

C Comparison of gender roles in male and female in patients with borderline personality disorder (BPD) with control group and it's correlation with severity of clinical symptoms

Comparación de los roles de género en hombres y mujeres en pacientes con trastorno de personalidad limitrofe (DBP) con el grupo de control y su correlación con la gravedad de los síntomas clínicos

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Abstract

Introduction: The objective of this research was to compare the gender masculine and the gender feminine roles in patients with borderline personality disorder and control group. This study was aimed to determine the correlation coefficient of the gender masculine and the gender feminine roles with severity of borderline personality disorder.

Methods: In this case-control study, 17 males and 25 females with borderline personality disorder, and 22 males and 18 females in control group were examined. To evaluate the sex roles, the Bem sex role inventory (BSRI) and the gender masculine (GM) and gender feminine (GF) roles derived from the Minnesota Multi-Stage Personality Inventory (MMPI-2) were used. The borderline personality disorder and its severity were diagnosed using a semi-structured clinical interview based on DSM-IV for personality disorders (SCID-II). Pearson correlation coefficient and variance analysis were used to analyze the findings.

Results: According to GM inventory, no significant difference was found between the male patients and control group subjects. No significant difference was found between female patients and control group subjects and between male patients and two groups of women. Based

on the GF inventory, the femininity of male and female patients and control group of men was less than that of control group of women. Based on BSRI, gender masculine traits score was significantly higher in men and women with borderline personality disorder than those in control group of men and control group of women. In gender feminine trait score, control group of women obtained higher scores than both of control group of men and men with borderline personality disorder. There was no significant difference between control group of women and women with borderline personality disorder. There was a significant correlation between the severity of borderline personality disorder in women and gender masculine trait score based on the Bem sex roles index (BSRI) ($r=0.410$, $p=0.042$).

Conclusion: Men with borderline personality disorder had more masculinity than control group of men, although they showed no significant difference with control group based on sex role. Higher masculinity was associated with more severe personality disorder in women.

Keywords: sex stereotypes, borderline personality disorder, masculinity and femininity, sex roles.

Introducción: el objetivo de esta investigación fue comparar los roles de género masculino y femenino en pacientes con trastorno de personalidad límite y grupo de control. Este estudio tuvo como objetivo determinar el coeficiente de correlación del género masculino y los roles de género femenino con la gravedad del trastorno límite de la personalidad.

Métodos: en este estudio de casos y controles, se examinaron 17 hombres y 25 mujeres con trastorno límite de personalidad, y 22 hombres y 18 mujeres en el grupo de control. Para evaluar los roles sexuales, se utilizaron el Inventario de roles sexuales de Bem (BSRI) y los roles de género masculino (GF) y de género femenino (GF) derivados del Inventario de Personalidad de Múltiples Etapas de Minnesota (MMPI-2). El trastorno límite de la personalidad y su gravedad se diagnosticó mediante una entrevista clínica semiestructurada basada en el DSM-IV para los trastornos de la personalidad (SCID-II). Se utilizaron el coeficiente de correlación de Pearson y el análisis de varianza para analizar los hallazgos.

Resultados: De acuerdo con el inventario de GM, no se encontraron diferencias significativas entre los pacientes masculinos y los sujetos del grupo de control. No se encontraron diferencias significativas entre los pacientes femeninos y los sujetos del grupo de control y entre los pacientes masculinos y dos grupos de mujeres. Según el inventario de GF, la feminidad de los pacientes masculinos y femeninos y el grupo de control de los hombres fue menor que la del grupo de control de las mujeres. Según el BSRI, la puntuación de los rasgos masculinos de género fue significativamente mayor en hombres y mujeres con trastorno de personalidad límite que en el grupo control de hombres y el grupo control de mujeres. En la puntuación del rasgo femenino de género, el grupo control de mujeres obtuvo puntuaciones más altas que el grupo control de hombres y hombres con trastorno límite de la personalidad. No hubo diferencias significativas entre el grupo control de mujeres y mujeres con trastorno de personalidad límite. Hubo una correlación significativa entre la gravedad del trastorno límite de la personalidad en las mujeres y la puntuación del rasgo masculino según el índice de roles sexuales de Bem (BSRI) ($r=0,410$, $p=0,042$).

