

Research Paper

Impact of Automatic Thoughts and Body Investment on Psychological Wellbeing among Women Diagnosed with Polycystic Ovary Syndrome (PCOS)

Dhwani C. Parekh^{1*}

ABSTRACT

Automatic Thoughts are defined as thoughts that are instantaneous, habitual, and nonconscious. Body investment has to do with a person's feelings and attitudes about their body, the level of care and protection they show for their body, and their comfort with being touched by other people. Psychological well-being is defined as one's level of psychological happiness/health, encompassing life satisfaction, and feelings of accomplishment. A correlational design was used to determine whether automatic thoughts and its dimensions predict psychological wellbeing and its dimensions. The same was also adopted to study if body investment and its dimensions predict psychological wellbeing and its dimensions. Non-probability purposive sampling and snowball technique was used to collect the data of 365 participants and the sample consisted of women that are diagnosed with Polycystic Ovary Syndrome (PCOS) between the age range of 18 – 30. The findings of the study revealed that automatic thoughts – personal maladjustment and desire for change and low self-esteem predicts psychological wellbeing – autonomy and personal relation with others. Results also indicated that body investments and its dimensions (body image, feelings and attitude, comfort in touch and body protection) predict psychological wellbeing personal growth and purpose in life. Late menstrual period and Participants being worried about having PCOS predicted psychological well-being- autonomy and personal growth. Participant's family and friends awareness on PCOS predicted psychological well-being - environmental mastery and lastly being self-conscious as a result of having PCOS predicts psychological well-being - purpose in life.

Keywords: *Automatic Thoughts, Body Investment, Psychological Wellbeing, Women, Polycystic Ovary Syndrome, Correlational*

Automatic Thoughts are defined as thoughts that are instantaneous, habitual, and nonconscious. Automatic thoughts affect a person's mood and actions. (American Psychological Association, 2004). Automatic thoughts pop into our heads in response to a trigger. They can make us feel like we've lost control of our thoughts. They fill us with anxiety, guilt, and other negative emotions. These thoughts are the kind of negative self-talk that appears immediately, without us even being aware of forming a thought, in response to a certain stimulus. They're often irrational and negative for our mental well-

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being. Each person's automatic thoughts may be different from the next person's (Roncero, 2021).

They're usually related to our life experiences. Plus, our fears or the messages we've internalized for years. They can be about ourselves and others.

Our emotions, both pleasant and unpleasant, are the result of our thoughts. Emotions don't just appear out of thin air. They appear as a reaction to the interpretations we have about our reality. Specifically, a negative automatic thought can trigger unpleasant emotions. Negative automatic thoughts can generate emotions such as anxiety, sadness, frustration, guilt, anger, or unworthiness (An, S., Ji, L.-J., Marks, M., & Zhang, Z, 2017).

Body investment has to do with a person's feelings and attitudes about their body, the level of care and protection they show for their body, and their comfort with being touched by other people. (Cash, T. F., TG. Morrison, 1970). Unlike body dissatisfaction and body image, body investment not only reveals how a person sees their body, but also uncovers the degree to which they are comfortable with their body and invested in caring for, protecting, and nurturing it. Essentially, body investment reveals a person's emotional investment in their body and is used to identify self-harming and self-destructive tendencies. Four basic aspects of the bodily self have been identified as most important to the issue of self-preservation versus self-destruction: (a) body image feelings and attitudes, (b) comfort in physical contact, (c) body care, and (d) body protection (Orbach and Mikulincer, 1998).

Carol Ryff (1989) defines Psychological Well-Being as optimal human functioning that produces more positive emotions and satisfaction. There are six factors which contribute to an individual's psychological well-being, contentment, and happiness. Psychological well-being consists of self-acceptance, positive relationships with others, autonomy, environmental mastery, a feeling of purpose and meaning in life, and personal growth and development. Psychological well-being refers to inter and intraindividual levels of positive functioning that can include one's relatedness with others and self-referent attitudes that include one's sense of mastery and personal growth. Subjective well-being reflects dimensions of affect judgments of life satisfaction.

Psychological well-being (PWB) is defined as one's level of psychological happiness/health, encompassing life satisfaction, and feelings of accomplishment. Psychological well-being is attained by achieving a state of balance affected by both challenging and rewarding life events (Diener, E, 1994).

Polycystic ovary syndrome (PCOS) is a condition in which the ovaries produce an abnormal number of androgens, male sex hormones that are usually present in women in small amounts (Goodarzi, M., Dumesic, D., Chazenbalk, G, 2011). The name polycystic ovary syndrome describes the numerous small cysts (fluid-filled sacs) that form in the ovaries. However, some women with this disorder do not have cysts, while others without the disorder develop cysts. Polycystic Ovary Syndrome is a common endocrine disorder generally found in girls of reproductive age which adversely cause metabolic, endocrine, reproductive and mental health of young girls. It is a hormonal disorder causing enlarged ovaries with small cysts on the outer edges (Brady, Mousa & Mousa, 2009).

Polycystic ovary syndrome (PCOS) is of clinical and public health importance as it is very common, affecting up to one in five women of reproductive age. Polycystic ovary syndrome

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has significant and diverse clinical implications including reproductive (infertility, hyperandrogenism, hirsutism), metabolic (insulin resistance, impaired glucose tolerance, type 2 diabetes mellitus, adverse cardiovascular risk profiles) and psychological features (increased anxiety, depression and worsened quality of life). Polycystic ovary syndrome is a heterogeneous condition; clinical and research agendas are broad enough to involve many disciplines (Teede H, Deeks A, Moran L, 2010).

Hirsutism, menstrual irregularity and infertility are the most distressing symptoms in adults with Polycystic ovary syndrome, whereas weight difficulties have been identified as the most distressing symptom in adolescents and young women with the disease. It has been proposed that women with polycystic ovary syndrome might be at an increased risk for eating disorders given the propensity for obesity in polycystic ovary syndrome. Obesity and, specifically, central obesity, is a common feature of polycystic ovary syndrome that worsens the phenotype.

Appearance related issues e.g., hirsutism, acne, and obesity, the body image of Polycystic ovary syndrome women especially young girls (who are more concerned for their bodies) have become more challenging. Thus, girls with Polycystic ovary syndrome have greater body dissatisfaction and low self-esteem as it is exclusively based on body image.

Negative perceptions of body image among polycystic ovary syndrome girls include dissatisfaction with appearance, perceived loss of femininity, less sexual attractiveness, and self-consciousness about appearance.

In the present study, the sample of interest individuals who belong to the category of women diagnosed with polycystic ovary syndrome. The researcher found it crucial to study the impact of Automatic Thoughts, Body investment and Psychological Wellbeing of women diagnosed with polycystic ovary syndrome.

Findings of a study done by Yazdani, N., PhD Candidate, Hosseini, S. V., et., al. in the year 2018 on 130 participants showed that body image defects caused by obesity could lie in negative psychological well-being in all aspects. Overall, body investment can have a positive impact on psychological well-being, both directly and indirectly. By taking care of their physical health, individuals can improve their mental health, self-esteem, and overall quality of life.

