The Relationship Between Self-Esteem, Depression and Body Image in Individuals with Gender Dysphoria: Male-to-Female Type

Amineh. Kakaei[1], Aliasghar. Asgharnejad[2*], Seyed Mohammadreza. Alavizadeh[3], Somaye. Entezari[4], Azize. Afkham Ebrahimi[5], Abbas. Erabi[6]

[1] M.S. in Neuroscience, Bilkent University, Ankara, Turkiye
[2] Associate Professor, Tehran Psychiatry Institute, Tehran University of Medical Sciences, Tehran, Iran
[3] Department of Sport Psychology, Tehran Institute of Clinical Sport Neuropsychology, Tehran, Iran
[4] Clinical Psychlogy Department, Tehran Institute for Clinical Sport Neuropsychology, Tehran, Iran
[5] Senior Lecturer of Clinical Psychology, Tehran Psychiatry Institute, Tehran University of Medical Sciences, Tehran, Iran
[6] M.Sc. in General Psychology, Kashmar Branch, Islamic Azad University, Kashmar, Iran

* Corresponding author email address: asgharnejadfarid.as@iums.ac.ir

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Abstract

Gender dysphoria (GD) as a general descriptive term refers to the distress that may accompany the incongruence between one's experienced or expressed gender, and one's assigned gender. The aim of the study was to investigate relationship among depression, self- esteem, and body image in individuals with gender dysphoria, male to female type. 31 transsexual men referred to Tehran psychiatric Institution for receiving therapy or surgery certification were selected and completed questionnaires including Appearance Schema Inventory (Cash, 1992), Multidimensional Body- self Relations questionnaire (Cash, 2000), Coopersmith self- esteem scale (Coopersmith, 1981) and Beck's Depression Inventory-II (Beck, et al., 1996). In the group significant correlations were found between self-esteem and depression, self-esteem and both aspects of body image and between depression and two sides of body image (p<0.05). In stepwise regressions and only MtF group, self- esteem was related to body images and partially could predict its changes. Depression associated with the scores of ASI but the MBSRQ's could be anticipated with self- esteem. Although in the mentioned group the significant correlations were displayed, the anticipatory role of self-esteem in body image only was displayed its role in MBSRQ's inventory and not in ASI and could predict some aspects of body images changes.

Keywords: *gender dysphoria; depression; self-esteem; body image*

1. Introduction

According to the latest version of Diagnostic and Statistical Manual of Mental Disorders (DSM-5-TR), gender dysphoria (GD) refers to the distress that may accompany the incongruence between one's experienced or expressed gender, and one's assigned gender. However, it is more specifically defined when used as a diagnostic

category in which it does not refer to distress related to stigma, a distinct, possibly co-occurring, source of distress. Transgender refers to the broad spectrum of individuals whose gender identity differs from their birth-assigned gender. Cisgender describes individuals whose gender expression is congruent with their birth-assigned gender (1). Most individuals with this disorder are unhappy with their appearance and body and seek to do different surgeries like sex reassignment surgery (SRS) and cosmetic surgeries (2, 3). In addition, the GD negatively affects mental and social performance and self-esteem (4). The GD has a low prevalence of about 0.001 (1); however, due to the long-term and expensive process of therapy, plenty of psychiatry comorbid disorders in these patients, society's judgment view, lack of family support, and following that economic and financial pressures on these people as external pressures, and their dissatisfaction with gender, their identity and sexual role as internal pressures, these patients are one of the vulnerable groups of people against mental diseases. Therefore, it should be considered by researchers, which suggests the importance of research on the psychological characteristics of these people.

Self-esteem is one of the psychological aspects affected in these patients. One of the assignment factors of self-esteem is self-perception of his identity, including gender identity (5). The people with GD have low self-esteem due to their specific type of status based on a lack of belonging to a gender-specific group, desire for a sex change, and lack of adequate social support (6). During previous studies, low self-esteem has been the most correlated with depression (7). Concerning this issue, it is expected that individuals with GD also correlate with low self-esteem, namely depression. Here, the intent of depression is feeling sadness, disappointment, and discouragement (6).