Conclusión: los hombres con trastorno límite de la personalidad tenían más masculinidad que el grupo control de los hombres, aunque no mostraron diferencias significativas con el grupo control en función del rol sexual. La masculinidad más alta se asoció con un trastorno de personalidad más grave en las mujeres.

Palabras clave: Estereotipos sexuales, trastorno límite de la personalidad, masculinidad y feminidad, roles sexuales.

Borderline personality disorder is a severe psychiatric disorder characterized by impairment in stabilizing personal "self" and "identity". It includes disturbance in explaining the personal goals, developing and stabilizing interpersonal relationships, sex identity, sex orientation and sexual relations^{3,4}. This disorder is diagnosed more in women than that of men^{1,8}, but it seems that a kind of sex bias is involved in the diagnosis of this disorder². Based on feminine stereotypes, the exaggerated incidence of dependency behaviors in women are considered as signs of borderline personality disorders. Moreover, the manifestation of masculine stereotypical behaviors, such as sexual activities and expression of anger have an effect on psychiatric diagnosis. Anger and sexual abuse are associated with the diagnosis of borderline personality disorder and men with these characteristics are identified as antisocial personality disorder⁵.

Based on Bailey (1996), sex role refers to behaviors, attitudes and personal characteristics which are more acceptable in community for the social role of men or women. Thus, when we describe a man's behavior as feminine, it means that some of his characteristics are more seen in the opposite sex. In fact, his sex role is more feminine rather than masculine⁶. It is perceived that sex roles affected by individual culture, to be effective in recognizing the symptoms of the patient. While many experts argue that there is a relationship between gender and personality disorders, limited number of studies has investigated the effect of gender on various types of personality disorders⁷.

It seems that sex roles as part of an individual's identity can be effective in the development and incidence of this disorder and the general health of patients. For example, in these patients stigma is more common than many other psychiatric diagnoses⁹. Mental health treatments are not easily available for those who are living with this diagnosis. Kurpisz et al (2016) evaluated the sex role and sex behavior of young adult males. Results of this research revealed that neuroticism was associated with a negative attitude towards gender and lower sexual satisfaction. Extroversion was associated with a higher level of masculinity, higher sexual desire, and greater number of sexual intercourses, higher sexual satisfaction, and lower erectile dysfunctions. Openness to experiences was associated with masculinity, better relationships with the sexual partner, and a better attitude towards sexual activity. Conscientiousness was associated with more femininity, onset of sexual activity at higher age, and less tendency to masturbate. Agreeableness was associated with better quality of sexual intercourse and the lower number of sexual partners and having sexual satisfaction with one partner. In general, masculinity was associated with a wider range of satisfaction with sexual activities¹⁰.

In a meta-analysis study conducted in 2014, Grijalva et al examined gender differences in narcissism personality disorder. The results revealed that men are more narcissist than women. The research also showed a less studied type of narcissism, known as vulnerable narcissism, characterized with low self-confidence, neuroticism and introversion. The prevalence of this type of narcissism was not different in men and women¹¹. Castro et al (2012) examined the sex role in predicting antisocial behavior and somatization disorder, results revealed that sex role plays a major role in antisocial behavioral manifestations. Somatization associated with neither gender masculine nor with gender feminine role¹². Given the relatively high prevalence of borderline personality disorder and the burden of this disorder as well as sex biases in the diagnosis of this disorder, this paper aimed to identify male gender feminine and gender masculine roles in patients and compare them with healthy subjects of control group¹³.

