

## Role of Type D Personality in Prediction of Occurrence or Non-occurrence of Premenstrual Dysphoric Disorder

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Article Received: 26-May-2024

Revised: 16-June-2024

Accepted: 06-July-2024

### **ABSTRACT:**

The present study aimed to investigate the role of Type D personality in the prediction of the occurrence or non-occurrence of premenstrual dysphoric disorder. To do so, among the population of high school students in Tabriz City, 60 students were selected as premenstrual dysphoric patients, and 60 students were selected as normal samples, after conducting a diagnostic interview based on DSM-V and recording symptoms in Dickerson's daily symptom recording questionnaire. Both groups were asked to answer Denollet's Personality Type Questionnaire (DS14). The data obtained were analyzed using the discriminant analysis. The results indicate that there is a significant difference between the patient group and the normal group in terms of Type D personality and its components (social inhibition and negative affectivity). The variables of Type D personality and its components can significantly predict the occurrence or non-occurrence of PMDD. According to these findings, it can be said that the mutual relationships between psychological states and the body states can be theoretically explained and the evidence in the present study also confirms such relationships.

**Keywords:** Pre-Menstrual Dysphoric Disorder (PMDD), Type D personality, social inhibition, negative affectivity.

### **INTRODUCTION:**

One of the issues that teenage girls and women of childbearing age face is issues related to the menstrual cycle. A great percentage of women experience severe premenstrual symptoms that can cause mood and behavioral disorders such as anxiety, depression, aggression, and aggressive states. The research shows that women in the luteal phase of their menstrual cycle need hospitalization and emergency treatment more than women in other phases of this cycle. Also, this group of women commits more suicide attempts than other women (Cirilo et al., 2012).

Dalton argued in 1964 and 1977 that premenstrual syndrome is responsible for the increase in imprisonment due to alcohol addiction, misbehavior at school, dissatisfaction in industrial centers and hospitalization due to accidents and hospital admission, general increase in suicide attempts, psychiatric admissions, weakness in doing work and homework, seeking medical care for physical symptoms and social isolation (Weisz & Knaapen, 2009). In addition, the financial burden caused by this syndrome upon the individuals and the society is significant (Borenstein, Dean, Endicott, Wond, Broen,

and Dickerson, 2003). Bailey, in a social study on women with PMDD, showed that these women suffer higher levels of co-occurring mental disorders, especially unipolar depression (Bailey & Cohen, 1999). Moreover, various studies have shown that in women with PMDD, there are menstrual symptoms such as behavioral aggressiveness, hostility, higher levels of tension, and increased smoking by female smokers (Snively, 2000).

Gilly (2007) has reported a 27.5% decrease in people's job performance, 1.23% disruption in work relationships, 82.8% disagreement with spouse, 6% disagreement with children, and 41% disruption in social relations concerning the effects of this syndrome. The examination of the relationship between PMDD and couples relationships indicates that the more effective the symptoms on the social performance of women, the higher the disagreements between the couples and the more severe the disorders, in a way that 565 of the married people have reported a low to severe levels of disorder (Rubinow, 2006).

As was mentioned, among the mood symptoms of PMDD, depression, anxiety, irritability, restlessness, crying, desire to stay at home, and avoidance of social activities can be noted. These symptoms show

correlations with people with Type D personality traits or dysphoric personality. Type D personality is a psychological structure that emphasizes Negative Affectivity (NA) and Social Inhibition (SI) in the expression of emotions in social situations. As an explanation, it can be said that NA is specified with a stable tendency to experience negative emotions such as anger, hostility, depression, anxiety, and internal inconsistency, and SI is attributed to the failure to reveal feelings and opinions in social interactions to avoid disapproval from others (Denollet, 1993; cited by Adl Nasab, 2010). Therefore, the Type D personality style is a behavioral pattern in which people experience high levels of negative emotions such as depression, anger, hostility, and anxiety while avoiding expressing them (Pederson & Denollet, 2006; Denollet, Vaes, and Brutsaert, 2000; Kupper, Pederson, Hofer, Saner, Oldridge, and Denollet, 2013). This type of personality manifests itself as continuous distress and has been identified in Denollet's studies on coping methods for heart and coronary patients. People with this personality type have negative affectivity and while interacting socially, consciously avoid expressing themselves. On the other hand, these people show more depression and helplessness in interpersonal situations and are associated with symptoms such as neurotic symptoms. In addition, people with Type D personality show behavioral traits such as social isolation and in line with this trait, emotions such as depression, anger, anxiety, and pessimism (Denollet, 1993).

