

A Comparative Study of the Prevalence and Intensity of Borderline Personality Features in Male and Female High School Students in Fars Province

Seyede Fateme Sajadi^{1*}; Habibe Riyahi¹; Zahra Sahraeeyan²; Raziye Sadeghi¹; Fakhri Tajikzadeh¹; Tayebe Mahmoudi¹; Yadolla Zargar¹

¹Department of Psychology, Shahid Chamran University, Ahvaz, IR Iran

²Faculty of Psychology and Education, Allameh Tabataba'i University, Tehran, IR Iran

*Corresponding author: Seyede Fateme Sajadi, Department of Psychology, Shahid Chamran University, Ahvaz, IR Iran. Tel: +98-9173046244, E-mail: fsajadi@mscstu.scu.ac.ir

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Background: Borderline Personality Disorder (BPD) is the most important and prevalent entity, with a population prevalence rate of 1.4 to 5.9.

Objectives: Although, the epidemiology of BPD is insufficiently known, our objective was to compare the cross-sectional prevalence and intensity of this disorder among high school male and female students.

Patients and Methods: The study comprised of 1265 male/female high school students in educational year 2013 to 2014 in Fars province, selected by multi-stage random sampling. Data collection was done using Borderline Personality Features Scale-Children. The descriptive statistics, Chi-square test, student's independent t-test, and multivariate analysis of variance were used for data analysis.

Results: The prevalence rate of borderline personality features in whole sample is 26.6%, with 34.2% in females and 17.4% in males. There was a significant difference between males and females ($P < 0.001$, $\chi^2 = 6.72$). Regarding total scores and related four subscales, significant differences were found between the prevalence of borderline personality features in males and females; self-harm and negative relationship subscales were higher in male students.

Conclusions: The results showed that there was a considerable gap between the real prevalence of borderline personality disorder in the general population and its prevalence in clinical records. Also, the prevalence of borderline personality disorder in non-clinical adolescent's population is higher than its prevalence in adult population. It shows the necessity for more specific investigations and designing predictive plans.

Keywords: Prevalence; Intensity; Students; Borderline Personality Features

1. Background

Borderline personality disorder (BPD) is a chronic and complex psychiatric disorder described by a pervasive pattern of instability in interpersonal relationships, self-concept, emotion, behavior, and difficulties in emotion regulation and impulse control (1, 2). The severity of this disorder is determined by its chronicity, excessive use of treatment, poor health outcomes (3), severe functional impairment, high mortality rate due to suicide (4), and comorbidity with mood disorders, anxiety, substance abuse, and other personality disorders (5).

The review of the literature shows that adults with BPD receive more attention (6). Meanwhile, available empirical evidences are increasing to support BPD construct validity in adolescents. Studies suggest that psychological risk factors for adolescents with BPD are similar to those described in adults (7). Thus, comparable diagnostic criteria are used to identify adolescents and adults with BPD. But, the manifestation and duration of symptoms are reduced from two to one year, provided that indi-

vidual personality features are pervasive and persistent and could not be explained by adolescent developmental period or an episode of an Axis I disorder (8).

Studies conducted in Eastern hemisphere using SCID-II on people who have committed suicide show a 17% prevalence of BPD (9). Another study on Turkish psychiatric patients based on DSM-III-R criteria indicated a 10% prevalence of the disorder. A similar study showed the highest rate of antisocial personality disorder in 11 eastern and 3 other countries, except for India and Kenya (10). Grant et al. (4) in a sample of 43,093 reported the prevalence of BPD to be 5.9%. The average prevalence rate of the disorder in studies conducted on non-clinical sample using self-report questionnaires has been reported to vary from 27.7 to 30.3% (11). Recent studies using semi-structured interviews on a sample of 1657 estimated the prevalence rate to be 11.9% (5).