This research was an analytical and case-control study. The research population and sample included those who referred to the Iranian Psychiatric Institute and hospitalized people and outpatients of Iran psychiatric hospital. They were diagnosed with borderline personality disorder based on semi-structured clinical interviews based on DSM-IV for personality disorders (SCID-II), which were considered as case group. A total of 17 males and 25 females with borderline personality disorder and 22 healthy males and 18 healthy females in control group were examined in one-year period. The control group subjects were selected among family members of patients who were not diagnosed with personality disorders in DSM-IV or DSM-5 based on clinical interviews with SCID-II.

Research instruments: Semi-structured Clinical Interview for Disorders II (SCID-II) in DSM-IV

Semi-structured Clinical Interview for Disorders II (SCID-II) in DSM-IV is in fact a semi-structured clinical interview. The personality disorders in SCID-II were assessed in both categorical and dimensional ways. Then, each of the criteria for personality disorder was evaluated. Making decision on whether that clinical criterion applies to a person or not, was based on the judgment of the interviewer and it was not based on merely his response. Accordingly, in addition to have one criterion, based on the judgment of the interviewer, the severity of the disorder (criterion) was assessed based on the three areas of being pathological, continuity and inclusiveness, and the severity between zero and 3 was assigned to it.

To examine the reliability of SCID-II, Maffei et al reported the reliability coefficient among the evaluators in cate-

gorical diagnosis of personality disorders was investigated between 0.48 and 0.98. The intra-cluster correlation coefficients (ICC) among the evaluators in dimensional diagnosis of personality disorders were reported between 0.71 and 0.98. The researchers calculated the correlation coefficient for internal stability from 0.71 to 0.98. In general, this research showed reliability among the evaluators and desired internal stability of SCID-II¹⁴. Lobbsteal et al reported the reliability among the evaluators at excellent level both in categorical diagnosis of personality disorders and in dimensional diagnosis¹⁵. In a research on patients with Body Dysmorphic Disorder, the face validity and content validity of this interview with the help of three physiologists, who were faculty members of university, were reported at a desired level. Moreover the test-retest reliability of SCID-II with one-week interval was reported as 0.87¹⁶.

Bem Sex Role Inventory: The Bem Sex Role Inventory (BSRI) was designed in 1971 by Sandra Bem. This was based on her theory of the separation of the two dimensions of masculinity and femininity¹⁷. The main inventory consisted of 60 social traits. These traits have been arranged in three classes of masculinity, femininity, and neutral and 20 traits have been considered for each, class. Each person gave a score between 1 (never or almost never true) to 7 (always or almost always true) to each trait. The mean score of each person in 20 masculinity traits was defined as the masculinity score and the mean score of each person in 20 femininity traits was defined as femininity score, each of which was in the range of 1 to 7. It seems that the traits of this inventory are culturally shared¹⁸. Bem (1974) reported the Cronbach's alpha coefficient 0.86 for masculine traits and 0.82 for feminine traits, and their retest reliability coefficient was 0.90, 0.90 and 0.93 for masculine traits, feminine traits, and neutral traits, respectively¹⁷. In a study conducted by Alawi et al, these traits were studied in a group of normal men and women. Cronbach's alpha coefficients were reported higher than 0.7 for both men and women in masculinity and femininity inventories¹⁹.

Gender Masculine and Gender Feminine Roles Inventories derived from MMPI-2

Peterson & Dahlstrom derived two GM and GF inventories from MMPI-2 which was very different from the Mf inventory, so that there were a few items shared between them. In addition, questions of two GM and GF inventories are completely separate¹⁰. The basis for the selection of items by Peterson & Dahlstrom was that at least 70 percent of men or women confirmed one item about themselves and it was different by at least 10 percent between the two groups. The GM-47 inventory had 47 items and GF-46 inventory had 46 items. In this study, the Persian version of these two inventories was introduced by Alawi et al.²⁰. The new inventory had 53 items and some of its items were shared between the GM and GF inventories. Peterson & Dahlstrom reported the Cronbach's Alpha Coefficient of GM inventory 0.67 for men and 0.75 for females and they reported it 0.57 both for both men and women. The test-retest reliability coefficients of GM

inventory was reported 0.73 and 0.89, respectively, for men and women. Test-retest reliability coefficients of GF inventory was reported 0.86 and 0.78, respectively. In the study conducted by Alawi et al on a group of Iranian men and women, the new inventory had a significant correlation with the main inventory (0.843 for GM and 0.823 for GF) and their Cronbach's alpha coefficients was 0.577 and 0.699, respectively, for normal men and 54.44 and 0.351, respectively, for normal women.