A study done by Melissa J. Himelein and Samuel S. Thatcher in the year 2016 conducted on the three groups of women (polycystic ovary syndrome, infertility and convenience control) did not differ in age, race, education, income or religious affiliation showed that Women with polycystic ovary syndrome reported higher depression scores and greater body dissatisfaction ($p < .001$) than comparison group women. Body image was strongly associated with depression overall, even after controlling body mass. Among women with polycystic ovary syndrome, body dissatisfaction measures and education explained 66 per cent of the variance in depression, suggesting explanations of the polycystic ovary syndrome –depression link should consider the role of potentially mediating psychosocial variables.

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Findings of a study done by Snigdha Alur-Gupta M.D, Anat Chemerinski M.D, Chang Liu B.A, et. Al. was conducted on 189 reproductive-aged women with polycystic ovary syndrome and showed that Women with polycystic ovary syndrome have increased body image distress and depressive and anxiety symptoms.

Likewise, a study conducted by L. Barnard, D. Ferriday, N. Guenther, et. Al., on Four groups of women were recruited: 192–224 women with polycystic ovary syndrome not taking adrenal androgens, 177–200 women with polycystic ovary syndrome taking adrenal androgens , 504–548 healthy women not taking adrenal androgens and 356–387 healthy women taking adrenal androgens showed that this large study refines our understanding of depression and quality of life in polycystic ovary syndrome and demonstrates the need to regularly review the psychological health of women with polycystic ovary syndrome.

In another study done by J.E. de Niet, C.M. de Koning, H. Pastoor, et. Al., on Psychological well-being, was investigated in 480 polycystic ovary syndrome patients with the Rosenberg self-esteem scale (RSES) showed that women with polycystic ovary syndrome should notably focus on physical but also on psychological which negatively affects psychological well-being.

Another study conducted by Chaudhari, A. P., Mazumdar, K., & Mehta, P. D. in 2018 on 70 females diagnosed with polycystic ovary syndrome found that women with PCOS have an increased risk of developing anxiety and depression, which may be due to hormonal imbalances and the emotional stress associated with the condition which overall affect their psychological wellbeing.

A study conducted by Mert Besenek and Beril Gurlek on Hyperandrogenism in polycystic ovary syndrome affects psychological well-being of adolescents with a sample of 76 participants showed that hyperandrogenism affected certain indicators of psychological well-being such as social anxiety, low self-esteem and peer victimization.

Findings of a study by Emma Oberg, Christina Lundell, Liselott Blomberg, et. al., on psychological well-being and personality in relation to weight loss following behavioral modification intervention in obese women with polycystic ovary syndrome with a sample of Sixty-eight women with polycystic ovary syndrome, aged 18 to 40 years showed that Psychological well-being is severely impacted in overweight women with polycystic ovary syndrome.

A recent study conducted by Vibha Kriti, Shilpa Kumari & Sobhana Joshi has shown that girls with polycystic ovary syndrome have greater body dissatisfaction and low self esteem as it is exclusively based on body image. Negative perceptions of body image among polycystic ovary syndrome girls include dissatisfaction with appearance, perceived loss of femininity, less sexually attractive, and self-consciousness about appearance.

Another finding of a study done by Sulaiman, M. A., Al-Farsi, Y. M., Al-Khaduri, M, et, al in 2017, on 80 women diagnosed with polycystic ovary syndrome examined the relationship between automatic thoughts and body investment on psychological well-being among women diagnosed with PCOS. The study found that negative automatic thoughts were associated with higher levels of body investment, which in turn was associated with lower levels of psychological well-being.

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A study done by Zangeneh, F. Z., Jafarabadi, M., Naghizadeh, M. M., et., al in 2012, on 200 women with polycystic ovary syndrome, found that women with polycystic ovary syndrome had higher levels of negative automatic thoughts compared to women without the condition. The study suggests that negative automatic thoughts is a contributing factor to the development of psychological distress in women with polycystic ovary syndrome.

The purpose of the current study is to observe whether Automatic Thoughts (viz, Personal maladjustment and desire for change, negative self-concepts and negative expectations, low self-esteem and helplessness), Body Investment (viz, body image feelings and attitudes, comfort in touch, body care and body protection) predict the dimensions of Psychological well-being (viz, autonomy, environmental mastery, personal growth, positive relations with others, purpose in life and self-acceptance).

Research questions

1. Does automatic thoughts and its dimensions (viz, personal maladjustment and desire for change, negative self-concepts and negative expectations, low self-esteem and helplessness) predict psychological wellbeing and its dimensions (viz, autonomy, environmental mastery, personal growth, positive relations with others, purpose in life and self-acceptance) among women diagnosed with polycystic ovary syndrome (PCOS)?
2. Does body investment and its dimensions (viz, body image feelings and attitudes, comfort in touch, body care and body protection) predict psychological wellbeing and its dimensions (viz, autonomy, environmental mastery, personal growth, positive relations with others, purpose in life and self-acceptance) among women diagnosed with polycystic ovary syndrome (PCOS)?

Research Objectives

1. To observe whether automatic thoughts and its dimensions (viz, personal maladjustment and desire for change, negative self-concepts and negative expectations, low self-esteem and helplessness) predict psychological wellbeing and its dimensions (viz, autonomy, environmental mastery, personal growth, positive relations with others, purpose in life and self-acceptance) among women diagnosed with polycystic ovary syndrome (PCOS).
2. To observe whether body investment and its dimensions (viz, body image feelings and attitudes, comfort in touch, body care and body protection) predict psychological wellbeing and its dimensions (viz, autonomy, environmental mastery, personal growth, positive relations with others, purpose in life and self-acceptance) among women diagnosed with polycystic ovary syndrome (PCOS).

Hypothesis

H1: (A) Automatic thoughts - Negative self-concepts and Negative expectations, (B) Automatic Thoughts - personal maladjustment and desire for change, (C) Automatic Thoughts - low self- esteem, (D) Automatic Thoughts – Helplessness, (E) Automatic Thoughts – positive, (F) Automatic Thoughts Total predicts Psychological well-being and its dimensions i.e., (i) autonomy (ii) environmental mastery (iii) personal growth (iv) positive relations with others (v) purpose in life and (vi) self-acceptance.

H2: (A) Body Investment - Body image, feelings and Attitude, (B) Body Investment - comfort in touch, (C) Body Investment - Body care, (D) Body Investment - Body protection,

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(E) Body Investment total, predicts Psychological well-being and dimensions i.e., (i) autonomy (ii) environmental mastery (iii) personal growth (iv) positive relations with others (v) purpose in life and (vi) self-acceptance.

H3: (A) Late menstrual period, (B) Worried about having PCOS, (C) Family and friends' awareness on PCOS, (D) Close ones empathetic about PCOS, (E) Notice excessive body hair, (F) Concerned about body weight, (G) Self-conscious as a result of having PCOS predict Psychological well-being and dimensions i.e., (i) autonomy (ii) environmental mastery (iii) personal growth (iv) positive relations with others (v) purpose in life and (vi) self-acceptance.

METHOD

The present study determines whether automatic thoughts (viz, Personal maladjustment and desire for change, negative self-concepts and negative expectations, low self-esteem and helplessness) predicts psychological wellbeing (viz, autonomy, environmental mastery, personal growth, positive relations with others, purpose in life and self-acceptance) among participants diagnosed with polycystic ovary syndrome. The study also aims to find out if body investment (viz, body image feelings and attitudes, comfort in touch, body care and body protection) predicts psychological wellbeing (viz, autonomy, environmental mastery, personal growth, positive relations with others, purpose in life and self-acceptance) among participants diagnosed with polycystic ovary syndrome.