Denollet's findings (2006) indicate that social inhibition as one of the Type D personality behavioral traits, is closely correlated to unhealthy behaviors (cited by Adl Nasab, 2012). On the other hand, studies by Pederson and Denollet (2003) and Cutz (1994) indicate that people with Type D personality score higher than people with other personality types in terms of symptoms of depression, anxiety, PTSD, irritability, and inhibition. Thus, the researchers have concluded that Type D personality is a general distress index, and the prevalence of psychosomatic problems is higher in people with negative emotions and social inhibition as components of Type D personality.

Based on the abovementioned, it can be said that conducting studies in this regard and determination of the prevalence and risk factors of this syndrome can help decrease the complications caused by this syndrome. On the other hand, despite the various studies on the factors associated with PMDD, no consistent study to examine this disorder has been conducted. If the importance of PMS is ignored during adolescence and youth, it can lead to adverse effects on the health and life quality, and in the long run, can cause the occurrence of deviations in the sufferers' mental image of themselves, a decrease in self-confidence, followed by disruption in interpersonal relationships (Chau and Chang, 1999). Considering the negative effects of this syndrome in terms of the mental and physical dimensions of this period of teenage girls' lives, the first step in the prevention and promotion of

the mental and physical health of these people is to inform them and increase their awareness through creation and expansion of extensive and organized programs. Based on the abovementioned, the present study aimed to investigate the role of Type D personality in the prediction of the occurrence or non-occurrence of PMDD.

### **Theoretical Foundations:**

#### **Post-Menstrual Dysphoric Disorder (PMDD):**

The PMS, as a broad diagnostic concept, was first raised by Dalton and Green in 1953, as the presence of recurring symptoms during the premenstrual phase or the first days of menstruation. These symptoms are completely obviated after menstruation. In 1987, after long debates, the American Psychological Association (APA) added an under-study diagnostic category for severe symptoms of luteal phase under the title of Late Luteal Phase Dysphoric Disorder (LLPDD) to the Diagnostic and Statistical Manual of Mental Disorders, Third Edition (DSM-III-R).

Other studies also note the most prevalent physical and non-physical symptoms. According to these studies, the most common non-physical symptoms include boredom, decreased energy, anger, irritability, desire to commit suicide, absenteeism, reduced work efficiency, weakness in doing work, and social isolation, while in patients with severe symptoms, the negative attitude towards menstruation is higher (Abolghasemi, 2009, cited from Goli Giti, 2009). The most prominent trait of this syndrome is irritability (Jacob, 2006).

If these menstrual-related symptoms occur in the luteal phase of the menstruation cycle, it is called Premenstrual Syndrome (PMS). There are similarities and correlations between PMS and emotional disorders such as anxiety, panic disorder, major depression, and seasonal affective disorder, in a way that in the records of half of women with PMS, anxiety and mood disorders have been reported (Halbreich, 2003).

About 3 to 7% of women have complete diagnostic criteria for PMDD. The difference between the PMS and PMDD is the severance of the symptoms, the number of symptoms, and especially, the performance disorder. Based on the abovementioned, it can be said that PMDD is a physical-mental disease that begins with changes in sex steroid levels during the menstrual cycle and is associated with irritability, emotional restlessness, headache, anxiety, and depression, as well as physical symptoms (Sadock, Sadock, and Ruiz, 2009).

To diagnose PMDD, the patient is asked to write her daily symptoms down for at least two consecutive cycles. These symptoms should occur during the last week of the luteal phase, decrease with the onset of bleeding, and disappear during the follicular phase (Freeman, 2003). In addition to the presence of dysphoric mood in the luteal phase, women with PMDD report weaknesses in cognitive abilities such as concentration and memory, that disrupt their productivity and efficiency.

Cohen et al. (1998) state that women with PMDD tend to have lower levels of education (cited from Ross and Steiner, 2003). On the other hand, Pelinta et al. (2010) concluded that women with higher education levels are less likely to contract PMDD. In this regard, a correlation between the mothers and daughters has been witnessed in terms of the occurrence of this syndrome, and family factors may play a role in these symptoms. Studies on twins indicate that genetic and environmental factors are effective in the occurrence of the PMS (Mishel, 2005).

