

INFLUENCE OF PREMENSTRUAL SYNDROME, PSYCHOLOGICAL DISTRESS, SELF-CONTROL, AND SOCIAL CONNECTEDNESS AMONG COLLEGE STUDENTS

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Abstract

The present study was conducted to analyze the impact of Premenstrual Syndrome, Psychological Distress, Self-control, and Social Connectedness on the mental health and academic achievements of college students in Shahdara, Lahore, Pakistan, highlighting the interconnected factors shaping their overall well-being and educational success. A total 300 female students as participants were selected from different colleges in Shahdara through purposive sampling. Multiple Regressions Analysis (Path Analysis) was applied to find the predictive relationship of demographic variables through the utilization of IBM SPSS for analysis. Standardized assessment tools in Urdu were utilized for this study, including the Premenstrual Symptoms Screening Tool (PSST) by Steiner et al. (2011), the Social Connectedness Scale by Erin York Cornwell (2009), the Self-Control Scale developed by Tangney, Baumeister, and Boone (2004), the Psychological Distress Scale by Kessler and Mroczek (1992). These tools were carefully selected to ensure cultural relevance and linguistic accuracy. A list of demographic variables with inform consent was taken for data collection permission was sought out from colleges. The results supported the hypothesis. The findings revealed that psychological distress, self-control, and social connectedness are predictors of PMS. Additionally, PMS was found to significantly influence psychological distress and self-control, while negatively impacting social connectedness among college students. The study concludes that premenstrual syndrome significantly influences psychological distress and self-control, while having a negative impact on social Connectedness among college students.

Keywords: Students, PMS, Psychological Distress, Social Connectedness, Self-control, College

Introduction

Reproductive health is a crucial aspect of women's overall well-being, significantly influencing their lives. Many women experience abnormalities and dysfunctions in their reproductive systems, which can lead to both physical and psychological challenges. These issues are closely linked to their overall mood and health. Women enduring such dysfunctions often face changes in mood and physical discomfort, particularly during their menstrual cycle. Healthcare professionals suggest that severe pain and mood disturbances during menstruation can increase the likelihood of developing a condition known as Premenstrual Dysphoric Disorder (PMDD). This disorder can significantly impact daily activities, especially among young women. Research highlights that many young females experience disruptions in their education, social life, and relationships due to the distress and discomfort caused by menstrual issues. These challenges emphasize the importance of addressing reproductive health concerns to improve the quality of life for affected individuals (Adapted from Pinkerton, J.V., 2019).

Premenstrual Syndrome (PMS) involves a range of behavioral, emotional, and physical symptoms that can interfere with daily functioning. Behavioral and emotional symptoms include mood swings, irritability, anger, crying episodes, changes in eating habits, strong food cravings, difficulty sleeping, trouble concentrating, reduced social interaction,

and changes in libido. Physical symptoms may include joint and muscle pain, headaches, fatigue, bloating, abdominal discomfort, breast tenderness, acne, weight changes, and digestive disturbances such as diarrhea or constipation. In some cases, alcohol intolerance is also reported. Psychological distress refers to negative emotional states that disrupt daily activities and is often triggered by stress, failures, or health problems (Kessler & Mroczek, 1992). The intensity of distress varies among individuals due to differences in temperament and coping mechanisms. While some women experience heightened psychological distress during menstruation, others are less affected. This study explores the association between PMS and psychological distress, aiming to identify patterns and contributing factors.

Self-control, defined as the ability to regulate impulses and behaviors to achieve long-term goals, plays a crucial role in managing PMS symptoms. Women with higher self-control are hypothesized to experience fewer PMS symptoms due to enhanced emotional regulation. Research indicates that self-control is linked to greater well-being, academic success, and improved interpersonal relationships (Tangney et al., 2004; Duckworth & Seligman, 2005). It also supports better emotional management, potentially reducing the severity of PMS. This study examines how self-control influences PMS symptoms and its role in alleviating their intensity. The study uses specific operational definitions for clarity. PMS refers to a combination of physical, emotional, and behavioral symptoms occurring before or during menstruation that disrupt daily life (Merriam-Webster). Psychological distress involves emotional discomfort that interferes with daily functioning (Kessler & Mroczek, 1992). Social Connectedness describes a lack of interest in social interactions due to feelings of inadequacy or fear of judgment (Van Baarsen et al., 2001). Self-control is the ability to regulate behavior and impulses to achieve personal and social goals (Tangney et al., 2004).