Sample

For the present study, non-probability purposive sampling technique was used to select a sample of 365 participants. The sample consisted of women that are diagnosed with polycystic ovary syndrome between the age range of 18 – 30.

Selection Criteria

Women that are diagnosed with polycystic ovary syndrome between the age range of 18-30.

Inclusion Criteria

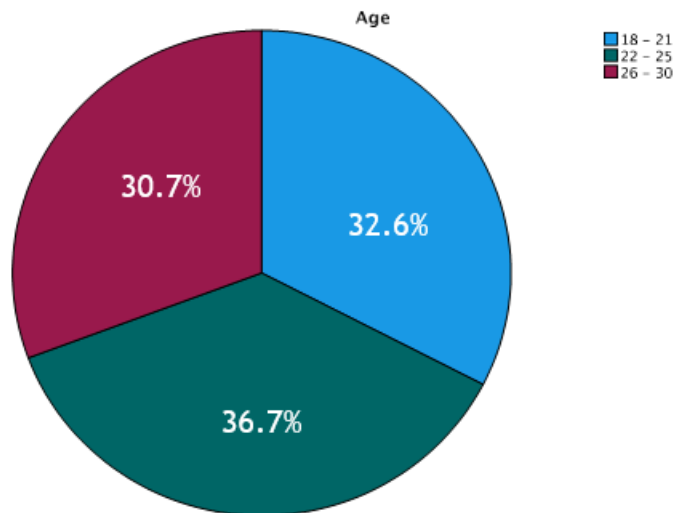
1. Women diagnosed with Polycystic Ovary Syndrome (PCOD).
2. Women between the age group of 18 – 30.
3. Women living in India.

Exclusion Criteria

1. Participants who are not diagnosed with Polycystic Ovary Syndrome were excluded.
2. Participants who did not have proper access to the internet.
3. Participants who were not sure of their diagnosis were excluded.
4. Participants who have Polycystic ovary disease (PCOD) were excluded.

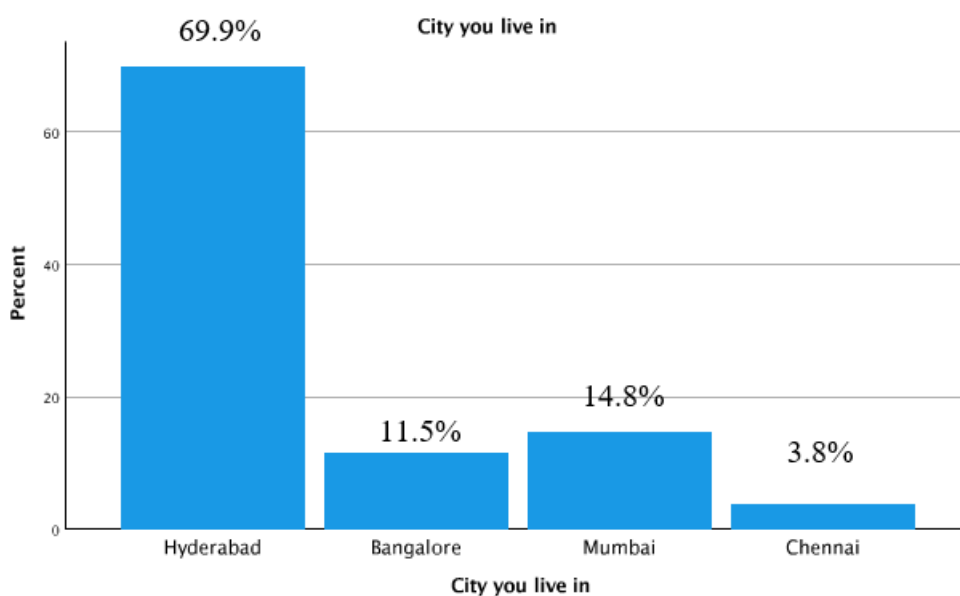
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Figure 1 Pie chart showing the percentage of participants falling between the age of 18 – 21 years, 22– 25 years and 26 – 30 years.



The above figure shows that 32.6% of the sample were from the age group of 18 – 21, 36.7% of the sample were from the age group of 22 – 25 and 30.7% of the sample were from the age group of 26 – 30.

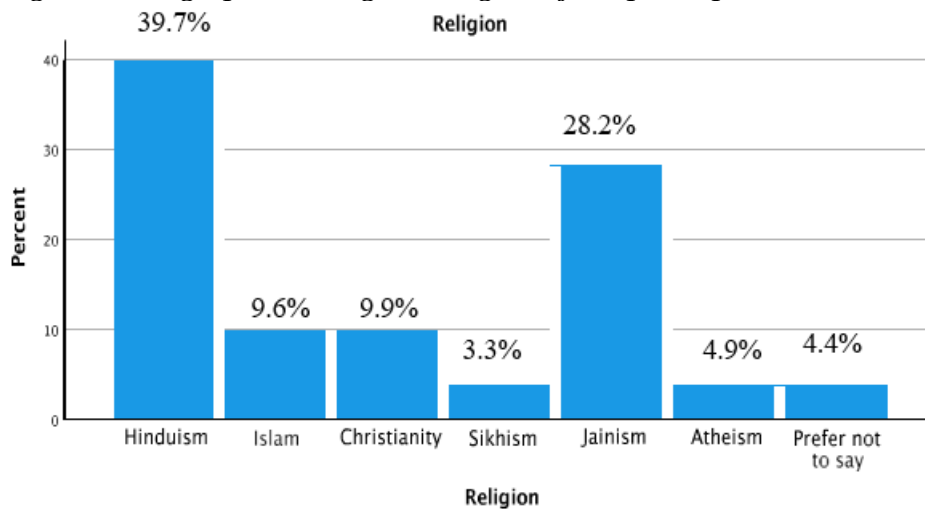
Figure 2 Bar graph showing the percentage of participants from Hyderabad, Bangalore, Mumbai and Chennai.



The above figure shows that 69.9% (255) of the participants were from Hyderabad, 11.5% (42) of the participants were from Bangalore, 14.8% (54) of the participants were from Mumbai and 3.8% (14) of the participants were from Chennai.

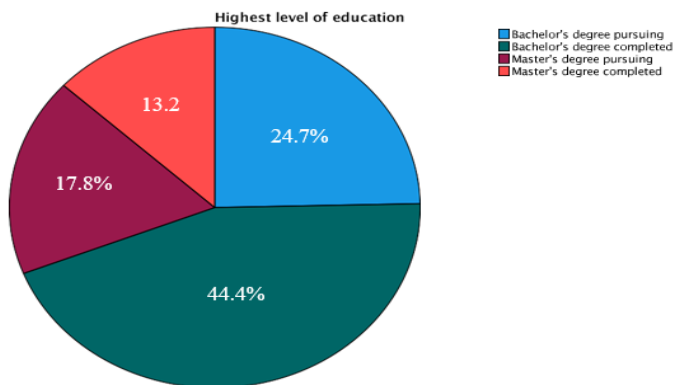
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Figure 3 Bar graph showing the religion of the participants.