Although, many studies have been conducted on BPD in clinical field, very little is known about its prevalence and

severity in the general population (4). Moreover, clinical studies have indicated that the prevalence of BPD was higher among women than men, however, no evidence was found to support these results (12, 13). Recently, the prevalence of BPD among non-clinical population has been estimated to be 2% to 6% (14) and it is estimated to be 10% to 20% among hospitalized and non-hospitalized cases receiving treatment in mental health clinics (15). Of patients with BPD, 84.5% had 12-month diagnostic criteria of one or more axis I disorders and 73.9% had lifelong diagnostic criteria for axis II disorders (13).

BPD is associated with a 50-fold increase in suicide risk (16), accounting for its high incidence of hospitalization and 10% mortality rate (12). Thus, 10% of non-hospitalized psychiatric patients and 15% to 25% of hospitalized patients are affected by the disorder (13). The prevalence of BPD in adolescents is greater than adults (17), as the prevalence in the general population of adolescents and hospitalized adolescents are 15% and 50%, respectively (18). The suicide rate in adolescents is 19.5% and suicide attempt 8.5%. The prevalence of non-suicidal self-harm behaviors is from 38% to 67% in clinical sample and 10% to 44% in non-clinical samples (12).

To date, assessments had two prominent features, both of which may be problematic for initial borderline pathological examinations in adolescents. Firstly, evaluations so far had relied primarily on the classified and psychiatric diagnostic scheme of BPD proposed for adults and it is unclear to what extent it is applicable to adolescents. Secondly, the previous research in adolescents showed that these studies focused on clinical samples. This is especially important so far as the development and etiology of BPD, because clinical samples are probably not representative of the population of adolescents with symptoms of borderline pathology (19).

In fact, one of the most important gaps in existing knowledge is the lack of experimental and systematic prospective attention to the development of borderline personality. One of the unfortunate consequences of the lack of BPD evaluations in subjects aged less than 18-years was that the study of BPD has focused primarily on adults for many years. Therefore, it is important to consider individual differences in personality development during growth process. For some children and adolescents, these individual differences underlie vulnerabilities to the development of personality disorders. It is very essential to assess the vulnerabilities using prospective programs, psychometric tools, and a sample of children and adolescents in order to build a systematic scientific basis of etiology and development of personality disorders, to inform people, and to employ empirically supported and preventive interventions (19).

2. Objectives

As mentioned above, BPD has a high prevalence in clinical and general population (20) and it is one of the great-

est challenges of modern research due to the complexity of the disorder and lack of obvious physical symptoms (21). There is also a growing scientific consensus to show the importance of focusing on early diagnosis and treatment. Therefore, the present study aimed to assess and compare the prevalence and severity of borderline personality features involving male and female students. Given the research objective, the following questions were thus raised and discussed:

- 1) How much is the prevalence of borderline personality features in students of Fars province?
- 2) Are there any differences in terms of the prevalence of borderline?
- 3) Personality features among male and female students in Fars province?
- 4) Are there any differences regarding the severity of borderline personality features and its components among male and female students in Fars province?

3. Patients and Methods

We surveyed the whole nonclinical population cross-sectionally to estimate the point prevalence of BPD. The study was approved by Department of psychology in Shahid Chamran University of Ahvaz and Fars Department of Education. The population under study consisted of all 14 - 17 years old male and female students in 1st to 3rd grades of high school students in Fars province in educational year 2013 to 2014 (Iranian year of 1392 - 1393). The sample consisted of 1265 students including 692 girls, 572 boys selected by multistage random sampling. First, two girl's schools and two boy's schools were chosen randomly in each city separately, then two classes in each school were selected in random and finally half of the students of each class were randomly chosen to answer the questionnaire.