#### **Type D Personality:**

Clinically, people with Type D personality are prone to worry, tension, feeling sad, and looking darkly at life. They easily get angry and generally, experience less positive feelings. These people, while stuck in negative feelings, avoid expressing their emotions in interaction with others due to the fear of being rejected or devalued. It should be noted that this personality construct emphasizes more normal traits of personality rather than psychopathological aspects. Bagherian Saraverdi (2010) believes that these people usually suffer from chronic emotional tension, anger, and low self-confidence.

Studies on the Type D personality indicate that negative affectivity is one of the components of Type D personality. It is closely correlated with the psychopathy. Thus, it can be said that the psychopathy personality trait is one of the effective mechanisms of the Type D personality through affecting emotions. In personality-related theories, the concept of negative affectivity is closely related to psychopathy and emotional inhibition. As was mentioned, negative affectivity is positively correlated with psychopathy in the Five-Factor Model, while social inhibition is negatively correlated with extroversion in this model. Both traits of the Type D personality are negatively correlated with the Conscientiousness trait in the Five-Factor Model (Pederson, Hermann-Lingen, Jong, and Scherer, 2002).

People with Type D personality are identified with low levels of self-esteem and general dissatisfaction. It seems that the symptoms of fatigue and vital exhaustion are more common in cardiac patients with this personality type (Coper and Denollet, 2004). In addition, children with Type D personality have more negative moods and less creativity compared to children with other personality types. These people also show higher mental distress compared to non-type D personality. They show more tendency to use more passive and abnormal coping strategies which is related to burnout (Mols and Denollet, 2010).

#### **The Role of Type D Personality in PMDD:**

Although the research shows that hormone changes due to the menstruation cycle play an important role in the etiology of PMDD, various studies have failed to explain the reason behind this disorder only through the hormone cycles (Dickerson, Mazyck, and Hunter,

2003). It implies that other factors such as personal structures may be involved in occurrence of the PMDD because although all women of reproductive age experience these hormone fluctuations during the menstruation cycle, only a few percent of them suffer from PMDD. It seems that these women might have vulnerable personality traits and show some relieving stimuli to cope with premenstrual symptoms (Hulbridge, 1997).

Studies indicate that general stresses of life are consistent with the prevalence of PMDD and PMS. For example, Swiss women who have reported moderate or severe mental restlessness are more likely to suffer from PMS or PMDD compared to women with no mental restlessness (Tschudin, Berteau, and Zemp, 2010). In some young German women, the baseline daily stressors were positively correlated with implicit PMDD and subthreshold PMDD (Perkonig et al., 2004). Two studies on American women indicated that daily stressors and stressful perception are correlated with the occurrence of PMDD (Parry, Meliska, and Sorenson, 2010; Fontana and Palfai, 1994). On the other hand, it has been witnessed that perceived stress is positively correlated with premenstrual symptoms (Gollenberg, Hediger, and Mumford, 2010). Generally, the studies indicate that women with PMDD show higher physiological reactions to stress, compared to other women (Epperson et al., 2007).

#### **Methodology:**

The present study is predictive correlational research with a descriptive approach in terms of the data collection procedure. The statistical population includes female students with and without PMDD in Tabriz City. From this population, 60 students with PMDD and 60 students without PMDD (normal students) were screened using convenience sampling and diagnostic review. To ensure data adequacy, Kerlinger's teachings were used (1976), i.e., in correlational studies, at least 30 subjects are required per each predictor variable.

#### **Measurement Tool:**

##### **Denollet's Type D Personality Questionnaire (DS-14):**

To measure the personality type, the Type D personality scale (Denollet, 1998) was used. This scale contains 14 items among which 7 items measure the negative affectivity and 7 measure the social inhibition. All items are measured on a 5-item Likert scale (incorrect, somewhat incorrect, no comment, somewhat correct, correct). Masoudnia (2011) reported the coefficient of reliability and internal consistency of the components NA and SI from the Type D personality construct to be equal to 0.82 and 0.73, respectively. Also, in another study, Ahmadpour Mobarakeh et al. (2007) reported the reliability coefficient of the scale to be 0.92, using Cronbach's alpha and test-retest methods. The validity of this scale has also been reported with the general health scale and the negative thoughts subscale of Glass Social

Interaction Questionnaire as 550 and 0520, respectively, which is indicative of the simultaneous validity of the scale. In another study, Cronbach's alpha coefficients of NA and SI were reported to be 0.88 and 0.86, respectively, and the simultaneous credit factor of this scale compared to Type A personality was reported to be 0.62.