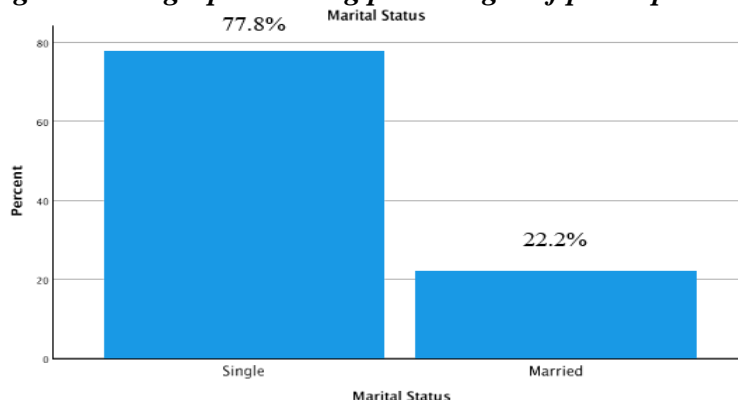
The above figure shows that 39.7% (145) of the participants were Hindu, 9.6% (35) of the participants were Islamic, 9.9% (36) of the participants were Christian, 3.3% (12) of the participants were Sikhs, 28.2% (103) of the participants were Jain, 4.9% (18) of the participants were Atheist's and 4.4% (16) of the participants preferred not to say.

Figure 4 Pie chart showing percentages of participants who are pursuing or have completed their Bachelor's and Master's degree.



The above figure shows that 24.7% (90) of the participants were pursuing bachelor's degree, 44.4% (162) have completed their Bachelor's degree, 17.8% (65) are pursuing master's degree and the rest 13.2% (48) have completed their Master's degree.

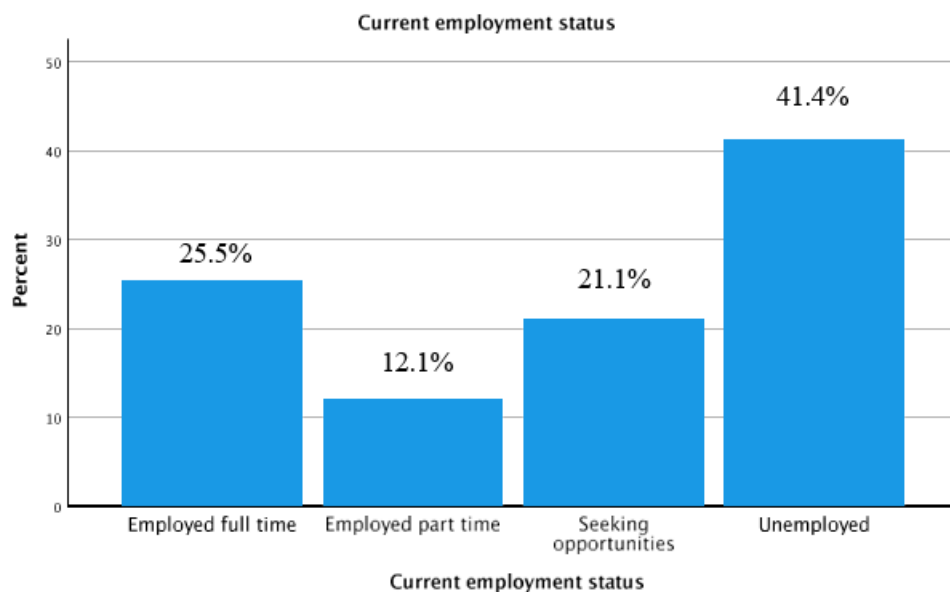
Figure 5 Bar graph showing percentages of participants who are single or married.



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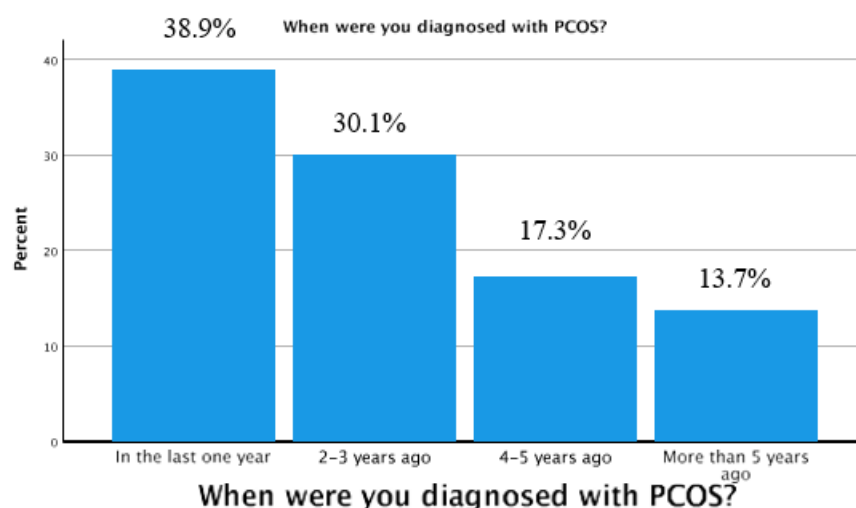
The above figure shows that 77.8% (284) of the participants were single and 22.2% (81) of the participants were married.

Figure 6 Bar graph showing percentages of participants who are employed full time or employed part time or seeking opportunities or unemployed.



The above figure shows that 25.5% (93) of the participants were employed full time, 12.1% (44) of the participants were employed part time, 21.1% (77) are seeking opportunities and the rest 41.4% (151) were unemployed.

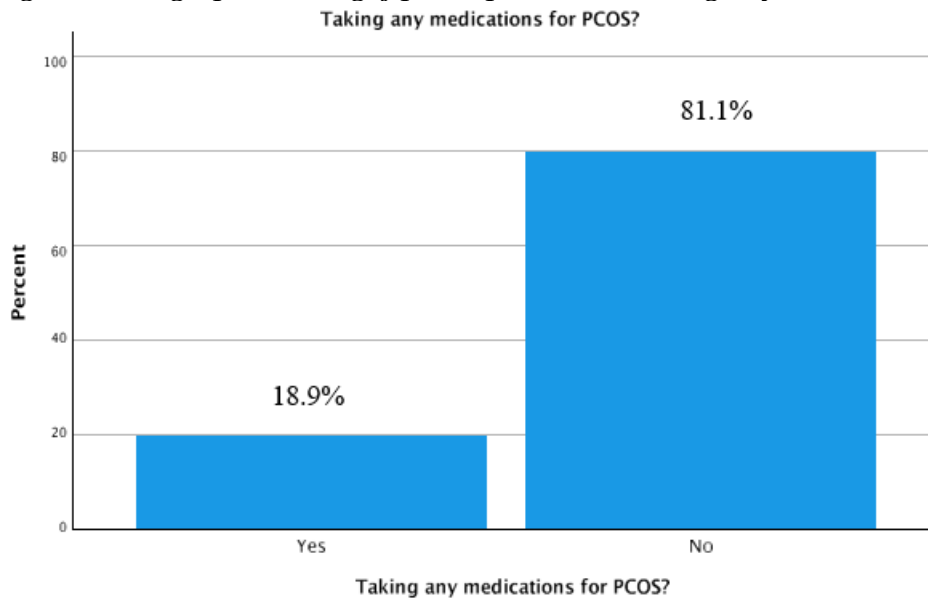
Figure 7 Bar graph showing when were the participants diagnosed with PCOS



The above figure shows that 38.9% (142) of the participants were diagnosed in the last one year, 30.1% (110) of the participants were diagnosed 2-3 years ago, 17.3% (63) of the participants were diagnosed 4-5 years ago and the rest 13.7% (50) of the participants were diagnosed more than 5 years ago.