Research procedure: The patients with potential of personality disorder cluster B (including borderline, narcissism and antisocial personality disorders) were evaluated at the first stage. First, these people were informed about the research and its objectives and, if they wanted, signed an informed consent form. Then, the patients were screened by a trained psychiatric assistant in terms of major depression episode (MDE), mania, or any psychoactive episodes based on DSM-5 diagnostic criteria. For screening, Structured Clinical Interview Questions was used for disorders I based on DSM-IV (SCID-I). Adhering to this screening, a structured clinical interview was used for disorders II based on DSM-IV (SCID-II). The diagnosis was performed both in categorical and dimensional ways. In dimensional diagnosis, the number of criteria for each disorder was considered as the score for that disorder. A list of all criteria, whether or not the person met them or not, was recorded for each item. Patients diagnosed with borderline personality disorder, regardless of other personality disorders, entered the next step.

In the next step, the background information inventory, gender feminine role (GF) and gender masculine role (GM) inventories derived from MMPI-2 and Bem Sex Role Inventory (BSRI) were administered to subjects. The family members of patients referred to Iran Psychiatric Hospital or Tehran Psychiatric Clinic were evaluated based on clinical interviews according to DSM-IV diagnostic criteria (SCID-I and SCID-II). In the case of the lack of borderline personality disorder, gender feminine role (GF) and gender masculine role (GM) inventories derived from MMPI-2 were given to them to be completed.

Research inclusion criteria included: 1. Borderline personality disorder based on DSM-IV criteria. 2. Informed consent in order to be entered the research. 3 –age 18 to 55, and 4 – Having at least secondary level of education. **Research exclusion criteria included:** 1. Uncertain diagnosis of personality disorders. 2. Major depression episode (MDE), mania or any psychotic episode at the time of referral based on DSM-IV criteria, and 3. Lack of completing the inventories (more than 10% of the questions remained unanswered).

Data analysis method: The obtained data were analyzed through SPSS-22 software.

In describing the data, the statistics of frequency and percentage of frequency were used for qualitative variables. Moreover, mean, standard deviation, median, and range of variations were used for quantitative variables.

The normal distribution of data was examined using Kolmogorov-Smirnov test. Dimensional scores of men and women were compared using independent T-test. In the relationship between sex roles and personality disorders, men and women were segmented and ANOVA analysis was performed in each case. Alpha error was considered to be 0.05.

Results

In this research, 17 males and 25 females with borderline personality disorder, and 22 males and 18 females as control were examined. The mean age (\pm SD) of these four groups was 28.1 ± 6.4 years (at the range of 18 to 39 years), 27.5 ± 5.4 (at the range of 18 to 35 years), 9.1 ± 33.6 years (at the range of 18 to 52 years) and 39.4 ± 8.0 years (at the range of range 28-50 years), respectively. The education level of them is presented in (Table 1).

Table 1: Frequency distribution of different levels of education in participants of research (the numbers within parenthesis represent percentage of frequency)

Education	Men with borderline personality disorder (17=n)	Women with borderline personality disorder (25=n)	Control men (22=n)	Control women (18=n)
Elementary and secondary	-	1 (0.4)	-	-
High school	2 (8.11)	3 (0.12)	4 (2.18)	3 (16.7)
Diploma	8 (1.47)	9 (0.36)	9 (9.40)	6 (3.33)
Associate and bachelor	4 (5.23)	7 (0.28)	7 (8.31)	7 (9.38)
master and higher	3 (6.17)	3 (0.12)	1 (4.5)	2 (.111)
student	-	2 (0.8)	1 (4.5)	-