Operational Definition

Premenstrual Syndrome (PMS): Premenstrual Syndrome encompasses a variety of emotional, behavioral, and physical symptoms that women experience in the days preceding or during menstruation. These symptoms include irritability, stress, fatigue, low energy, mood disturbances, anger, abdominal cramps, and other discomforts that interfere with daily life (Merriam-Webster, n.d.).

Psychological Distress: Psychological distress is defined as a state of emotional discomfort and frustration that significantly disrupts an individual's ability to carry out daily activities and maintain mental well-being (Kessler & Mroczek, 1992).

Self-Control: Self-control is the capacity to regulate and manage one's emotions, impulses, and behaviors in a way that aligns with personal goals and societal expectations. It involves exercising discipline and restraint to respond appropriately to situations while maintaining long-term objectives (Tangney et al., 2004; Duckworth & Seligman, 2005).

Social Connectedness: Social Connectedness refers to a condition in which individuals lack interest or motivation to engage in social interactions, resulting in a sense of isolation and reduced connection with others (Van Baarsen et al., 2001).

Rationale for this study lies in addressing the impact of PMS on college students, particularly its association with psychological distress, self-control, and social connectedness. Given that PMS is prevalent among young women and can affect their academic performance and daily activities, understanding these relationships is essential for promoting mental health and well-being in this population.

Purpose of this study is to investigate the relationships and predictive roles of PMS, psychological distress, self-control, and social connectedness among college students in Lahore, Pakistan. The findings aim to provide insights into effective strategies for managing

PMS and its associated challenges so that female students can pay maximum attention to their academic lives.

Literature Review

Kroll-Desrosiers et al. (2017) conducted a cross-sectional study to examine the relationship between premenstrual syndrome (PMS) and recreational activity in women aged 18 to 31 years. The study involved 414 participants who consented to provide data using two assessment tools: a calendar to track PMS symptoms and a self-rating questionnaire to evaluate physical activity, exercise habits, and dietary patterns. The data were analyzed by aggregating the total scores from all participants. Results indicated that 80 participants experienced moderate to severe PMS, while 89 participants were included in the control group. Lifestyle factors, dietary habits, and exercise routines were assessed through structured self-report measures. Interestingly, the findings revealed no significant relationship between physical activity and a reduction in PMS symptoms, either physical or psychological. The researchers concluded that their data did not support a link between exercise and the alleviation of PMS symptoms in young women.

Schmidt et al. (2017) investigated the effects of steroid treatment on the symptoms of premenstrual dysphoric disorder (PMDD) in women aged 30 to 50 years. The results indicated no significant differences in the severity of PMDD symptoms across the three assessment points. Despite initial hypotheses suggesting a potential link between hormone levels and the development of PMDD, the findings did not support any substantial changes in symptom severity or hormonal impact. The authors concluded that their data did not establish a direct connection between hormone fluctuations and the development of PMDD in the study participants.

Beddig et al. (2018) explored the relationship between subjective stress reactivity, basal stress levels, and brain activity in women with and without PMDD. The results indicated that increased stress levels were linked to lower cortisol responses in women with PMDD, suggesting that stress and brain activity could contribute to the development of PMDD. The study also noted that a reduced cortisol awakening response (CAR) could lead to symptoms such as restlessness and muscle tension, which are common in PMDD. The researchers suggested that these findings could help guide therapeutic interventions for women suffering from PMDD, especially in managing stress-related triggers. Maddineshat et al. (2016) explored the effectiveness of cognitive-behavioral therapy (CBT) in managing PMS symptoms among young female nurses. The findings suggested that CBT effectively alleviated PMS symptoms without requiring medication. Additionally, the intervention appeared to decrease psychological issues commonly associated with PMS, highlighting CBT as a promising non-pharmacological treatment option.