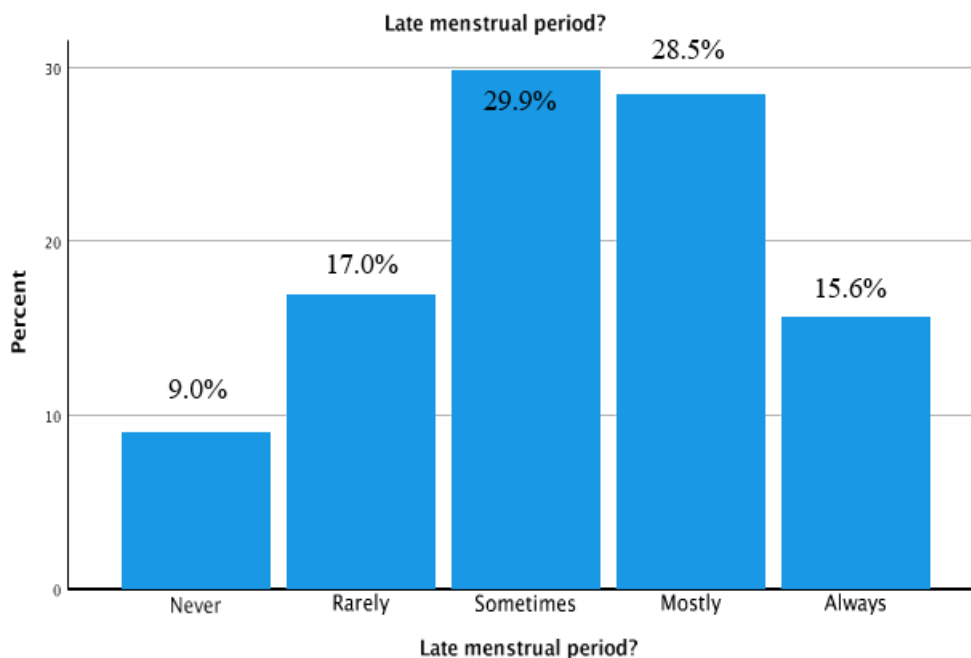
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Figure 8 Bar graph showing if participants were taking any medications for PCOS.



The above figure shows that 18.9% (69) of the participants were taking medications and 81.1% (296) of the participants were not taking medications.

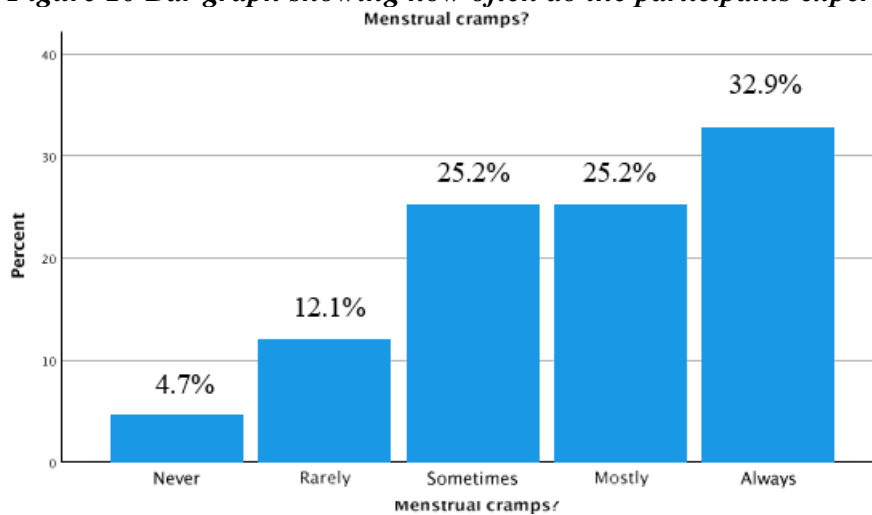
Figure 9 Bar graph showing how often participants experienced late menstrual periods.



The above figure shows that 9.0% (33) of the participants never experience late menstrual periods, 17.0% (62) of the participants rarely experience late menstrual periods, 29.9% (109) of the participants sometimes experience late menstrual periods, 28.5% (104) of the participants mostly experience late menstrual periods and the rest 15.6% (57) of the participants always experience late menstrual periods.

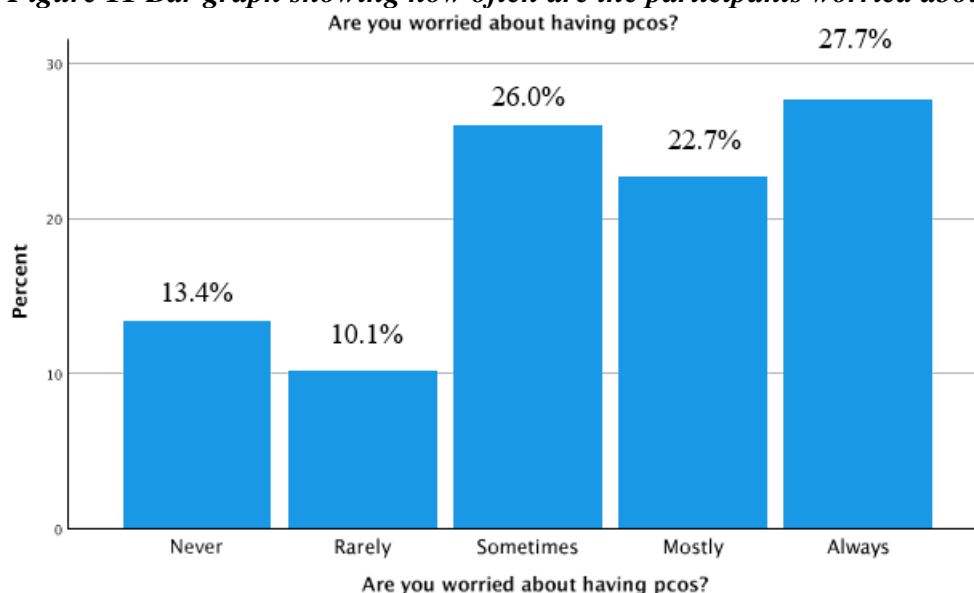
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Figure 10 Bar graph showing how often do the participants experience menstrual cramps.



The above figure shows that 4.7% (17) of the participants never experience menstrual cramps, 12.1% (44) of the participants rarely experience menstrual cramps, 25.2% (92) of the participants sometimes experience menstrual cramps, 25.2% (92) of the participants mostly experience menstrual cramps and the rest 32.9% (120) of the participants always experience menstrual cramps.

