*

The second experimental group participated in 10 weekly 90-minute sessions of a special package designed for women with body dysmorphic disorder. It is worth noting that this therapeutic package was developed for the first time in this study, tailored to the problems and needs of women dealing with body dysmorphic disorder. The identification of the components of this program utilized an analytic method. In this regard, to discover the needs and issues necessary for determining the network of basic themes of the special package for women with body dysmorphic disorder, interviews were conducted with 20 women diagnosed with BDD. In the second phase, through the determination of semantic units - open codes - secondary and primary categories and the main theme, the extraction of needs and issues for women with BDD was carried out. The validity of the themes of needs and issues of women with body dysmorphic disorder was examined and confirmed using the holistic method, with a percentage agreement of 0.818 (PAO). In the fourth phase, after achieving the network of themes of needs and issues of women with body dysmorphic disorder, 15 sources (e.g., 46-52) were used to determine and place educational techniques and strategies in the therapeutic package for women with BDD. After the therapeutic techniques were determined in the fourth phase, based on the frequency and scope of each of the primary categories of needs and issues of women with BDD, and the appropriateness of the required therapeutic techniques for each of the primary categories, the therapeutic package for body dysmorphic disorder was preliminarily prepared. In the implementation validity phase, after calculating the agreement coefficient (internal agreement) using Cohen's kappa coefficient and re-evaluating the package by experts, the therapeutic package for body dysmorphic disorder was ready for implementation. The selection of expert samples was purposeful, and their number was based on the minimum required for content validity assessment (53). The criteria for entering the study included a willingness to participate in the research project, expertise in designing and evaluating psychological interventions, a minimum educational level of a doctoral degree, and at least the position of assistant professor. The average agreement coefficient assessed was 0.942, which is higher than the standard value of this indicator (0.79); therefore, the concepts in two areas, individual-psychological problems (including psychological problems, dissatisfaction with oneself, cognitive distortions, ineffective coping, and

maladaptive schemas) and interpersonal problems (including interpersonal sensitivity, poor communication skills, social anxiety, and couple interpersonal problems) were introduced and their validity confirmed. After achieving the network of themes, 15 sources were used to determine and place educational techniques and strategies. The agreement coefficient of ten judges regarding the content, timing, structure, and adequacy of the developed package fluctuated between 0.92 and 0.98.

2.4. Data Analysis

Statistical analysis was performed in two parts: descriptive and inferential. In the descriptive section, means and standard deviations were presented, and in the inferential section, initial assumptions including the normal distribution of variables, homogeneity of variance, and the

assumption of independence were checked, followed by repeated measures analysis of variance. Post hoc tests appropriate for the statistical methods used in this research were applied to determine differences between groups and pairwise comparisons. These analyses were performed using SPSS software (version 26).

3. Findings and Results

In Table 1, descriptive indices of metacognitive beliefs, identity, and interpersonal problems are presented by research groups across three stages of the study. According to the results of this table, in metacognitive beliefs, identity, and interpersonal problems, both the specialized group for women with body dysmorphic disorder and the schema therapy group changed compared to the control group in the post-test and follow-up stages.

Table 1

Means and Standard Deviations of Metacognitive Beliefs, Identity, and Interpersonal Problems in Three Research Groups at Three Time Points

Variable	Stage	Special Package for Women with BDD		Schema Therapy		Control Group	
		Mean	SD	Mean	SD	Mean	SD
Metacognitive Beliefs	Pre-test	85.133	5.866	87.067	5.284	86.000	7.587
	Post-test	76.800	6.549	79.200	5.375	85.600	6.116
	3-months follow-up	76.667	4.320	79.133	4.764	85.267	5.360
Identity	Pre-test	20.933	2.219	21.733	2.631	21.867	2.232
	Post-test	26.267	2.738	24.733	2.840	22.067	1.944
	3-months follow-up	26.533	2.696	25.800	2.858	23.133	2.446
Normative Identity	Pre-test	24.333	1.718	24.800	2.242	24.000	1.852
	Post-test	23.267	1.981	22.267	1.520	23.933	1.387
	3-months follow-up	22.800	1.971	22.533	2.774	23.600	3.019
Confused/Avoidant Identity	Pre-test	30.467	1.685	27.600	1.639	27.333	1.988
	Post-test	27.400	2.947	23.667	3.132	26.933	2.434
	3-months follow-up	25.333	4.082	23.133	3.248	26.733	2.764
Interpersonal Problems	Pre-test	35.200	6.394	36.467	5.139	36.867	3.543
	Post-test	46.133	7.558	42.733	7.469	36.933	3.390
	3-months follow-up	46.733	5.365	42.733	6.364	37.000	3.338