Peterson et al. (2017) focused on brain activity and emotional regulation in women with PMDD during the menstruation phase. Results showed that women with severe PMDD exhibited less brain activity during emotional regulation tasks compared to women without PMDD. Furthermore, women with PMDD reported higher levels of negative affect during the luteal phase. These findings suggest that PMDD may affect emotional regulation and brain function, offering insights into how brain activity could be impacted by hormonal fluctuations during menstruation.

Yen et al. (2018) investigated the relationship between food cravings and PMDD, focusing on the luteal phase of the menstrual cycle. The study's findings highlight the potential impact of emotional fluctuations on food choices in women with PMDD. The authors suggested that these insights could inform dietary recommendations and therapeutic

interventions for managing PMDD symptoms, particularly through managing food cravings and emotional triggers during menstruation.

Asadi (2016) conducted a quasi-experimental study to examine the effects of exercise on reducing the symptoms of premenstrual syndrome (PMS). The results indicated significant improvements in the groups practicing relaxation exercises and self-talk, demonstrating that psychological interventions can reduce the severity of PMS symptoms. The researcher emphasized that positive self-talk encourages healthier thinking patterns and suggested that incorporating exercise interventions may improve the daily lives of women with PMS.

Ahmad and Saeed (2021) conducted a study in Iraq to assess the impact of awareness and education about PMS on young females. The post-assessment results indicated that the experimental group, who received education and coping skills training, showed significant improvements in managing PMS symptoms. The researchers concluded that raising awareness about PMS through workshops and seminars at the school and university levels could help improve the quality of life for young women with PMS.

Eldeeb et al. (2020) explored the effects of full-body exercise practices on reducing PMS symptoms. The results showed significant improvements in PMS symptoms in the exercise groups, with both exercise interventions proving effective in reducing symptom severity. The researchers concluded that exercise could play a vital role in alleviating the physical and psychological effects of PMS. Ibrahim (2020) investigated the effects of walking and relaxation exercises on stress and tension associated with PMS in young females. The results demonstrated that both walking and relaxation exercises significantly reduced the severity of PMS symptoms, including abdominal pain, and improved the functioning of vital organs. The researcher concluded that regular physical activity could help young females manage PMS-related stress and discomfort effectively.

Research question: To evaluate the influence of premenstrual syndrome, psychological distress, social Connectedness, and self-control among college students.

Hypothesis: The psychological distress, self-control, and social Connectedness would be predictors of premenstrual syndrome (as outcome).

Methodology

The purpose of this study was to examine the relationship between Premenstrual Syndrome (PMS), Psychological Distress, Social Connectedness, and Self-Control among college students in Shahdara, Lahore, Pakistan. Multiple regression analysis, including path analysis was employed to identify predictive relationships between these variables and demographic factors.

Research Design: A correlational research design was utilized to explore the relationships between PMS, psychological distress, social connectedness, and self-control among college students in Shahdara, Lahore, Pakistan.

Participants: The study included 300 college students, aged 14–28 years, selected through purposive sampling. Participants with regular menstrual cycles were included, while those with menstrual dysfunctions or chronic illnesses were excluded.

Measurement Tools

Demographic Questionnaire: A list of demographic questionnaires was designed to collect participant information along with verbal and written informed consent was obtained.

Premenstrual Symptoms Screening Tool (PSST): The PSST, based on DSM-IV criteria, was used to assess the severity of PMS symptoms. This 16-item tool evaluates emotional, physical, and functional impairments caused by PMS and is widely recognized for its reliability in screening PMS and Premenstrual Dysphoric Disorder (PMDD).

Psychological Distress Scale: Psychological distress was measured using a 10-item self-rating scale developed by Kessler and Mroczek (1992). The scale evaluates levels of depression and anxiety.

Social Connectedness Scale: The Social Connectedness Scale, developed by Cornwell (2009), measures an individual's level of social interaction and participation to assess social connectedness.

