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The Mediating Role of Self-Concept in the Relationship Between Body Dysmorphic Disorder and Social Well-Being

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A B S T R A C T

Introduction: Body dysmorphic disorder (BDD) is a mental disorder that can have significant psychosocial consequences, making it important to identify factors involved in its development and maintenance. The present study aimed to investigate the mediating role of self-concept in the relationship between social well-being and BDD in individuals seeking treatment at beauty clinics in Ahvaz City.

Materials & Methods: A descriptive-analytical cross-sectional correlational design was utilized in this study to examine the relationships among BDD, self-concept, and social well-being. Participants were 180 individuals diagnosed with BDD who sought treatment at beauty clinics in Ahvaz, Iran, in 2022. A convenience sample was employed for participant recruitment. Data were collected using the Body Dysmorphic Metacognitive Questionnaire, Self-Concept Questionnaire, and Social Well-being Questionnaire. Structural Equation Modeling (SEM) was conducted using AMOS, complemented by Pearson correlation analysis using SPSS version 16, to test the proposed theoretical model. All statistical analyses were conducted with a significance level of 0.05.

Results: The results of the study indicated that the model fit indices were within the acceptable range. There was a significant negative correlation between BDD and both social well-being ($r = -0.34$) and self-concept ($r = 0.22$). Moreover, the indirect relationship between social well-being and BDD, mediated by self-concept, was significant ($P = 0.010$).

Conclusion: The results indicate a robust association between BDD, self-concept, and social well-being. Specifically, findings suggest that individuals with heightened BDD symptoms tend to report lower self-concept and diminished social well-being.

Keywords: Body Dysmorphic Disorder, Body Image, Well-Being, Self-Concept

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Introduction

Individuals with body dysmorphic disorder (BDD) are preoccupied with an imagined or slight defect in their appearance, causing significant distress or impairment in social, occupational, or other important areas of functioning (1). Even when a minor physical anomaly is present, the individual's distress and concern about it is markedly excessive and out of proportion to the actual defect (2). In response to these concerns, individuals with BDD may engage in repetitive behaviors such as excessively checking themselves in the mirror, grooming, or mentally comparing their appearance to others (3). Compared to individuals without BDD, those with BDD have a significantly higher history of cosmetic surgery, higher rates of suicide, and suicide attempts related to concerns about appearance (4). Reports place the prevalence of BDD in the general population at around 7%, and the high rates of cosmetic surgeries among those with BDD indicate a high level of dissatisfaction with their physical appearance (5). Evidence suggests that individuals with BDD, compared to others, score higher on self-evaluation and appearance management, and the high level of investment in one’s self-assessed image is clearly associated with cognitive distortions or biases in information processing (6). Studies have shown that these individuals have negative attitudes toward themselves and their physical appearance and employ ineffective coping strategies (7, 8). Self-concept appears to be one of the factors involved in this context.

Self-concept is defined as an individual's personal perception of self-efficacy in various life situations and challenges and is one of the best predictors of overall health and a crucial factor in life satisfaction (9). Accordingly, self-concept comprises a set of beliefs about oneself. In general, the self-concept answers the question, "Who am I?" In social sciences and anthropology, the term "self-concept" holds significant importance, signifying that each individual possesses a mental image of themselves; in fact, it refers to an individual's overall evaluation of their personality (10). Usually derived from one's behavioral characteristics, this subjective self-evaluation can be either negative or positive (11). Our past experiences, successes and failures, and the opinions of others shape our perception of ourselves (12). The importance of everyone's perception of themselves stems from the fact that their self-concept shapes their behavior and actions; individuals often behave in accordance with their self-perception. The second reason for the importance of self-concept is that it also affects how you feel about yourself (13). Those who feel positive about themselves have higher self-esteem and satisfaction compared to those with a negative self-concept and are more successful individuals (14). Body image and each person's perception of their physical characteristics and appearance constitute a large part of their self-concept. Individuals may experience physical, cognitive, and social changes, worry about their physical attractiveness, and feel uncertain about social interactions, which can lead to concerns about how others perceive their physical structure (15). When a culture emphasizes physical attractiveness, it gradually creates a context for concern about the desirability of body image, which leads to weakness in self-concept (16). Given the powerful effects of social and cultural factors on self-concept, it appears that social well-being may play a significant role in this regard.