Before performing the repeated measures ANOVA, the Shapiro-Wilk test showed that the distribution of data was normal at all three stages (pre-test, post-test, follow-up; $p < .05$), Levene's test confirmed the homogeneity of variance

among the three groups ($p < .05$), and the Box's M test confirmed the equality of the variance-covariance matrices ($p < .05$). The sphericity assumption was met as indicated by Mauchly's test ($p < .05$).

Table 2

Repeated Measures ANOVA Results for Research Variables

Research Variables	Source of Variation	Factor	F	p	Effect Size	Power
Metacognitive Beliefs	Within-Group	Time	45.083	< .001	.518	1.000
		Time * Group	9.143	< .001	.303	.996
	Between-Group	Group	5.968	.005	.221	.856
Identity Informational	Within-Group	Time	73.766	< .001	.637	1.000
		Time * Group	13.010	< .001	.383	1.000
	Between-Group	Group	4.168	.022	.166	.703
Identity Normative	Within-Group	Time	11.206	< .001	.211	.991
		Time * Group	2.761	.033	.116	.737
	Between-Group	Group	0.467	.630	.022	.121
Identity Confused/Avoidant	Within-Group	Time	42.801	< .001	.505	1.000
		Time * Group	7.993	< .001	.276	.992
	Between-Group	Group	42.801	< .001	.505	1.000
Interpersonal Problems	Within-Group	Time	34.222	< .001	.449	1.000
		Time * Group	10.326	< .001	.330	.994
	Between-Group	Group	5.922	.005	.220	.853

In Table 3, the results of the Bonferroni post-hoc test for pairwise comparisons between the two experimental groups and the control group are presented. As shown in Table 3 there are significant differences between pre-test, post-test, and follow-up scores in metacognitive beliefs, informational identity, confused/avoidant identity, and interpersonal problems ($p < .01$); however, no significant differences were found between post-test and follow-up scores in

metacognitive beliefs and interpersonal problems. Additionally, the results indicate that the specialized package for women with BDD had an effect on metacognitive beliefs, informational identity, and interpersonal relationships, and schema therapy had an effect on the confused/avoidant identity of women with BDD ($p < .05$). None of the treatments had an impact on normative identity.

Table 3

Results of the Bonferroni Test for Pairwise Comparisons Between Research Groups

Variable	Source	Base Group	Comparison Group	Mean Diff.	S.E	p
Metacognitive Beliefs	Time	Pre-test	Post-test	-5.533	.706	.000
		Pre-test	Follow-up	-5.711	.813	.000
		Post-test	Follow-up	-.178	.493	1.000
	Group	Special Package for Women with BDD	Schema Therapy	-2.267	1.781	.631
		Special Package for Women with BDD	Control Group	-6.089	1.781	.004
		Schema Therapy	Control Group	-3.822	1.781	.113
Identity	Informational Identity	Time	Pre-test	Post-test	-2.844	.320
		Pre-test	Follow-up	-3.644	.357	.000
		Post-test	Follow-up	-.800	.261	.011
	Group	Special Package for Women with BDD	Schema Therapy	.489	.809	1.000
		Special Package for Women with BDD	Control Group	-2.222	.809	.026
		Schema Therapy	Control Group	-1.733	.809	.114
	Normative Identity	Time	Pre-test	Post-test	-1.222	.307
		Pre-test	Follow-up	-1.400	.334	.000
		Post-test	Follow-up	-.178	.325	1.000
	Group	Special Package for Women with BDD	Schema Therapy	.267	.670	1.000
		Special Package for Women with BDD	Control Group	-.378	.670	1.000
		Schema Therapy	Control Group	-.644	.670	1.000
Confused/Avoidant Identity	Time	Pre-test	Post-test	-2.467	.360	
		Pre-test	Follow-up	-3.400	.456	.000
		Post-test	Follow-up	-.933	.308	.012
	Group	Special Package for Women with BDD	Schema Therapy	2.933	.855	.004
		Special Package for Women with BDD	Control Group	.733	.855	1.000
		Schema Therapy	Control Group	-2.200	.855	.041
Interpersonal Problems	Time	Pre-test	Post-test	-5.756	1.003	.000
		Pre-test	Follow-up	-5.978	.913	.000
		Post-test	Follow-up	-.222	.416	1.000