**Dickerson Daily Record of Severity of Problems (DRSP) (2004):**

This questionnaire contains three parts namely mood, physical, and behavioral parts, designed to record the daily symptoms during menstruation (from the first day till the last day of a menstruation cycle). It is filled in from mild to severe, during at least three menstruation cycles (one before treatment and two during the treatment). Mood symptoms include 6 items, behavioral symptoms include 5 items, and physical symptoms include 8 items (a total of 19 items). The severity of each symptom category for each month is calculated based on the obtained score, and an average of 3 months is considered to determine the PMDD.

**Structured Diagnostic Interview based on DSM-V:**

A PMDD mood-behavioral-physical checklist was prepared by the researcher based on the DSM-V so that in addition to the psychologist or psychiatrist diagnosis, the screening of PMDD patients is done more precisely.

The descriptive statistics including the mean and standard deviation as well as the inferential statistics including the discriminant analysis were used for data analysis.

**Findings:**

To describe the variables, the central location and dispersion indices, especially the mean and standard deviation, have been used. The results of this section are presented in Table (1).

Table 1: Central and dispersion indices

| variable            | SI   | NA    | Type D |
|---------------------|------|-------|--------|
| People with PMDD    | M    | M     | M      |
|                     | SD   | SD    | SD     |
|                     | 17.1 | 15.8  | 31.65  |
| People without PMDD | 4.15 | 4.10  | 6.92   |
|                     | 11.8 | 10.16 | 22.44  |
|                     | 3.21 | 3.41  | 5.16   |

Results in Table (1) indicate that the SI level among people with PMDD is higher than people without it. The NA was also higher in people with PMDD than those without it. Moreover, the symptoms of the Type D personality among people with PMDD were higher than people without it.

To analyze the data about whether the dual dimensions of Type D personality can predict the occurrence or

non-occurrence of PMDD, the discriminant analysis was used.

Table 2: Structural coefficient of the discriminant function separated by groups

| Variable | Group     |              |
|----------|-----------|--------------|
|          | With PMDD | Without PMDD |
| SI       | 4.82      | 4.21         |
| NA       | 3.25      | 2.81         |

The contents of Table (2) show the estimation of non-standard structural coefficients for each of the two studied groups in a separate discriminant function. Based on the obtained non-standard coefficients, it can be concluded that in the group with PMDD, the role of both inhibition variables (social) and negative affectivity in predicting the occurrence of PMDD is greater than in the group without it. Now, both variables have a significant role in the occurrence and non-occurrence of PMDD.

Table 3: Wilkes lambda

| function tes | Wilkes lambda | X <sup>2</sup> | df | significance level |
|--------------|---------------|----------------|----|--------------------|
| 1            | 0.48          | 55.66          | 2  | 0.001              |

The contents of Table (3) show that about 48% of the variance of the total diagnosis scores cannot be explained based on the difference between the groups. On the other hand, the calculated value of X<sup>2</sup> (66.59) shows that the mean of the two groups (with and without PMDD) is statistically significant for the studied variables.

Table 4: Frequency of group separation based on predictor variables

| Group        |            | With PMDD | without PMDD | Total |
|--------------|------------|-----------|--------------|-------|
| With PMDD    | Frequency  | 99        | 28           | 121   |
|              |            | 20        | 75           |       |
|              |            | 95        |              |       |
| Without PMDD | Percentage | 82%       |              | 100   |
|              |            | 19%       |              |       |
|              |            | 21%       |              |       |
|              |            | 79%       |              |       |
|              |            | 100       |              |       |

80% = 79% ÷ 82%

Table (4) shows that due to the predictor variables of the SI and NA in the group with PMDD, it is possible to correctly predict the occurrence of it in 82% of cases. In the group without PMDD, in 79% of cases, the occurrence and non-occurrence of this disorder can be predicted. Overall, in 80% of cases, the occurrence and non-occurrence of PMDD can be predicted.

Based on the evaluations and the results of the tests, and regarding the fact that the discriminant variables can predict the occurrence or non-occurrence of PMDD in a meaningful way and distinguish between two groups with and without PMDD. Meanwhile,

social inhibition is more important than negative affectivity.

Table 5: Wilkes lambda multivariable test

| Variable           | Wilkes lambda | F     | df1 | df2 | Significance level |
|--------------------|---------------|-------|-----|-----|--------------------|
| NA                 | 0.42          | 49.28 | 1   | 214 | 0.001              |
| SI                 | 0.53          | 56.11 | 1   | 214 | 0.001              |
| Type D personality | 0.62          | 62.81 | 1   | 214 | 0.001              |

Table (5) shows that the two studied groups are significantly different in the variable of social inhibition because the calculated F value (11.56) is significant at the significance level of 0.001. It can be concluded that the level of social inhibition in the first group (the group with PMDD) is more than the second group (the group without PMDD).