Social well-being is defined as an individual's subjective report of the quality of their relationships with others and refers to a person's condition and functioning within society. Individuals with high levels of social well-being are generally able to establish and maintain relationships with others (17). Keynes defines social well-being as an individual's subjective report of the quality of their relationships with others, including elements of social cohesion, social participation, social flourishing, social connectedness, and social acceptance. Keyes defines social well-being as an individual's subjective assessment of the quality of their relationships with others, their surroundings, and society. It encompasses perceptions of one's integration into society, the level of acceptance by others, individual participation in society and their involvement in social events, a sense of interaction and solidarity with society, and the growth of flourishing (19, 20). Indicators of social well-being generally include a sense of belonging to socio-environmental factors such as social activities and recreation, connections with legal and voluntary organizations, family and social relationships, relationships and support, including affection, positive interaction, socialization, psychological support, emotional support, and a sense of social flourishing within society (21). Therefore, social well-being, by helping to recognize and accept others, valuing individuals as social partners, participating in society, and believing in positive social change, has many positive psychological consequences and can be a deterrent to many individual and social harms (22). Studies on individuals with BDD and those seeking cosmetic surgery reveal a lower level of social and personal adjustment compared to other individuals (23, 24).

Based on the aforementioned findings, it appears that social well-being plays a role in predicting BDD by influencing self-concept. In fact, on the one hand, studies have shown that social well-being plays a significant role in the level of individual and social adjustment and acts as a deterrent against the occurrence of many disorders and harms, contributing to the maintenance of mental health. Conversely, research demonstrates that individuals with BDD who pursue cosmetic surgery often struggle with a negative self-perception and lack a positive self-image. Therefore, this study looked at how self-concept affects the relationship between social well-being and BDD in people who went to beauty clinics in Ahvaz. The goal was to find out what causes and contributes to BDD.

Materials and Methods

Study design

A descriptive-analytical cross-sectional correlational study was conducted to investigate the interrelationships among BDD, self-concept, and social well-being.

Setting and participants

The study population comprised individuals diagnosed with BDD who sought treatment at beauty clinics in Ahvaz, Iran, in 2022. A convenience sample of 180 participants was recruited. Inclusion criteria encompassed the provision of informed consent, possession of a high school diploma or equivalent, a BDD diagnosis based on a standardized assessment tool, and the absence of acute mental or physical comorbidities. Participants were excluded if the questionnaires were incomplete or if they withdrew from the study. Informed consent was obtained from all participants prior to their involvement in the study, ensuring they were fully aware of the study's purpose, procedures, potential risks, and benefits. Participants were assured of confidentiality and anonymity throughout the study.

Sample size

The sample size was calculated according to the study's variables. Considering the number of variables involved, a minimum of 170 participants was deemed adequate. To accommodate a possible 10% dropout rate, the target sample size was raised to 187. After removing incomplete questionnaires (7 in total), the final sample consisted of 180 participants.

Measurements & Validity and Reliability

1. The Body Dysmorphic Metacognition Questionnaire (BDMQ)

The Body Dysmorphic Metacognition Questionnaire (BDMQ), developed and validated by Rabiei et al. in 2011 (25), assesses metacognitive processes related to BDD. Comprising 31 items, the BDMQ measures four constructs: metacognitive control strategies, thought-action fusion, positive and negative metacognitive beliefs, and safety behaviors. A 5-point Likert scale is used for responses, with total scores ranging from 31 to 155. Higher scores indicate greater BDD severity. Cutoff scores of 62 and 93 delineate low and severe BDD levels, respectively. The BDMQ demonstrated good reliability (Cronbach's alpha = 0.90) in the original development study (25). Additionally, the validity of the Persian version of the BDMQ has been confirmed, with a CVI of 0.95 and a CVR of 0.92 (25).

2. The Self-Concept Questionnaire (SCQ)

The Self-Concept Questionnaire (SCQ), originally developed by Carl Rogers in 1961, assesses self-concept by comparing individuals' perceived self with their ideal self. The instrument consists of two forms, each presenting 25 pairs of contrasting personality traits. Respondents rate themselves on each pair for both their actual and desired selves. Higher SCQ scores indicate greater incongruence between the real and ideal self, suggesting a lower overall self-concept. Cut-off scores of 7 and 10 delineate average and negative self-concept, respectively (26). The original English version of the SCQ has demonstrated excellent psychometric properties, including high reliability and validity (26). The Persian adaptation of the SCQ demonstrated acceptable internal consistency (Cronbach's alpha = 0.91) (27).