3.1. Instrument

Borderline Personality Features Scale for Children (BPFS-C; Crick, Murray-Close, and Woods, 2005): This is a 24-item self-report questionnaire that assesses borderline personality features among children and adolescents aged from 9 to 17 years (19). This measure was adopted from the BPD scale of the Personality Assessments Inventory (PAI; Morey, 1991), modified for use in adolescents. BPFS-C is scored on 5-point Likert scale with responses ranging from 1 (not at all true) to 5 (always true) to evaluate affective instability, identity problems, and negative relationships and self-harm (8). Four of the responses are reverse-scored, individual item scores for each of the 22-items are summed to yield a total score. Higher scores indicate greater levels of borderline personality features. The optimal cut-off score was 66 for the BPFS-C (Se = 0.856; Sp = 0.840) (22). The BPFS-C has shown good internal consistency across 12 months study by Crick et al. (19), done on a sample of 400 students aged 10 - 12 years, ($\alpha > 0.76$) as well as criterion validity (22) and

construct validity (19). Prior research in Iran examining the 22-item instruments with a large community sample ($n = 400$) of boys and girls in high school showed high consistency ($\alpha > 0.84$) (23). In the current study, Cronbach's α was 0.81.

4. Results

The study sample consisted of 1256 high school students, including 692 (55%) girls and 573 (45%) boys in eight cities of Fars province. The age of students ranged from 14 to 17 years with an average of 15.91 ± 1.06 SD. Also, 33.5% of the students were in 1st grade, 36.6% in 2nd grade, and 30% in 3rd grade of high school. Average CGPA (Cumulative Grade Point Average) was 16.87 (SD = 2.09). Demographic characteristics and gender distribution of the study sample are presented in Table 1. Table 2 includes descriptive information, means and standard deviation (SD) of variables.

As seen in Table 2, the mean score obtained by the sample ($N = 1265$) on a variable of borderline personality features was 60.18 (SD = 1.33). The mean scores obtained by the male sample ($N = 572$) on variables of borderline personality features, negative relationships and self-harm was higher than the mean scores obtained by female sample ($N = 692$).

As seen in Table 3, the total prevalence of borderline personality features among high school students is 26.6%, including 17.4% for male students and 34.2% for female students (The first question). Borderline personality features was found between male and female groups of students ($P < 0.001$, $\chi^2 = 6.72$).

t-test for independent groups was used to examine the third question on the difference in the severity of borderline personality features between male and female students. The results showed that there were significant differences between the two groups ($P < 0.001$, $t = 0.88$). A multivariate analysis of variance was performed to compare the four components of borderline personality features in both genders and the results of all tests including Wilks' Lambda, Pillai's trace, Hotelling's trace, and Roy's largest root showed a significant multivariate analysis of variance ($P < 0.001$). According to data presented in Table 4, there were significant differences in emotional instability score ($P = 0.02$), negative relationships ($P = 0.05$), and self-harm ($P < 0.001$) between males and females. Also, regarding identity problems no significant difference was found between the two groups.

Table 1. Sample Demographic Characteristics and Gender Distribution

City	Gender		Total
	Female	Male	
Shiraz	200	200	400
Jahrom	85	86	171
Noorabad Mamasani	74	58	132
Lamerd	68	81	149
Neyriz	68	31	99
Sarvestan	38	22	60
Marvdasht	80	26	106
Estahban	79	69	148
Total	692	573	1265

Table 2. Means and Standard Deviation of Student's Scores on Borderline Personality Features and Subscales^a

Variable	Statistical Indices
Borderline personality features	59.87 (1.24)
Affective instability	14.65 (3.64)
Female	
Identity problems	14.60 (4.06)
Negative relationship	15.25 (4.41)
Self-harm	15.35 (4.91)
Borderline personality features	60.54 (1.42)
Affective instability	14.20 (3.54)
Male	
Identity problems	14.42 (4.42)
Negative relationship	15.77 (5.09)
Self-harm	16.14 (5.39)
Borderline personality features	60.18 (1.33)
Affective instability	14.45 (3.60)
Total	
Identity problems	14.52 (4.23)
Negative relationship	15.49 (4.73)
Self-harm	15.71 (5.14)

^a Data are presented as Mean (SD).

Table 3. Prevalence of Borderline Personality Features With Sex Comparison

Participants	Sample	Frequency	Prevalence ^a
Female	692	237	34.2
Male	573	100	17.4
Total	1265	337	26.6

^a Data are presented as %.