It can be concluded that the two studied groups (the group with PMDD and the group without it) are significantly different in terms of negative affectivity because the calculated F value (28.49) is significant at  $P < 0.01$ . It can be concluded that the level of negative affectivity in the first group (with PMDD) is higher than in the second group (the group without PMDD).

It can also be concluded that the two studied groups (the group with and the group without PMDD) are significantly different in terms of the Type D variable because the calculated F (81/62) is significant at the significance level of  $P < 0.01$ . Also, the level of Type D personality symptoms in the first group (with PMDD) is higher than in the second group (without PMDD).

### **CONCLUSION:**

The results indicated that the Type D personality and its components (social inhibition and negative affectivity) play a role in the prediction of the occurrence and non-occurrence of PMDD. To explain the role of the Type D personality and its components, the descriptions by Dennolet (2000) can be noted. He asserts that the Type D personality is a behavioral pattern in which people experience a lot of negative emotions such as depression, anger, violence, hostility, and anxiety. Meanwhile, they refuse to express it, i.e., these people consciously avoid expressing their emotions in social interactions, and accordingly, show higher distress and helplessness, and symptoms such as psychopathy. In other words, the damaging role of the Type D personality in psychological and physiological dimensions is based on two general and constant personality traits (negative affectivity and social inhibition) (Denollet, 1993).

In this regard, one of the findings of the present study indicated that NA, as one of the components of the Type D personality, plays a role in PMDD and is closely correlated with psychopathy. Psychopathy makes the individual prone to NA and is an endangering factor for low health. It is placed against emotional stability and includes a vast range of negative emotions such as anxiety, sadness,

moodiness, irritability, and anger. As previously mentioned, PMDD includes a set of physical, psychological, emotional, and behavioral symptoms that occur periodically in the luteal phase of the menstrual cycle and significantly recede in the remainder of the cycle. According to the DSM\_V, the following can be named among the discriminant criteria of this disorder: Emotional instability, anger or irritability, depression, anxiety and tension, loss of interest in normal activities, difficulties in concentrating, early fatigue, and lethargy or lack of energy, change in appetite, insomnia or hypersomnia, and other physical and psychological symptoms of depression and anxiety. In other words, negative affectivity is the common factor between depression and anxiety, and if we look at its characteristic aspect, it is the underlying factor of these two disorders (Tellegen, 1958).

Also, the studies indicate that general stressors of life are consistent with PMD and PMS. Women with PMDD, compared with women without it, show more physical reactions to stress (Epperson et al., 2007; Kask et al., 2008). Also, the evidence shows that PMDD, like depressive disorder, is fundamentally related to the dysfunction of the serotonergic system (Perry, 2001). As we know, the serotonergic system is sensitive to the environmental stressors. For example, Swiss women who have reported moderate or severe mental restlessness are more likely to suffer from PMS or PMDD compared to those without mental restlessness (Tschudin, Berteau, and Zemp, 2010). In some young German women, the baseline daily stressors were positively correlated with implicit PMDD and subthreshold PMDD (Perkonig et al., 2004). Two studies on American women indicated that daily stressors and stressful perception are correlated with the occurrence of PMDD (Parry, Meliska, and Sorenson, 2010; Fontana and Palfai, 1994). On the other hand, it has been witnessed that perceived stress is positively correlated with premenstrual symptoms (Gollenberg, Hediger, and Mumford, 2010; Yamamoto et al., 2009).

Because PMDD symptoms are typically comparable to those of major depression (in terms of severance, not the duration) (APA, 2000; Freeman, 2003), and there are similarities and relationships between PMDD and emotional disorders such as anxiety, panic disorder, major depression, and seasonal affective disorder, and according to phenomenological evidence and therapeutic response, PMDD is correlated with the major depression disorder, in a way that PMDD represents a form of depression. PMDD exacerbates the symptoms of mild depression (Ronchi, 2005).