Self-Control Scale: The Self-Control Scale, developed by Tangney, Baumeister, and Boone (2004), consists of 10 items with four response options. Higher scores indicate greater self-control.

Statistical Analysis: Data were analyzed using the IBM Statistical Package for Social Sciences (SPSS). Multiple regression analysis and path analysis were performed to explore predictive relationships with demographic variables.

Procedure: The study was conducted following approval from relevant authorities, such as colleges, near Shahdara and approval was taken from authors of assessment tools. Participants provided informed consent, which detailed their roles, rights, and purpose of research, also right of withdraw was discussed. Participation was voluntary and all participants completed assessment tools in the same sequence, as an incentive a chocolate candy was given after successful completion of questionnaires. Confidentiality was strictly maintained throughout the process. Data analysis was performed using the IBM Statistical Package for Social Sciences (SPSS). Descriptive statistics were used alongside regression analysis to examine the prediction of premenstrual syndrome (PMS), psychological distress, and self-control social connectedness.

Results

This study was designed to explore the influence of Premenstrual Syndrome, Psychological Distress, Self-Control, and Social Connectedness among college Students.

Table No.1

Description of Demographic Variables (N = 300)

Variable	M (SD)	F (%)
Age	19.21 (3.53)	
Birth order		
1 st born		108 (29.3)
Middle born		111 (30.7)
Last born		81 (20.3)
College		
Al Noor College		40 (20.2%)
Islamia College		159 (72.5%)
Yashfeen College		70 (07.5%)
Superior College		30 (01.7%)
Family system		
Joint family system		200 (98.0)
Nuclear family system		100 (32.0)
Menses Reaction		
Normal		127 (38.7)
Sad		79 (21.7)
Depressed		74 (19.7)

Mood in Menses Days		
Normal		224 (81.3)
Restless		56 (18.7)
Father Occupation		
Government servant		74 (17.0%)
Private sector		75 (17.5%)
Business man		127 (63.5%)
Others		24 (2.0%)

Note: M= Mean, SD= Standard Deviation, *f*= Frequency, %= percentile.

The demographic characteristics of the participants revealed a mean age of 19.21 (3.53). Regarding birth order, 29.3% were first-born, 30.7% were middle-born, and 20.3% were last-born. The majority of participants attended Islamia College (72.5%), followed by Yashfeen College (7.5%), Al Noor College (20.2%), and Superior College (1.7%). Most participants belonged to a joint family system (98.0%), while 32.0% came from nuclear families. In terms of reactions to menses, 38.7% reported feeling normal, 21.7% felt sad, and 19.7% felt depressed. During menstruation, the majority (81.3%) described their mood as normal, while 18.7% felt restless. Fathers' occupations included government service (17.0%), private sector employment (17.5%), business (63.5%), and other professions (2.0%).

Table No. 2

Psychometric properties of Premenstrual Syndrome Scale, Psychological Distress Scale, Self-Control Scale and Social Connectedness Scale

Variable	No. of items	α
Premenstrual Syndrome Screening Tool	19	.928
Psychological Distress Scale	10	.894
Social Connectedness Scale	6	.286
Self-Control Scale	10	.723

Note: α = Cronbach Alpha

The table below summarizes the reliability of the scales used in the study, evaluated through Cronbach's alpha: Premenstrual Syndrome Screening Tool consisted on 19 items that demonstrated excellent reliability ($\alpha=.93$), confirming its consistency in measuring PMS symptoms. Psychological Distress Scale covering 10 items which showed strong reliability ($\alpha=.89$), indicating its effectiveness in assessing psychological distress. Self-Control Scale comprising 10 items that achieved acceptable reliability ($\alpha=.72$), supporting its use in evaluating self-regulation behaviors. The social Connectedness Scale had 6 items that displayed low reliability ($\alpha=.29$), suggesting the need for refinement to improve its consistency. These findings underline the variability in reliability across the tools, with high consistency observed in the first three scales, while the others may require adjustments to enhance their precision and removed subscales from the final analysis.