Group	Special Package for Women with BDD	Schema Therapy	2.044	1.695	.704
	Special Package for Women with BDD	Control Group	-5.756	1.695	.005
	Schema Therapy	Control Group	-3.711	1.695	.103

4. Discussion and Conclusion

The purpose of the present research was to compare the effectiveness of a specialized package for women with body dysmorphic disorder (BDD) and schema therapy on metacognitive beliefs, identity, and interpersonal relationships among women suffering from BDD. The results from the first part of the study showed that only the specialized package for women with BDD was effective in reducing the metacognitive beliefs of women afflicted with this disorder.

Given that the specialized package for women with BDD was designed and utilized for the first time in this study, there is no direct research available to compare the alignment or misalignment of these findings with previous studies. However, these results can indirectly align with studies that have confirmed the positive effectiveness of schema therapy on the psychological status of patients with BDD (Simpson et al., 2010). Furthermore, this segment of the results indirectly aligns with the body of studies that have affirmed the positive effectiveness of schema therapy on metacognitive beliefs (Edwards, 2022; Farokhzadian et al., 2018).

Regarding the enduring mechanism of impact of the specialized package for women with BDD on metacognitive beliefs in women with this disorder, it can be said that patients with this disorder hold both positive and negative metacognitive beliefs related to the regulation and interpretation of cognitions associated with perceived physical flaws. Positive beliefs about the worry related to appearance flaws and negative beliefs in the cognitive domain such as lack of control and negative outcomes of thoughts about appearance are intensified. This intensification is linked to the use of maladaptive metacognitive strategies to control thoughts. These strategies are characterized by recurrent negative self-related thoughts such as worry and the continuous use of negative coping strategies (worrying or rumination), which have detrimental effects on cognition and self-regulation in patients with BDD. Ultimately, emotional turmoil traps patients with BDD in a state of negative self-processing, from which the person cannot escape. Consequently, the psychological judgments of individuals with BDD regarding the efficiency of their cognition are diminished (Montazeri

et al., 2013). Therefore, the therapeutic package for BDD attempted to identify and challenge negative beliefs about appearance flaws and positive beliefs related to concerns associated with bodily flaws in clients. Additionally, clients were helped to compassionately address their problems, providing an opportunity for clients to consciously review their worries, view them differently, and reduce the emotional turmoil caused by metacognitive beliefs. In this way, this therapeutic package managed to adjust metacognitive beliefs through the recognition and challenging of metacognitive beliefs and compassionate care of worries. On the other hand, teaching clients to accept feelings and thoughts enabled them to learn to be present in the moment and take responsibility for everything related to them without any defensive state. Through acceptance, clients learned to be receptive to all emotions coming their way, whether pleasant or unpleasant, as non-acceptance of emotions, bodily sensations, and negative thoughts about oneself forms the first link in the mental chain of resisting old and automatic patterns of self-degradation, and with the activation of this automatic chain, self-efficacy is severely damaged. Therefore, by strengthening acceptance and voluntary attention, the possibility of automatic attention being dispersed by transient thoughts and emotional states is reduced, and the primary stance of the individual towards experiences shifts from unwillingness to acceptance, ultimately breaking the chain of conditioned habitual responses at the first link and providing a chance for clients to challenge their negative thoughts and beliefs, resulting in a reduction of metacognitive beliefs.