Based on gender masculine role inventory derived from MMPI-2, there was a significant difference among the four groups ($F=10.547$, $p<0.001$). These scores are presented in (Table 2). The gender masculine (GM) role score in control men was significantly higher than that of control women ($p<0.001$) and women with borderline personality disorder ($p<0.001$). There was no significant difference among other groups, and no significant difference was found between the two groups of control men and patient men ($p=0.061$). A significant difference was also found among the scores of four groups in terms of gender feminine role ($F=9.992$, $p<0.001$). Gender feminine (GF) role score in men of control group was significantly lower than that of women of control group and women with borderline personality disorder ($p<0.001$, $p=0.045$). Men and women with borderline personality disorder showed lower scores than women of control group ($p=0.001$, $p=0.033$, respectively).

Table 2: Mean scores of gender masculine role and gender feminine role based on GM and GF inventories derived from MMPI-2 in the studied groups

Variable		$\mu \pm SD$	Range of variations
Gender masculine role (GM)	Control men	6.5 \pm 8.25	36-17
	Men with borderline personality disorder	9.4 \pm 7.21	28-13
	Control women	2.4 \pm 4.18	26-11
	women with borderline personality disorder	4.09 \pm 6.18	28-8
Gender feminine role (GF)	Control men	7.5 \pm 8.19	29-9
	Men with borderline personality disorder	9.5 \pm 2.21	34-15
	Control women	6.3 \pm 8.28	35-22
	women with borderline personality disorder	2.6 \pm 1.24	36-9

Masculine traits scores groups according to Bem Sex Role Inventory (BSRI) were significantly different among the four groups ($p=0.001$, $F=15.016$) (Table 3). The Gomes-Howell test was used for pairwise comparisons given the significant difference in variances based on the Levene's test (Levene's statistic =3.009, $p=0.035$). Based on the mentioned test, the score of gender masculine roles was significantly higher in men and women with borderline personality disorders than that in control group of men ($p=0.008$, $p=0.022$, respectively) and control women (in both cases, $p<0.001$).

Control men also had higher scores than control women ($p=0.022$). The scores of feminine traits were significantly different among the four groups ($F=6.472$, $p=0.001$). The control women obtained higher scores compared to men of control group ($p=0.001$) and men with borderline personality disorder ($p=0.002$). There was no significant difference between the control group of women and women with borderline personality disorder ($p=0.076$).

Table 3: Mean scores of masculine and feminine traits based on the BSRI in the studied groups

Variable		$\mu \pm SD$	Range of variations
Masculine traits	Control men	7.0 \pm 0.4	2.5-7.2
	Men with borderline personality disorder	5.0 \pm 7.4	9.5-7.3
	Control women	6.0 \pm 4.3	2.5-2.2
	women with borderline personality disorder	9.0 \pm 7.4	9.5-8.2
Feminine traits	Control men	8.0 \pm 0.5	3.6-9.2
	Men with borderline personality disorder	7.0 \pm 0.5	7.6-8.3
	Control women	6.0 \pm 7.5	7.6-8.4
	women with borderline personality disorder	7.0 \pm 3.5	5.6-2.4

Pearson correlation coefficients between the severity of borderline personality disorder and sex roles are shown in (Table 4). Based on this table, there was a significant correlation between severity of borderline personality disorder in women and gender masculine traits on the BSRI ($r=0.410$, $p=0.042$).

Table 4: Pearson correlation coefficients between severity of borderline personality disorder and sex roles in patients

variable		Men with borderline personality disorder		Women with borderline personality disorder	
		r	p	r	p
Inventory derived from MMPI-2	Gender masculine role	111.0	670.0	212.0	309.0
	Gender feminine role	113.0-	665.0	293.0-	155.0
Bem Sex role inventory	Masculine traits	095.0	716.0	410.0	042.0
	Feminine roles	170.0	514.0	004.0	986.0