3. Social Well-being Questionnaire

The 33-item Social Well-being Questionnaire, developed by Keyes in 1998 (18), was designed to assess the level of social well-being. Its subscales include social cohesion, social flourishing, social connectedness, social participation, and social acceptance. Items are scored on a 5-point Likert scale ranging from strongly agree (5) to strongly disagree (1). The minimum and maximum possible scores on this questionnaire are 33 and 165, respectively. The original English version of the Social Well-being Questionnaire has exhibited robust psychometric properties, characterized by high reliability and validity (18). In a study conducted in Iran, the Social Well-being Questionnaire was standardized, and its face and content validity were confirmed. Additionally, the

questionnaire's reliability was supported by a Cronbach's alpha of 0.83 (28).

4. Demographic form

A demographic questionnaire was administered to collect information on participants' sociodemographic characteristics. The questionnaire included items assessing the following variables: age, measured in years; gender, categorized as male or female; education level, including categories such as high school, undergraduate degree, postgraduate degree, and doctorate; and marital status.

Ethical Consideration

Ethical concerns included acquiring the ethics code (IR.IAU.AHVAZ.REC.1400.157), ensuring integrity in library collection and data reporting, and getting written informed permission from all participants in accordance with the Declaration of Helsinki and principles of human intervention.

Statistical and Data Analysis

Data were analyzed using descriptive and inferential statistical techniques. Descriptive statistics, including means and standard deviations, were computed for all variables. Pearson correlation coefficients were calculated to assess bivariate relationships among study variables. Structural equation modeling (SEM) was employed to test hypothesized relationships among constructs. Data were analyzed using SPSS version 16, and SEM analyses were conducted using AMOS version 23. All statistical analyses were performed with a significance level of 0.05.

Results

Participants (N = 180) had a mean age of 26.83 years (SD = 6.92). The sample comprised predominantly female (n = 133) and single (n = 122) individuals. Educational levels ranged from high school (32.22%) to doctoral degrees (2.22%), with most participants holding bachelor's degrees (48.89%). The demographic variables of the participants were reported in Table 1. Descriptive statistics, including means, standard deviations, skewness, and kurtosis, for all study variables are presented in Table 2. Additionally, Table 3 displays the Pearson correlation coefficients among the variables.

Table 1. Demographic variables of the participants.

Variables		n	%
Gender	Male	47	26.11
	Female	133	73.89
Age (years)	20-25	66	36.67
	25-30	72	40.00
	30-35	42	23.33
Education Level	High school education	58	32.22
	Undergraduate degree	88	48.89
	Postgraduate degree	30	16.67
	Doctorate	4	2.22
Marital status	Single	122	67.78
	Married	58	32.22

Table 2. Means, standard deviations (SD), skewness, and kurtosis, for all study variables

Variables	Mean	SD	Skewness	Kurtosis
Body dysmorphia (total)	124.74	17.39	2.02	1.18
Body dysmorphia: Metacognitive control strategies	33.49	4.24	1.41	1.07
Body dysmorphia: Thought-action fusion	34.64	5.15	1.64	1.14
Body dysmorphia: Positive and negative metacognitive beliefs	27.96	3.89	0.91	1.21
Body dysmorphia: Safety behaviors.	28.65	4.11	1.08	0.96
Social well-being (total)	78.45	12.64	-0.86	-1.20
Social well-being: Social cohesion	17.52	3.31	-0.79	-1.11

Social well-being: Social flourishing	15.38	2.20	-0.41	-0.86
Social well-being: Social connectedness	17.25	2.15	-0.91	-1.16
Social well-being: Social participation	15.25	2.59	-1.13	-1.39
Social well-being: Social acceptance	13.05	2.30	0.97	1.37
Self-concept	14.52	2.29	0.34	2.44
**: P<0.01; *: P<0.05				

Table 3. Descriptive statistics and correlations among study variables

Variables	Body dysmorphia	Social well-being	Self-concept
Body dysmorphia	1		
Social well-being	-0.34** P=0.001	1	
Self-concept	0.22* P=0.008	-0.28** P=0.001	1

As presented in Table 2, BDD demonstrated significant negative correlations with social well-being (r = -0.34) and positive correlations with self-concept (r = 0.22). Skewness and kurtosis values within acceptable limits for all variables indicated that normality assumptions were met. Model fit indices, summarized in Table 4, supported the overall model fit. The hypothesized mediating role of self-concept in the relationship between BDD and social well-being is depicted in Figure 1.