Table 4. Summary of Variance Analysis for Borderline Personality Features and Its Subscales in Both Genders ^a

Independent Variable	Dependent Variable	Sum of Squares	Freedom Degree	Mean Square	F	P value
Gender	Affective instability	62.82	1	62.82	4.83	0.02
Gender	Identity problems	10.89	1	10.89	0.60	0.43
Gender	Negative relationship	83.56	1	83.56	3.37	0.05
Gender	Self-harm	192.68	1	192.68	7.30	0.00

^a Data are presented for n = 1265.

5. Discussion

To our knowledge, this is the first study ever to assess the prevalence of borderline personality features in the general population aged less than 18 years. However, the demographics of the study sample were similar to those reported in the literature which is mainly composed of females, adolescents, and less often married (24, 25). The studies on epidemiology of personality disorders are plagued by methodological problems. First, since publication of diagnostic criteria for borderline personality disorder in 1980 and Diagnostic and Statistical Manual of Mental Disorders edition (DSM) published in 1994 many changes have taken place which made the results of initial studies less relevant. Second, there are different diagnostic tools that variously estimate the prevalence of borderline personality disorder. Compared to structured interviews, non-structured clinical assessments have been less reliable with more false negatives. In contrast, self-report questionnaires are associated with many false positives. Third, the subjects can be biased by clinical setting, access to treatment, help seeking, illness severity and comorbidity (25).

Our finding revealed that the overall prevalence of borderline personality features among male and female high school students in Fars province with a mean age of 15.91 years is 26.6%. This prevalence rate is much higher than its incidence in general population of adults. The reasons for choosing a sample of adolescents can be the result of BPD natural history. The symptoms of BPD usually occur before the age 18 years (26) and the highest prevalence of this disorder has been found in subjects younger than 40 years (24).

Moreover, BPD is inversely associated with age, so that the greatest drop in the rate of this disorder is seen after age 44 (4, 26, 27). This suggests that the disorder is not as chronic as previously mentioned. Further, the dispersion in BPD rate can somehow be related to prior research limitations due to small and non-representative samples. It can also be due to differences in diagnostic criteria, assessment tools, research design and methods (4).

The results of the present study on the prevalence of borderline personality features in both genders (female: 34.2%, male: 17.4%) are consistent with clinical studies (28), but contrary to most of epidemiological studies such as those of Coid et al. (29), Lenzenweger et al. (30), Jackson et al. (28), Grant et al. (4). That is because no differences

were found in epidemiological studies on the prevalence of BPD among men and women and clinical studies estimate the prevalence of BPD to be manifold in women. This contradiction could be explained by the tendency of women to seek treatment more readily. It can also be due to sampling bias (31), biological or social-cultural differences (32), and the finding that antisocial personality disorder or substance abuse are more frequent in men (25).

In sum, it can be said that the prevalence of borderline personality features in general population is much higher than previously reported. This prevalence is significantly associated with physical and mental disabilities, particularly among women (33). This study showed that there is a significant gap between the actual prevalence of BPD in general population and clinical samples (2). Further epidemiological, clinical and genetic studies are needed to gain a better understanding about the common and unique factors leading to BPD. The importance of gender-related differences in rates and correlates of BPD also indicate the necessity for conducting further investigations in this field. In addition, it is suggested that additional studies in relation to social surveys are required considering increased rate of BPD, which is significantly greater among divorcees, separated, and those with low income and education levels (4). The limitations of this study include lack of data on socio-economic classes, which in turn can impact the comparison of our study with previously reported investigations.

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Authors' Contributions

Seyede Fateme Sajadi was responsible for the analysis and interpretation of data, drafting of the manuscript, statistical analysis and study supervision. Habibe Riyahi, Zahra Sahraeeyan, Raziye Sadeghi, Fakhri Tajikzadeh, and Tayebe Mahmoudi were responsible for the collection of data. Yadolla Zargar was responsible for study concept and design.

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