The psychological image one forms of the personal figure as a total concept, including body perception and body concept, is body image (BI), also called body identity (8). It seems that the view and evaluation of an individual about its body perception as a man or a woman, body shape fitness, and satisfaction of those called BI. BI has an association with individuals' gender identities (9). Studies have indicated that defaced body image has a relationship with low self-esteem. Symptoms of depression and low self-esteem relate to body image (10). Individuals with GD are more dissatisfied with their bodies than abnormal individuals (11). Therefore, it can be concluded that self-esteem and body image in the people with GD have extra problems and damages. Another subject that should be

pointed is the issuance of legal permitting for doing SRS. It is clear that appropriate conduct relies on an accurate understanding of GD psychological characteristics (12), such as body image, self-esteem, and depression, which play an important role in deciding gender change. Due to limited research in this field, the present study examined the relationship between body image, self-esteem, and depression in individuals with GD of male-to-female.

2. Methods and Materials

2.1. Study Design and Participants

The research is a retrospective, correlational study. The population of this study was individuals with GD who had been referred to Tehran Psychiatric Institute. The GD participants were selected by the purposive sampling method, and then participants were screened regarding marital status and education to avoid a significant difference between them. In addition, the participants were asked to thoroughly read the informed consent form before filling out questionnaires and participating in the study in case of their tendency. In total, among 36 persons with GD type male-to-female invited to participate in this study, 31 patients with GD completely responded to the questionnaires and were assessed. Response time for total questionnaires was 18 minutes, and the following instruments were used for data collection.

2.2. Measures

2.2.1. Beck Depression Inventory-II (BDI-II)

Beck Depression Inventory-II (BDI-II) is a 21-item inventory that developed by Beck and his colleagues (13) to assessing signs of depression; the BDD-II was consistent with DSM-IV (14). Totally, signs have been included in it that respondents are asked to rank severity of these symptoms on a scale from 0-3. Reliability coefficients with test-retest method were from 0.48 to 0.68 according to time interval between split-half and type of studied population (15). Anisi, Fathi, Salimi and Ahmadi (16) reported that Cronbach's alpha coefficient was 0.95, split-half correlation coefficient was 0.89 and test-retest coefficient with an interval of one week was 0.94.

2.2.2. Multidimensional Body-Self Relations Questionnaire (MBSRQ)

Multidimensional Body-Self Relations Questionnaire (MBSRQ) is a test with 46 items that has been developed by Cash (17) to assess blame and disparagement of body image. Test questions are measured and scored according to 5-point Likert scales from score of 1 (strongly disagree) to score of 5 (strongly agree). Psychometric characteristics of MBSRQ have been approved in Cash's study. In Persian form of MBSRQ Cronbach's alpha coefficients results of a sample of 496 students of University of Tehran aged 16 to 39 were calculated 0.83 that are signs of good internal consistency of the MBSRQ (18).

2.2.3. Appearance Schema Inventory (ASI)

Appearance Schema Inventory (ASI) is a 14-items inventory developed by Cash and Labarge (19) in 1992 to measure underlying cognitive assumptions about appearance. ASI questionnaire logically considers materials that show individual beliefs about the importance, meaning, and appearance of cognitive effects on his life. Cash and Labarge (19) reported that the ASI internal consistency is 0.84. It also has convergent validity with six body image measures ranging from 0.38 to 0.60; the discriminant validity of ASI was -0.33 to -0.52 Test-retest reliability with an interval of one month was 0.71 for female students. The Persian version of this questionnaire was standardized on 54 Psychology students of Gilan University; ASI questionnaire reliability (with an interval of 14 days) through three Cronbach's alpha, test-retest, and split-half were 0.75, 0.82, and 0.78, respectively, and they were acceptable (20).