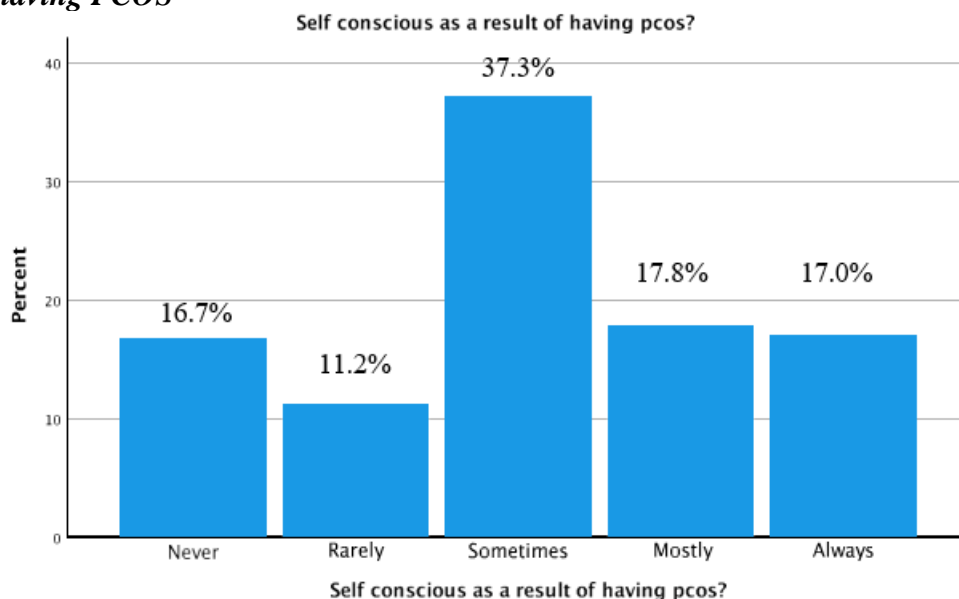
Figure 11 Bar graph showing how often are the participants worried about having PCOS



The above figure shows that 13.4% (49) of the participants never worry about having PCOS, 10.1% (37) of the participants rarely worry about having PCOS, 26.0% (95) of the participants sometimes worry about having PCOS, 22.7% (83) of the participants mostly worry about having PCOS and the rest 27.7% (101) of the participants always worry about having PCOS.

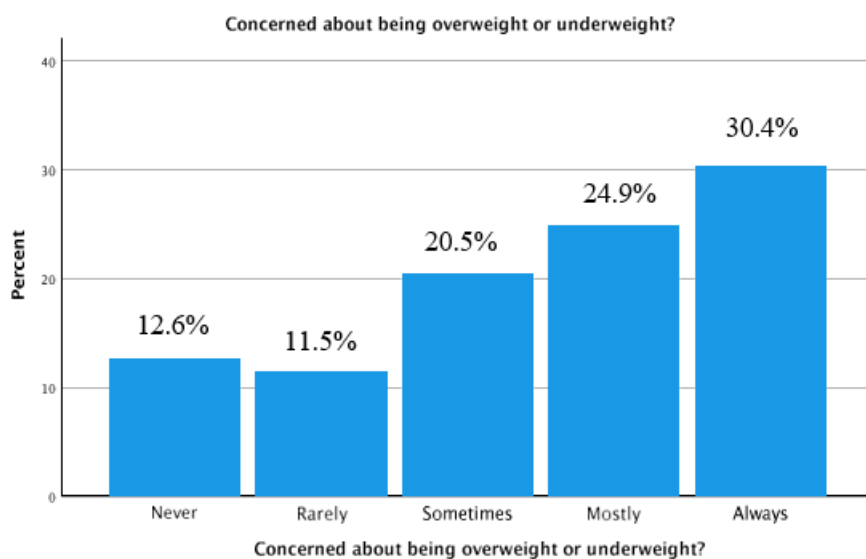
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Figure 12 Bar graph showing how often are the participants self-conscious as a result of having PCOS



The above figure shows that 16.7% (61) of the participants are never self-conscious as a result of having PCOS, 11.2% (41) of the participants are rarely self-conscious as a result of having PCOS, 37.3% (136) of the participants are sometimes self-conscious as a result of having PCOS, 17.8% (65) of the participants are mostly self-conscious as a result of having PCOS and the rest 17.0% (62) of the participants are always self-conscious as a result of having PCOS.

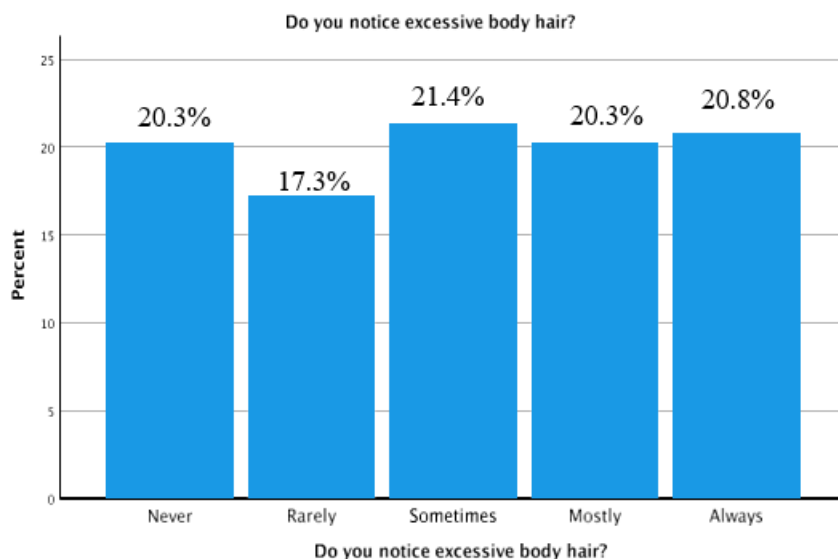
Figure 13 Bar graph showing how often are the participants concerned about their body weight.



The above figure shows that 12.6% (46) of the participants are never concerned about their body weight, 11.5% (42) of the participants are rarely concerned about their body weight, 20.5% (75) of the participants are sometimes concerned about their body weight, 24.9% (91) of the participants are mostly concerned about their body weight and the rest 30.4% (111) of the participants are always concerned about their body weight.

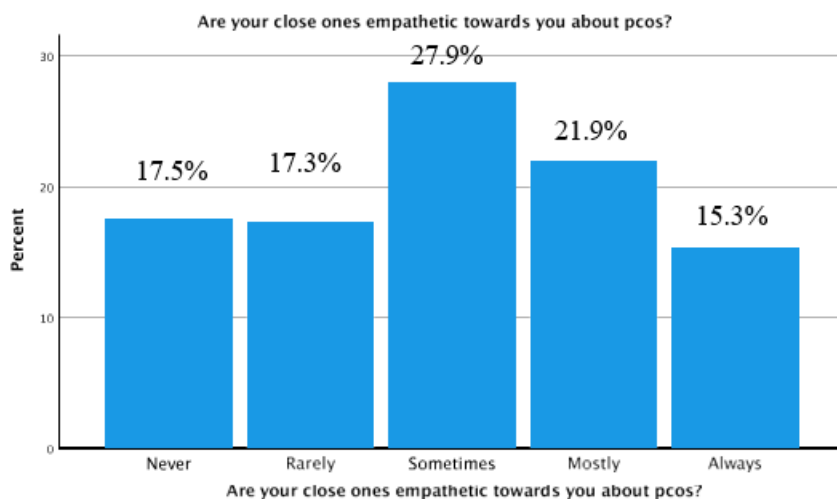
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Figure 14 Bar graph showing how often do the participants notice excessive body hair.



The above figure shows that 20.3% (74) of the participants never notice excessive body hair, 17.3% (63) of the participants rarely notice excessive body hair, 21.4% (78) of the participants sometimes notice excessive body hair, 20.3% (74) of the participants mostly notice excessive body hair and the rest 20.8% (76) of the participants always notice excessive body hair.