Table 3

Multiple Regression Analysis of Premenstrual Syndrome, Psychological Distress, Social Connectedness, and Self-Control (N = 300)

Variables	<i>B</i>	<i>SEB</i>	β	<i>t</i>	<i>P</i>
Premenstrual Syndrome	13.28	5.9		2.47	.18

Psychological distress	.87	.08	.44	9.90	.000
Self-Control	.32	.09	.18	4.42	.000
Social Disconnection	.13	.15	.04	.80	.43

Note. *M* = Mean, *SEB* = Standard Error of Beta

A multiple regression analysis was conducted to examine the effects of psychological distress, self-control, and social connectedness on premenstrual syndrome (PMS) in a sample of college students ($N = 300$). Psychological distress was the strongest predictor, demonstrating a significant positive relationship with PMS ($\beta = .44$, $t = 9.90$, $p < .001$). Self-control also showed a significant positive association with PMS ($\beta = .18$, $t = 4.42$, $p < .001$). In contrast, social connectedness did not have a significant effect ($\beta = .04$, $t = .80$, $p = .43$). The model explained 29% of the variance in PMS ($R^2 = .29$) and was statistically significant overall, $F(3, 296) = 42.85$, $p < .001$. These results underscore the importance of targeting psychological distress and self-regulation strategies in interventions for managing PMS symptoms.

Discussion

It was hypothesized that females with severe Premenstrual syndrome influence Psychological Distress. The result of the present research supported the hypothesis that premenstrual syndrome and psychological distress have a strong influence on females. The findings of the current study are consistent with the findings of Abazari et al, (2020) their findings showed that women's attitude and suggestibility to menstruation significantly predict the level of pain intensity and Psychological Distress. The findings of the present research indicate a significant relationship because no doubt premenstrual syndrome and psychological distress both influence each other.

The study explored the potential link between premenstrual syndrome (PMS) and social Connectedness but found no significant relationship between the two. In contrast, previous research by Nguyen, Le, and Meirmanov (2019) highlighted a positive correlation between depression and acculturative stress and a negative association between depression and social connectedness among college students. Interestingly, the current study observed that women experiencing severe PMS tended to have stronger connections within their social networks, suggesting that PMS may influence social interactions in a complex and potentially supportive manner. Furthermore, it was hypothesized that there would be significant differences among the two age groups. It was found that there are significant differences in the age group and level or severity of the symptoms.

Conclusion: The findings of this study revealed a significant positive relationship between premenstrual syndrome (PMS), psychological distress, and self-control among college students. The study further demonstrated that PMS is a predictor of psychological distress, self-control, and social Connectedness.

Limitations: This research faced several limitations. The participants were drawn from only two universities in Lahore, limiting the diversity of the sample and the generalizability of the findings. Cultural taboos surrounding menstruation led many participants to withhold information, which may have impacted the data quality. The researcher encountered challenges due to limited training and experience, as well as difficulties related to data collection during the COVID-19 pandemic.

Limitations: Future research should address the limitations of this study to enhance the quality and applicability of findings. Including participants from a wider range of

universities, encompassing both public and private institutions, would improve the generalizability of results. Additionally, future studies should be conducted in Pakistan to address cultural differences that were not accounted for in existing research primarily based on Western populations. Providing educational materials, such as awareness pamphlets on PMS, could also improve participants' understanding and engagement. Expanding the sample size and including participants from various cities across Pakistan would further enhance the reliability and generalizability of the research outcomes.

Implications: The findings of this study have practical implications for improving the well-being of college students affected by PMS. Students experiencing severe PMS symptoms should have access to counseling centers for managing distress. Universities should organize seminars and workshops to provide students with essential information about PMS and its management, fostering better understanding of menstrual health. Educational institutions should implement support systems to accommodate students who experience significant challenges during their menstrual cycle, such as creating management plans to reduce the impact on their academic performance. Establishing such support mechanisms can significantly improve the physical and psychological health of affected students. This study also emphasizes the need to address the psychological distress caused by PMS, offering valuable insights into its symptoms and highlighting the importance of awareness and support within academic institutions.

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