2.2.4. Coopersmith Self-Esteem Inventory (CSEI)

Coopersmith Self-Esteem Inventory (CSEI) is a 58- item scale. It has been developed in 1981 by Cooper-Smith (21) to assess self-esteem. The Inventory has 58 questions that subjects specify that each option is matched to current situation and its' real feeling or not with choosing one of two yes or no answers. 8 items of the CSEI namely, questions 55, 48, 41, 34, 27, 20, 13 and 6 are lie detector and other 50 materials are divided to subscale of overall self-esteem, social/peer, family/parents and educational. The internal consistency of CSEI was perfect (a=0.92) (22). Sharifi and Qassemi (23) reperted The Persian form of CSEI has very good internal consistency (a=0.85).

2.3. Data Analysis

The data was analysed with the stepwise regression method in SPSS software.

3. Findings

Obtained data of 31 patients with GD who had responded completely to the questionnaires were analyzed. The mean age was 23.19 and standard deviation was 3.97. All the participants were single and 94% of their education were diploma and lower than diploma. The mean and standard deviation of the variables mentioned are stated in Table 1:

Table 1

Mean and standard deviation of research variables in sample group

Variable	Mean	Standard Deviation
Depression	25.29	8.03
Self-esteem	23.09	7.45
ASI body image	53.80	7.63
MBSRQ body- image	139.52	18.56

The results presented in Table 2 of the study demonstrate significant correlations between body image (both ASI and MBSRQ), depression, and self-esteem in male-to-female individuals with gender dysphoria (GD). Specifically, the ASI body image showed a positive correlation with depression (r = 0.555) and a strong negative correlation with self-esteem (r = -0.794). Similarly, the MBSRQ body image exhibited a positive correlation with ASI body image (r = 0.650), a negative correlation with depression (r = -0.498), and a substantial negative correlation with self-esteem (r = -0.704). Furthermore, depression and self-esteem were also strongly negatively correlated (r = -0.742). All these correlations were statistically significant at the 0.05 level.

Table 2

Correlations between body image and depression and self-esteem

Variables	1	2	3	4
1. ASI body image	1			
2. MBSRQ body image	0.650	1		
3. depression	0.555	-0.498	1	
4. self-esteem	-0.794	-0.704	-0.742	1

All correlations are significant at the level of 0.05

First time, relationship between depression, self-esteem with negative assessment of body image (namely ASI scores), and second time, the relationship between depression, self-esteem with positive evaluation of body image (namely MBSRQ scores) were investigated. The findings of this analysis are in Table 3.

Table 3

Summarization of variance and regression model analysis of relationship between self-esteem and ASI and MBSQ body image in individuals with GD

dependent variable	Model	SS	Df	MS	F	p	R	R^2	adjR^2
ASI	Regression	1103.89	1	1103.89	49.63	0.000	-0.79	0.63	0.618
	Residue	644.94	29	22.239					
	Total	1748.83	30						
MBSQ	Regression	5120.79	1	5120.79	28.45	0.000	0.704	0.49	0.470
	Residue	5218.94	29	179.96					
	Total	10339.73	30						

After regression analysis, it was showed that in patients with GD, depression variable had not predictability role in body image, so it was excluded. Based on this analysis, it was found that self-esteem variable can predict some changes in body image. There is significant relationship between predictor and criterion variable (R=0.74, R=-0.79). They had power of explaining 62 percent of negative dimension and 47 percent of positive dimension of body image (R^2_{Adj}=0.62 and R^2_{Adj}=0.47) in case of generalization of these results from research population to main population. The regression coefficient of predictive variable shows that self-esteem can explain changes of body image significantly. In case of generalization of these results to research population, weight of this variable for predicting positive and negative dimensions of body-image was -0.79 and 0.74, respectively. In this case, whatever self-esteem is higher, individual will have less negative and more positive assessment of his body image. Formulas of predicting self-esteem dimension would be (See Table 4):

0.814(score of self-esteem) + 72.60 = negative assessment of body image (ASI)

1.753(score of self-esteem) + 99.032 = positive assessment of body image (MBSRQ)

Finally, we can summarize the findings as follow: A multiple regression was run to predict body image from self-esteem of persons with GD. This variable statistically significantly predicted negative body image, F_{ASI} (1, 29) = 49.63, $p<.05$, R^2=0.63; and positive F_{MBSQ} (1, 29) = 28.47, $p<.05$, R^2=0.49. this variable added statistically significantly to the prediction of negative and positive aspect of body image, ($p<0.05$).