Although negative emotions are measured in the Type D personality, it is the consistency and association of the tendency to experience negative emotions and avoidance of their expression that has harmful effects on health more than experiencing negative emotions alone. In other words, it is the combination of these two traits that leads to harmful effects on health

(Bagherian Saraverdi, 2009). This issue is well shown in a study on 303 cardiovascular patients who were followed up between 6 and 10 years. The results of this study indicate that there was no significant difference between the patients with higher negative affectivity and lower inhibition and the patients with lower negative emotions in terms of the death rate (Denollet et al., 1996). In other words, the coping strategies people use when faced with negative emotions can be as important as experiencing negative emotions (Bagherian Saraverdi, 2009).

The second finding of the present study indicated that social inhibition, as another component of the Type D personality, can be effective in the occurrence of PMDD. It can be said that PMDD levels are higher in people with higher scores of social inhibition. Williams et al. (2008) conducted a study on Type D personality and social protection of healthy youths in the Kingdom State, Ireland. The results indicated that people with Type D personality have reported significantly lower levels of social protection than people with non-Type D personality. As was mentioned, people with Type D personality feel sad, anxious, and powerless have a negative view of themselves, and imagine the world full of impending problems. These people feel insecure in their social interactions and thus, interpret others' behaviors more negatively. Also, they tend to react more negatively to others. Moreover, people with Type D personality experience high levels of social alienation and are more isolated, socially, which can lead to a decrease in social protection (Denollet, 1991, cited by Asadi Mojreh, 2011). Therefore, people with Type D personality, especially those with high social inhibition, do not trust others easily and never receive enough social protection to reach calmness and trust (Denollet, 2005). These people tend to experience interpersonal situations that are deemed by them as stressful, and it may have direct biological effects on the cardiovascular system. Responding to these situations can stimulate a physiological response as an uncontrollable threatening situation, at any time. Also, Type D personality was associated with reduced amygdala response to fearful effects and insufficient emotional processing in the brain (Molls and Denollet, 2010). Therefore, people with Type D personality receive less social protection due to high social inhibition and consequently, being isolated (Polman et al., 2010). Social protection has been introduced as an important factor in coping with stressors and can modify the relationship between stressors and diseases and significantly reduce the negative effects of mental pressure. Also, when people cope with stressors, the reaction to the stresses is reduced. Thus, although the stressors are arbitrary and unavoidable, the presence of social protection increases the power of stress coping. Close relationships with family, friends, colleagues, and society and the social protection they provide are positively correlated with a performance boost at the workplace, better coping with life problems, general

adaptation, reduction of helplessness, and physical and psychological well-being.

Previous studies have shown that personality factors can predict mood changes over time, and some personality constructs are tied to the way individuals perceive daily incidents. Stressful reactions are affected by the personality factors (Federenco, Scholtz, and Kirschbaum, 2006). Personality traits can modify the relationship between health and stress. On the other hand, one of the suggested factors that play a modifying role in the relationship between health and stress is Type D personality (Denollet et al., 2003). Based on the studies, the coping strategies of people with Type D personality when faced with stressful situations are different from other coping styles such as suppression. For example, suppression refers to the unconscious removal of negative emotions from the field of consciousness, along with experiencing less stress and discomfort, while people with Type D personalities experience high stress in their interpersonal relationships and consciously try to avoid expressing it (Denollet, 1998).

It has been proven that there is a correlation between components of Type D personality and biological indices of health. Negative emotions are related to high levels of cortisol during the day and the reactivity of cortisol in laboratory situations. Behavioral inhibition is also related to increased arousal of cortisol response and increased response to stress in young students (Howard and James, 2011).

Based on the abovementioned, it can be assumed that biological changes due to the natural menstruation cycle mutually affect specific personality components which may lead to PMDD in some women. Accordingly, Murray's personality theory can be used as a theoretical foundation. This theory emphasizes the mutual relationships between biological and psychological procedures as behavior-modifying factors.

Christian (2000) states that individual characteristics is one of the effective factors in the intensity of PMDD symptoms in a way that nervous and irritable people experience symptoms more intensely than others. Bra et al. (2003) showed that men's social inhibition is associated with higher hypertension reactions and negative emotions are correlated with the change in heart rate during stressful work among men. Also, both dimensions of Type D personality are correlated with high cortisol reactivity to stress. Therefore, considering the presence of negative affectivity as the common factor between PMDD and Type D personality, as well as social inhibition as the other dimension of Type D personality that intensifies the effects of negative affectivity, it can be concluded that the two dimensions of Type D personality can predict occurrence or non-occurrence of PMDD.

Since the present study used convenience sampling, generalization of the results should be done cautiously. It is recommended to use different age groups for sampling in future studies.

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