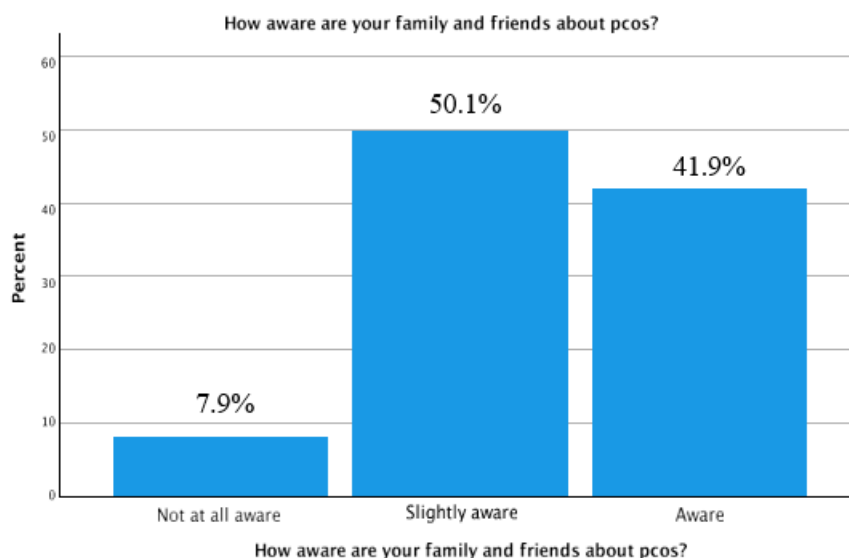
Figure 15 Bar graph showing how often are the participants close ones empathetic towards them about PCOS.



The above figure shows that 17.5% (64) never are the participants close ones empathetic towards them about PCOS, 17.3% (63) rarely are the participants close ones empathetic towards them about PCOS, 27.9% (102) sometimes are the participants close ones empathetic towards them about PCOS, 21.9% (80) mostly are the participants close ones empathetic towards them about PCOS and the rest 12.5% (56) always are the participants close ones empathetic towards them about PCOS.

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Figure 16 Bar graph showing how aware are the participants friends and family about PCOS.



The above figure shows that 7.9% (29) not at all aware are the participants friends and family about PCOS, 50.1% (183) slightly aware are the participants friends and family about PCOS and the rest 41.9% (153) aware are the participants friends and family about PCOS.

Instruments

The data was collected using three questionnaires designed specifically to accomplish the objectives of this study.

Information Schedule

Participants were asked to provide certain personal details such as age, gender, educational qualification etc. They were also asked about their menstrual cramps and if they are concerned about their weight.

1. Automatic Thoughts Questionnaire (ATQ)

The ATQ developed by Philip C. Kendall and Steven D. Hollon (1980) is a 30-item instrument that measures the frequency of automatic negative statements about the self. Such statements play an important role in the development, maintenance and treatment of various psychopathologies, including depression. ATQ taps 4 aspects of these automatic thoughts: personal maladjustment and desire for change (PMDC), negative self-concepts and negative expectations (NSNE), low self-esteem (LSE), and Helplessness. Items are rated on the frequency of occurrence from “not at all” to “all the time”. Total scores are the sum of all 30 items.

2. Body investment scale

Body investment scale is a 24 item scale consists of four factors with six items in each factor. Factor 1 includes items related to body image feelings and attitudes (e.g., I am satisfied with my appearance). Factor 2 consists of items relating to comfort in touch (e.g., I enjoy physical contact with others). Factor 3 includes items about body care (e.g., Caring for my body will improve my well-being). Factor 4 contains items about body protection (e.g., It makes me feel good to do something dangerous). The items were presented as a 5-point interval scale ranging from / do not agree at all (1); / do not agree (2); Undecided (3); Agree

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(4); Strongly agree (5). A high score indicates a more positive feeling about the body, about touch, and more body care and protection.

3. Psychological Well being

Psychological Wellbeing developed by psychologist Carol D. Ryff (1989) an 18 items scale measures six aspects of wellbeing and happiness: autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, and self-acceptance.

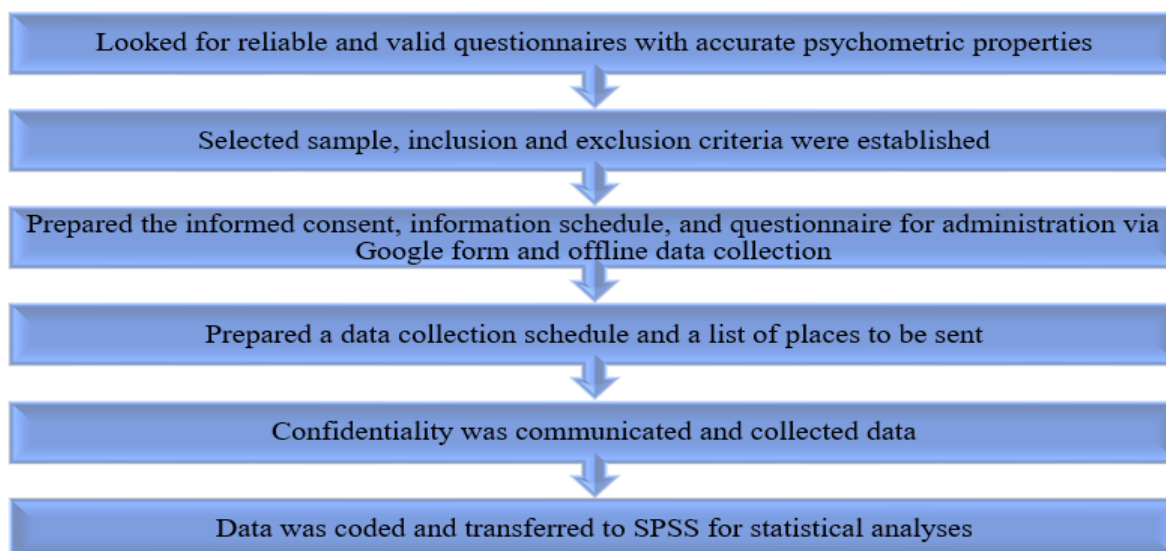
Respondents rate how strongly they agree or disagree with 18 statements using a 7-point scale (1 = strongly agree; 7 = strongly disagree).

Procedure

Relevant standardized questionnaires for each of the variables were selected. A google form along with a hard copy of the questionnaires were made with an informed consent form, information schedule and the relevant questionnaires. On the google form as well as the hard copy, the questionnaires along with the informed consent form and the information schedule were self-administered by the researcher to look for any difficulties in understanding the instructions or content and to estimate the approximate time that will be taken to fill it.

A comprehensive list of colleges and gynaecology clinics in the city of Hyderabad was made and the researcher then contacted principals/coordinators of each college and the doctors for permissions. Online forms were circulated on social media platforms and individuals from Bangalore, Chennai and Mumbai were contacted to fill the online form. No other city other than Hyderabad, Bangalore, Mumbai and Chennai were taken under consideration.

After reading through the Informed Consent Form, those who agreed to participate in the study were directed to fill in the next section, the information schedule. Next, each section had specific instructions for each questionnaire for the students. The responses of those who did not meet the inclusion criteria were discarded and the valid responses were coded, entered in SPSS and statistically analysed.