Discussion: The objective of this research was to evaluate the gender masculine and gender feminine roles in patients with borderline personality disorder and comparing them with the control group. While sex biases in diagnosing and estimating the severity of personality disorders have been shown in various studies, including borderline personality disorder, sex roles of patients with each of these disorders have been less compared to healthy controls. It is concluded that they were simply exaggerated sex roles that caused sex bias in the process of diagnosis of personality disorders², while sex-inconsistent masculine and feminine traits were more seen in patients with personality disorders. In the current research, based on the gender masculine role inventory derived from MMPI-2 MMPI-2, men with borderline personality disorder had lower masculinity than control men, although this difference was not statistically significant ($p=0.06$). In addition, no significant difference was seen between the gender masculine role scores of patient men and control women, which was somewhat affected by the limited sample size and low statistical power of the present study.

However, Bem sex role inventory showed that masculine traits were more common in both patient men and patient women than that in control men and control women. It seems that one of the most important reasons for the difference is due to the different contents of the GM inventory and the Bem sex role inventory. The GM inventory focused more on social roles, fears, and interest of people, while Bem sex role inventory evaluated traits relating to gender¹⁶. It is likely that patients, compared to control group, exaggerated more about their traits to attract more attention, since most of the traits of Bem sex role inventory (not all of these traits) were positive ones. One the significant attributes of the characteristic disorders of the class B was their need to have relationships in which they could be accepted and welcomed. Moreover, the process of idealization which was common in patients with borderline personality disorder, may also occur in self-assessment and patient people to have unconsciousness tendency for tending artificially to be good^{21,22}. It should be noted that in the traditional Iran's community and similar to many other communities, masculine traits such as assertiveness, independence of vote, strong personality, leadership ability, workability and willingness to take risk are accepted and are among desirable traits⁵.

Female patients with borderline personality disorder might strengthen the gender masculine roles and seem to be more masculine due to modeling the heroes and community-accepted models. In addition, more job interests and social activities were examined on a GM inventory, and men with borderline personality disorder might avoid the mentioned social roles in their efforts to justify their social failure. As a result of this, the score of gender masculine role in men with borderline personality disorder was less than that of control group. The results of present study also revealed that the severity of borderline personality disorder (in women not in men) was correlated with the score of gender masculine traits. However, in the dimension of femininity and based on GF inventory, the femininity of men and women with borderline personality disorder was not statistically significant. Although this group of control men did not show feminine traits, the femininity of patient women was less than that of control women. Based on Bem sex role inventory, feminine traits of patient women were significantly lower than those of control women. These results emphasized the severe suppression of feminine roles and traits in women with borderline personality disorder²³. Common diagnostic criteria for borderline personality disorder (for example DSM-IV and DSM-5) were sometimes based on exaggerated masculinity and denial of femininity. Symptoms such as an outburst of anger and excessive drug abuse were masculine traits²⁰. As a result, it is likely that these traits with equal severity of symptoms to be perceived more in women than those pathologic men⁶, while some of these criteria were more pronounced in women than those of men. For example, sexual abuse was a trait tolerated and accepted more men more than that in women⁵. In addition, paying attention to the form of the body, emerging sometimes in quick and exaggerated changes in the diet in the form of periodic periods of overeating, and then a strict and inflexible diet, was dominantly feminine⁹. Accordingly, it was expected that men with borderline personality disorder show more prominent femininity than control men, which was found in results of GF inventory²⁴. In contrast, with regard to gender traits dimension reflected in Bem sex role inventory, women with a borderline personality disorder had lower femininity than control group of women to avoid their traditional roles showing them weak and vulnerable (such as kindheartedness, affection, sensitivity to needs of others, compassion, honesty and obedience).

Conclusions

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en with borderline personality disorder had more masculinity than control men, although their sex role was not different. Higher masculinity in women was associated with a more severe personality disorder.

Ethical considerations: No intervention was used in this study. Before beginning of the study, the research objectives were explained for the subjects. They were stated that participating in this study would not provide immediate benefit for them. They were ensured that their information would remain confidential and only group data would be reported. Participants were not obliged to complete all inventories. Participation in the study required signing of an informed consent form

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