Table 4

Regression statistical indicators of self-esteem on ASI and MBSQ body image in individuals with GD

dependent variable	Independent Variable	B	Beta	T	P
ASI	Constant	72.603	-	25.93	0.000
	Self-esteem	-0.045	-0.79	7.045-	0.000
MBSQ	Constant	99.032	-	0.43	0.000
	Self-esteem	1.75	0.704	5.33	0.000

4. Discussion

The primary purpose of the present study was to determine the relationship between self-esteem, depression, and body image in individuals with GD with the type of man-to-woman. The results showed the existence of a significant correlation between these variables.

The next aim of the research was to survey the predictability role of depression and self-esteem variables on two dimensions of positive and negative body image and determine their predictability weight. The results of this study indicated that depression did not have a predictable role in these individuals, so it was removed from the regression model. However, it was found that self-esteem could significantly influence predicting body image. The results of this research were aligned with the results of Gomez-Gila and her colleagues (24). In this study, it was observed that these variables are related to each other in individuals with GD, and in addition, these individuals will be sought for hormone therapy and surgeries associated with gender change in the predictive self-esteem variable of

body image (24). These findings are unlike the prevailing belief that self-esteem is responsible for the predictability role of self-esteem (25). It was found that in the following study that has been implemented by path analysis method for predicting body image in pregnant women (26), obtained model indicated that depression and self-esteem could affect some dimensions of body image and affect the changes. It is according to the Cognitive-behavioral model of Cach (27). Cash suggests that body image includes an individual's perception of his/her body, thoughts, and interpretations of the individual within him/herself, apparent processing schema, related emotions with body image, and self-regulation behaviors. These concepts are involved in depression, according to Beck's cognitive theory of depression, so it is as logical as and expectable that depression can predict some aspects of body image, and self-esteem can predict some other aspects of body image. If the relationship between depression and self-esteem is substantial, one of these variables is merged with the other, and only one of those two demonstrates a predictability impact (27).

The study of Vocks and her colleagues (11) also supports this research's findings. It has been found that body image is changing in both clinical and non-clinical populations, depression and self-esteem are associated with body image, and self-esteem has a predictable role in individuals like teenagers (28), social media users (29), the LGBTQ population (30), pregnant women (31), persons with eating disorders (32). However, examining these variables in the population of individuals with GD can be mentioned in that research.

The other research goal of this study was to investigate the relationship between depression and body image in individuals with GD of male-to-female; the correlation between self-esteem and depression was very high, so these two variables were merged. The results of this research show alignment with the findings of research about the relationship between depressive symptoms and body image in adolescent girls (33) and the relationship between low self-esteem and body dissatisfaction (34). It was also observed that sexual orientation is related to body image, dissatisfaction with the body, and depression (35). It means that homosexual men and heterosexual women are more likely to report dissatisfaction with their bodies and concerns and depressive symptoms associated with the body than heterosexual men and homosexual women. In other words, sexual orientation to have a sexual partner in men increases a higher risk of dissatisfaction with body

image. Since in this study, people with GD male-to-female participated, and the majority of them have a same-sex orientation, they are at a higher risk of dissatisfaction with their body image than homosexual men.