The ineffectiveness of schema therapy on metacognitive beliefs in women with BDD indicates that solely focusing on correcting maladaptive schemas cannot adjust metacognitive beliefs. Adjusting metacognitive beliefs in women with BDD requires strengthening the acceptance of unpleasant thoughts and emotions to increase motivation for change, correcting negative coping strategies such as worrying or rumination, improving emotional turmoil, and adjusting individuals' psychological judgments about themselves to enhance cognitive efficiency, which schema therapy techniques were unable to impact effectively on all components of this process. This highlights the importance of comprehensive attention to the problems of women

dealing with BDD and the development of a specialized therapeutic package.

The results presented show that the specialized package for women with BDD was able to significantly affect informational identity, and schema therapy had a significant effect on the confused/avoidant identity of women with BDD. Additionally, the results indicated that neither treatment had a significant effect on the normative identity of this group.

As stated, there is no direct evidence to refer to for the alignment or misalignment of the effectiveness of the specialized package for women with BDD on identity styles with previous studies. However, these results can be indirectly aligned with studies that have confirmed the positive effectiveness of schema therapy on the psychological state of patients with BDD (Nordahl et al., 2021) and also indirectly with the research of Huntington et al. (2022) regarding the effectiveness of schema therapy in improving identity disorder in patients at the diagnostic stage of the disorder.

In explaining the effectiveness of the specialized package for women with BDD on informational identity, it can be stated that according to Berzonsky (2021), problem-solving skills and decision-making alongside characteristics such as openness, conscientiousness, and commitment define informational identity, and strengthening these capabilities fosters informational identity. Strengthening problem-solving skills within the framework of familiarization and recognition of the problem, reviewing possible solutions, prioritizing and selecting the best solution, implementing the chosen solution, and evaluating outcomes and results (Berzonsky, 2021) in the developed therapeutic package took a step towards fostering the informational identity of women with BDD. In problem-solving education, clients become sensitive and timely decision-makers due to attention to different solutions and selecting the best option, which is another characteristic of informational identity (Berzonsky, 2021). On the other hand, increasing the ability to control thoughts and emotions was impactful in this regard because one of the most significant obstacles to problem-solving and decision-making, which are negative thoughts and emotions, is eliminated. From another perspective, the viewpoint that an individual has full control over their circumstances makes clients more open and aware of environmental cues used to guide behavior, more responsible for their actions, and more precise in their choices (Berzonsky, 2021), both of which lead to an informational identity style.

In explaining the effectiveness of schema therapy on the confused/avoidant identity of women with BDD, it can be stated that avoidance is the predominant coping style in this identity style, which leads to emotion-driven crises, self-disabling, external control sources, and weak attributional and cognitive strategies (Berzonsky, 2021). One of the major experimental techniques of schema therapy is confrontation and mental imagery, which attempts to correct schemas associated with threat or trauma and necessarily involves the client's confrontation with items they avoid. This technique helps clients by confronting them with stressful childhood experiences, reevaluating the cycle of negative interactions with others, and examining harmful social contexts, enabling them to replace schema-driven behavioral patterns with healthier coping styles. Mental imagery for behavioral pattern-breaking also causes distancing from avoidant coping styles. In this context, the therapist and patient prepare a list of new behaviors and discuss the advantages and disadvantages of each, then conclude how to replace problematic behaviors with healthy ones, which was effective in reducing the use of avoidant coping styles in women dealing with BDD. Additionally, according to Young et al. (2006), the goal of schema therapy is to address the emotional crises of clients. When these emotional crises are somewhat resolved during the treatment process, it sets the stage for improving schemas because maladaptive schemas are fundamentally due to unmet emotional needs, which is also one of the reasons for the effectiveness of schema therapy techniques on the confused/avoidant identity style (Young et al., 2006).

To explain the ineffectiveness of the specialized package for women with body dysmorphic disorder (BDD) on the confused/avoidant and normative identities, and the ineffectiveness of schema therapy on the informational and normative identities of women with BDD, one can point to the lack of identity consolidation (Veale & Neziroglu, 2010; Wilhelm et al., 2011), socio-cultural factors (Peng et al., 2023), and current relationships with parents (Malcolm et al., 2018), and their impact on identity formation. Furthermore, being independent, having a plurality of beliefs, and participation—whether in the family, society, or within a cultural framework—have an impact on identity (van de Grift et al., 2016), and for more effective psychological interventions, it is necessary to pay attention to the cultural and sociological dimension of this construct and control these variables in future studies.