Table 4. Model fit indices

Fit indicators	Value	Acceptable criteria
χ^2	70.18	-
df	26	-
(χ^2/df)	2.69	<3.0
GFI	0.91	>0.90
AGFI	0.95	>0.85
CFI	0.91	>0.90
NFI	0.96	>0.90
TLI	0.93	>0.90
RMSEA	0.006	<0.080
χ^2: chi-square; χ^2/df: the ratio of chi-square to degree of freedom; GFI: Goodness of Fit Index; AGFI: Adjusted Goodness of Fit Index; CFI: Comparative Fit Index; NFI: Normed Fit Index; TLI: Tucker–Lewis index; RMSEA: Root Mean Square Error of Approximation.		

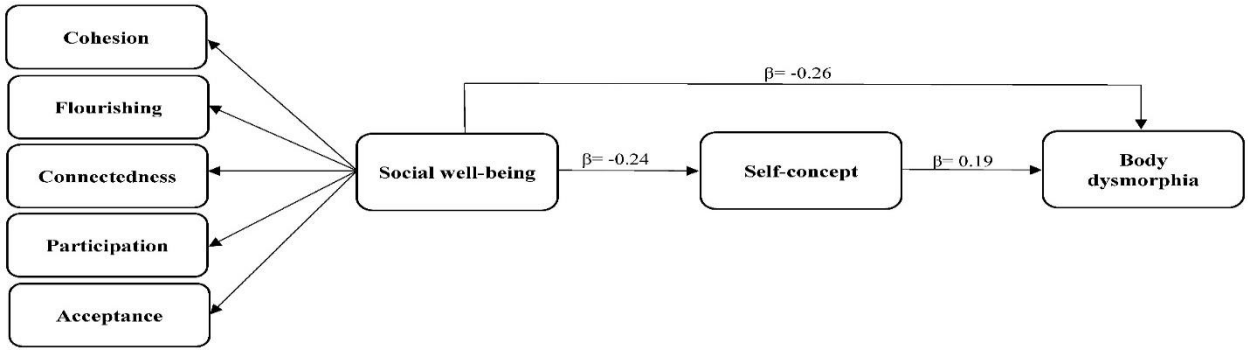


Figure 1. The proposed model

Table 5 presents the standard path coefficients for the hypothesized model. Social well-being exerted a significant negative direct effect on BDD (β = -0.26, P = 0.001). Additionally, social well-being was significantly negatively associated with self-concept (β = -0.24, P = 0.008). Self-concept also significantly predicted BDD (β = 0.19, P = 0.010). The indirect effect of social well-being on BDD through self-concept was significant (β = 0.12, P = 0.010), supporting the hypothesized mediation model.

Table 5. Standardized path coefficients in the proposed model

Path	Proposed model	
	β	P
Social well-being → Body dysmorphia	-0.26	0.001
Social well-being → Self-concept	-0.24	0.008
Self-concept → Body dysmorphia	0.19	0.010
Social well-being → Body dysmorphia through the mediating role of self-concept	0.12	0.010

Discussion

The present study aimed to investigate the mediating role of self-concept in the relationship between social well-being and BDD in individuals referred to clinics. The results of this study demonstrated a significant negative correlation between BDD and social well-being, suggesting that individuals with higher levels of BDD symptoms tend to report lower levels of social well-being. This finding is consistent with previous research, such as that conducted by Fahami et al. (23), which highlighted the importance of social well-being in individual and social adjustment. Their study emphasized that social well-being can act as a protective factor against various mental health disorders and contribute to overall mental health. Furthermore, the relationship between BDD and social well-being may be influenced by the overlap between BDD and social anxiety disorder, as suggested by Fang and Hofmann (29). Their review found that individuals with BDD often experience comorbid social anxiety disorders, which can contribute to difficulties in social interactions and reduced social well-being.