Swami, Hadji-Micheal, and Furnham (36) have performed a study on 207 boys and girls at risk of sexual dissatisfaction in the UK in which it was indicated that people with low self-esteem demonstrated more distorted body image from themselves and had more concerns and checking behaviors to their body, weight, and fitness. In addition, they probably participate in exhausting sports activities, have an interest in plastic surgery, and have vomiting behaviors. In general, they concluded that adolescents, pregnant women, and each group of people in which the visual changes occur in their appearances would be exposed to the change in body image, self-esteem, depression, and anxiety (37). Since individuals with GD also experience appearance changes due to gender alteration surgery and hormone therapy, it is expected to be subject to this rule. However, since no study with such details was performed on the alteration-demanding society in detail, which examines this group of people and these variables specifically, the present study was devoted to investigating this matter.

5. Conclusion

The present study successfully explored the interrelationships between self-esteem, depression, and body image in individuals with gender dysphoria, specifically male-to-female type. The findings clearly demonstrate significant correlations between these variables, underscoring the complex psychological dynamics in this population. The pivotal role of self-esteem in influencing body image is particularly noteworthy, as it significantly predicts both positive and negative perceptions of body image. This indicates that enhancing self-esteem could be a crucial intervention target for improving body image and mitigating depressive symptoms in individuals with gender dysphoria.

Suggestions for Application:

1. Clinical Interventions: Mental health professionals should focus on interventions that bolster self-esteem in individuals with gender dysphoria. Techniques such as cognitive-behavioral therapy could be effective in restructuring negative thought patterns and enhancing self-perception.

2. Awareness Programs: Health care providers and support groups should conduct awareness programs to educate society about gender dysphoria, aiming to reduce stigma and provide a supportive environment for these individuals.

3. Training Healthcare Providers: Training programs for healthcare providers, especially those involved in the care of individuals with gender dysphoria, should include modules on understanding the complexities of self-esteem, depression, and body image issues in this group.

Suggestions for Future Research:

1. Longitudinal Studies: Future studies should adopt a longitudinal design to track changes in self-esteem, depression, and body image over time, especially considering the impact of hormonal treatments and gender-affirming surgeries.

2. Diverse Populations: Research should be extended to different age groups and cultural backgrounds to explore the universality of the findings and understand cultural influences on gender dysphoria.

3. Intervention Studies: It would be beneficial to conduct studies examining the effectiveness of specific therapeutic interventions focused on improving self-esteem and body image in this population.

4. Qualitative Research: Qualitative studies could provide deeper insights into the personal experiences of individuals with gender dysphoria, contributing to a more comprehensive understanding of their psychological needs.

By addressing these areas, future research can contribute to a more nuanced understanding of gender dysphoria and inform more effective and compassionate care strategies for individuals dealing with this condition.

Research limitations:

1. The sample of individuals with GD do not represent all people with this disorder because some do not accept assessment and SRS surgery for unknown reasons and do not refer to specialized clinics. Thus, according to Standards of Care for the Health of Transsexual, Transgender, and Gender-Nonconforming People, (38), this finding is factual for individuals with GD who try to cope with this situation. This means that the findings are clinic-based and not a field study.

2. The obtained findings are limited only to the time interval that the people with GD were referred to the Tehran Institute of Psychiatry to begin their treatment process, and there is no status of their psychological states before the start of treatment and end of surgery.

3. As the relationship between the present study's variables is bilateral and reciprocal, finding the cause-effect relation between them did not take place.

Authors' Contributions

A.M: Data analysis, Funding acquisition and Resources. A.K., A.A., and A.A.E: Conceptualization and Supervision. A.K., and S.M.A: Methodology. A.M., and A.E: Data collection. All authors: Investigation, Original draft, Writing - Review and Editing.

Transparency Statement

The authors are willing to share their data, analytics methods, and study materials with other researchers. The material will be available upon reasonable request.

Ethics Considerations

This study is approved under the ethical approval code of IR.TICSNP.REC.1400.12.21.01 (webpage of ethical approval code is: http://ticsnp.ir/wp-content/uploads/2022/09/IR.TICSNP.REC_.1400.12.21.01.pdf*)*

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