The findings presented in the final section showed that the effectiveness of the specialized package for women with

BDD and schema therapy on interpersonal relationships in women with BDD differs in that only the specialized therapeutic package for BDD was able to have an impact on interpersonal relationships in women with BDD.

Since there is no evidence available for referencing the alignment or misalignment of the effectiveness of the specialized package for women with BDD on interpersonal relationships with previous studies, this part of the results can be indirectly aligned with studies that have confirmed the positive effectiveness of schema therapy on the psychological state of patients with BDD. Regarding the mechanism of the specialized package for women with BDD in improving interpersonal relationships in women with this disorder, it can be said that improving interpersonal relationships depends on correcting the individual's thoughts and feelings towards themselves and others. During the specialized therapeutic package for women with BDD, clients learned to recognize their thoughts and emotions and examine their relationship with interpersonal behaviors, learning how to relate differently to dysfunctional thoughts, irrational beliefs, as well as negative emotions and feelings. Creating a different attitude or relationship with thoughts, feelings, and emotions that is based on maintaining full and moment-to-moment attention and also having an attitude accompanied by acceptance without judgment was able to reduce vulnerabilities and irrational sensitivities in stressful situations and thus improve interpersonal relationships. Furthermore, assessing one's situation in a social context was one of the effective techniques in this area. Identifying important individuals in the client's life both in the past and present conditions, determining the interaction methods of the clients with identified individuals, identifying standards and expectations in relationships with others, and recognizing necessary changes in the area of interpersonal relationships were among the efficient processes on this path. The presentation of mindfulness techniques such as body scanning and soothing breathing exercises and the practice of meditation also help clients by reducing negative emotions in social stress situations, enabling these individuals to perform better in social situations with less tolerance for negative emotions. In this treatment, clients learned skills for identifying more effective ways to cope with stress and challenges and learned how to move the mind from one mode to another in the present moment, and how to relate differently to dysfunctional thoughts and negative emotions. Creating a different attitude or relationship with thoughts, feelings, and emotions based on maintaining full and moment-to-moment attention and also having an attitude

accompanied by acceptance without judgment was able to reduce vulnerabilities and irrational sensitivities in stressful situations and thus improve interpersonal relationships. Additionally, training in assertiveness skills and reviewing and correcting the negative interaction cycle alongside changing thoughts and moderating feelings, and familiarizing with effective coping methods improved interpersonal relationships in women with BDD.

In explaining the ineffectiveness of schema therapy on interpersonal relationships in women with BDD, it can be stated that although schemas cause bias in a person's interpretation of events and these biases appear as misunderstandings, distorted attitudes, incorrect assumptions, and unrealistic expectations, women with BDD have a schematic mindset that causes avoidant behaviors to be triggered in situations where there is high sensitivity, and if activated, leads to the arousal of disruptive emotions and avoidant responses or harmful behavior. Although in this approach, help was provided for individuals to recognize their maladaptive schematic mindset and become aware of the ways that have perpetuated their schemas. Through the presentation of this intervention using experiential techniques that focus on arousing emotions related to maladaptive schemas, and also through reparenting, attempts were made to improve emotions and partially satisfy unmet childhood needs, and using the technique of mental imagery that moves schemas from the rational to the emotional realm helped individuals to relate the developmental roots of their schemas in childhood and adolescence to current life problems and to communicate more effectively in current relationships with adults. However, it seems that in order to observe significant improvements in interpersonal relationships, training in communication skills is needed.

5. Limitations and Suggestions

Since this research was conducted on women with BDD in Isfahan, generalizing the results to other groups faces limitations. The inability to randomly sample all women with this disorder and the lack of homogenization in the selection of subjects has meant that the results of this research are not generalizable to other regions. In light of the mentioned limitations, researchers are advised to conduct similar studies in other cities with different cultures and on men with this disorder as well to provide a basis for comparison. Accordingly, experts are advised to use the specialized package for women with BDD to improve

metacognitive beliefs, informational identity, and interpersonal relationships and to use schema therapy to reduce confused/avoidant identity in women involved with BDD.

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