Individuals with BDD excessively focus on their physical appearance and rely overly on others' opinions to evaluate their appearance, being significantly influenced by social norms (1). Therefore, it is evident that these individuals exhibit a deficiency in social well-being, perceiving themselves as separate from society rather than as part of an inclusive community. Instead of accompanying society, they oppose it. When individuals possess social well-being, they believe that society is growing positively and has the potential for positive growth, and they can actualize this potential. Consequently, they are hopeful about contributing to the development of society and utilizing its potential (17). Under such circumstances, individuals have high social adjustment, perceiving social processes as understandable, rational, and predictable, enabling them to adapt to social processes. Moreover, social well-being contributes to strong social cohesion and finding meaning in life, resulting in building a valuable and purposeful life based on genuine individual and social values (18). Individuals with high levels of social well-being are interested in social projects and feel capable of understanding the events around them. They do not delude themselves into thinking they live in a perfect world and elevate their desires and aspirations in terms of understanding life (30). These individuals perceive themselves as belonging to a comprehensive social current in which they participate and share, and they feel a sense of responsibility toward each member. In this process, social well-being helps individuals move from a one-sided and introverted perspective to a broad and comprehensive outlook. The result can be the achievement of a positive sense of self and others without any sense of separation. This enhances the individual's sense of worth and reduces the intensity of self-focused disorders such as BDD.

The results of the present study revealed a significant positive correlation between BDD and negative self-concept, indicating that individuals with higher levels of BDD symptoms tend to report lower levels of self-concept. This finding aligns with previous research by Allen et al. (31) and Kuck et al. (32), which demonstrated a negative relationship between BDD and self-esteem. Allen et al. found that adolescents with higher levels of self-compassion, a component of self-concept, had lower levels of BDD symptoms. Furthermore, the study demonstrated that self-concept mediates the relationship between social well-being and BDD. This suggests that individuals with BDD may experience difficulties in social interactions and reduced social well-being due to negative self-concept

rather than solely due to the direct impact of BDD on social well-being. These findings underscore the interconnectedness between BDD, self-concept, and social well-being, reinforcing the notion that addressing these factors is crucial for effective BDD treatment. In other words, social well-being can predict BDD by influencing and increasing positive self-concept levels. To explain this finding, it should be noted that self-concept, as an individual's perception of oneself, is shaped by experiences with the environment and relationships with others and can vary from very weak or negative to very strong or positive (11). An individual's perception of their personality largely determines their perception of their environment, and individuals with positive self-concepts feel competent and are better able to adapt and adjust to the world around them (12). An individual with a positive self-concept, who knows their strengths and weaknesses well, shapes their life purposefully and based on their genuine values, and therefore, material and physical appearances do not have a significant impact on their attitude towards themselves and their life (13). An individual with a weak and negative self-concept, compared to someone with a positive self-concept, is more likely to conform and be influenced by others because they do not accept their abilities and talents as they are and suffer from low self-esteem. This is especially true in today's modern world, which places enormous emphasis on physical appearance and can exacerbate BDD (14).

This study's cross-sectional design limits its ability to establish causality between BDD, self-concept, and social well-being. The convenience sample of treatment-seeking individuals may not fully represent the broader BDD population. Reliance on self-report measures introduces potential biases. Additionally, the cultural context of the study may limit the generalizability of findings to diverse populations. Future research should employ longitudinal designs, diverse samples, and objective measures to address these limitations and enhance the understanding of BDD.

Conclusion

The present study findings underscore the intricate relationship among BDD, self-concept, and social well-being. The significant negative correlations between BDD and both social well-being and self-concept, coupled with the confirmed mediating role of self-concept in the BDD-social well-being relationship, provide compelling evidence for the complex interplay of these constructs. The identification of self-concept as a crucial mediator emphasizes the importance of targeting self-concept in the development of comprehensive BDD treatment interventions.

Future research should explore the longitudinal trajectories of these variables and examine the efficacy of self-concept-focused therapeutic approaches in ameliorating BDD symptoms and enhancing overall well-being.

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Conflict of interest

The authors declare that there are no conflicts of interest regarding the publication of this paper.

Authors' contributions

Conceptualization, Methodology, Resources, Data Curation, Project Administration: ZN, Validation, Investigation, writing– Original Draft Preparation, Writing– Review & Editing, Supervision: RJ, Formal Analysis, Visualization, Funding Acquisition: MT

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