Data Analysis

Total scores for Automatic Thoughts Questionnaire and its subscales (viz, personal maladjustment and desire for change (PMDC), negative self-concepts and negative

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expectations (NSNE), low self-esteem (LSE), and Helplessness.), Body Investment Scale and its subscales (viz, body image feelings and attitudes, comfort in touch, body care and body protection) and Psychological wellbeing scale and its subscales (viz, autonomy, environmental mastery, personal growth, positive relations with others, purpose in life and self-acceptance) scores were computed. The data was then analysed using Descriptive Statistics, bivariate correlation and Stepwise Multiple Regression.

A Stepwise multiple regression was also used to determine whether Automatic thoughts (viz, Personal maladjustment and desire for change, negative self-concepts and negative expectations, low self-esteem and helplessness) predicts Psychological wellbeing (viz, autonomy, environmental mastery, personal growth, positive relations with others, purpose in life and self-acceptance) among participants diagnosed with PCOS. The study also aims to find out if Body investment (viz, body image feelings and attitudes, comfort in touch, body care and body protection) predicts Psychological wellbeing (viz, autonomy, environmental mastery, personal growth, positive relations with others, purpose in life and self-acceptance) among participants diagnosed with PCOS.

RESULTS

Table 1 Showing the stepwise regression analysis for predictors of Psychological wellbeing and its subscales.

Predictor Variables	Criterion variable					
	Psychological wellbeing - Autonomy	Psychological wellbeing - environmental mastery	Psychological wellbeing - personal growth	Psychological wellbeing - personal relations with others	Psychological wellbeing - purpose in life	Psychological wellbeing - self acceptance
Automatic Thoughts - Negative self-concepts and Negative expectations	NS	NS	NS	NS	NS	NS
Automatic Thoughts - personal maladjustment and desire for change	0.43**	NS	NS	0.44**	NS	NS
Automatic Thoughts - low self-esteem	0.20*	NS	NS	NS	NS	NS
Automatic Thoughts - Helplessness	NS	NS	NS	NS	NS	NS
Automatic Thoughts - positive	NS	NS	NS	NS	NS	NS
Automatic Thoughts	NS	-0.57**	-0.47**	NS	NS	-0.67**
Body Investment - Body image, feelings and Attitude	NS	NS	0.24**	NS	NS	NS
Body Investment - comfort in touch	NS	NS	NS	NS	0.19**	NS
Body Investment - Body care	NS	NS	NS	NS	NS	NS
Body Investment - Body protection	NS	0.10*	NS	NS	NS	NS
Body Investment	NS	0.23**	NS	0.18**	NS	0.20**
Late menstrual period	-0.18**	NS	-0.16**	NS	NS	NS
Worried about having PCOS	-0.21**	NS	-0.18**	NS	NS	NS
Family and friends awareness on PCOS	NS	0.10*	NS	NS	NS	NS
Close ones empathetic about PCOS	NS	NS	0.23**	0.19**	NS	NS
Notice excessive body hair	NS	NS	-0.13*	NS	NS	NS
Concerned about body weight	NS	NS	NS	-0.13*	NS	-0.10**
Self-conscious as a result of having PCOS	NS	NS	NS	NS	-0.13**	NS
Automatic Thoughts - Negative self-concepts and Negative expectations	NS	NS	NS	NS	NS	NS
Automatic Thoughts - personal maladjustment and desire for change	0.18	NS	NS	0.19	NS	NS
Automatic Thoughts - low self-esteem	0.19	NS	NS	NS	NS	NS
Automatic Thoughts - Helplessness	NS	NS	NS	NS	NS	NS
Automatic Thoughts - positive	NS	NS	NS	NS	NS	NS
Automatic Thoughts	NS	0.32	0.23	NS	NS	0.46
Body Investment - Body image, feelings and Attitude	NS	NS	0.03	NS	NS	NS
Body Investment - comfort in touch	NS	NS	NS	NS	0.03	NS
Body Investment - Body care	NS	NS	NS	NS	NS	NS
Body Investment - Body protection	NS	0.00	NS	NS	NS	NS
Body Investment	NS	0.03	NS	0.02	NS	0.02
Late menstrual period	0.34	NS	0.02	NS	NS	NS
Worried about having PCOS	0.31	NS	0.02	NS	NS	NS
Family and friends awareness on PCOS	NS	0.01	NS	NS	NS	NS
Close ones empathetic about PCOS	NS	NS	0.05	0.03	NS	NS
Notice excessive body hair	NS	NS	0.01	NS	NS	NS
Concerned about body weight	NS	NS	NS	0.01	NS	0.01
Self-conscious as a result of having PCOS	NS	NS	NS	NS	0.01	NS
Total Adjusted R2	1.02	0.36	0.36	0.25	0.04	0.49

Note: * $p < 0.05$, ** $p < 0.01$, R-Coefficient of Correlation, ΔR^2 -R Squared Change, β - Standardized Coefficient Beta.

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Table 1 depicts the summary of regression analysis for the predictors of psychological well-being and its subscales. Automatic thoughts - personal maladjustment and desire for change was a predictor of psychological well-being - autonomy, and personal relations with others. Automatic thoughts - low self esteem was a predictor of psychological well being autonomy. Automatic thoughts total was a predictor of psychological well-being- environmental mastery, personal growth and self acceptance.

Body investment - body image, feelings and attitude predicted psychological well being - personal growth. Body investment - comfort in touch was a predictor of psychological well-being - purpose in life. Body investment - body protection was a predictor of psychological well-being - environmental mastery. The body investment total was a predictor of psychological well being - environmental mastery, personal relations with other and self acceptance.

Late menstrual period predicted psychological well-being- autonomy and personal growth. Participants being worried about having PCOS was a predictor of psychological well-being- autonomy and personal growth. Participant's family and friends awareness on PCOS predicted psychological well-being - environmental mastery. The close ones being empathetic about PCOS was a predictor of psychological well being - personal growth and personal relations with others.

Notice excessive body hair was a predictor of psychological well being - personal growth. Being concerned about body weight predicted psychological well being - personal relations with others and self acceptance and lastly being self conscious as a result of having PCOS was a predictor of psychological well being - purpose in life.

Table 2 Showing the stepwise regression analysis for predictors of Psychological wellbeing subscale Autonomy

Predictor	ΔR^2	β
<u>Criterion: Psychological wellbeing - Autonomy</u>		
Model 1	0.34	
1. Automatic Thoughts - personal maladjustment and desire for change		0.43**
Model 2	0.31	
1. Automatic Thoughts - personal maladjustment and desire for change		-0.44
2. Late menstrual period		-0.18**
Model 3	0.19	
1. Automatic Thoughts - personal maladjustment and desire for change		-0.34
2. Late menstrual period		0.26
3. Worried about having PCOS		-0.21**
Model 4	0.18	
1. Automatic Thoughts - personal maladjustment and desire for change		-0.17
2. Late menstrual period		0.25
3. Worried about having PCOS		0.26
4. Automatic Thoughts - low self- esteem		0.20*
Total Adjusted R ²	1.02	

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According to the results displayed in Table 2, Automatic Thoughts - personal maladjustment and desire for change is a predictor of Psychological wellbeing - Autonomy. As seen in model 1, Automatic Thoughts - personal maladjustment and desire for change was found to have a positive relationship with Psychological wellbeing - Autonomy ($\beta = 0.43$, $p < 0.01$) and the contribution of Automatic Thoughts - personal maladjustment and desire in the variance of Psychological wellbeing - Autonomy was 18%.

Similarly, model 2 shows that Late menstrual period is a predictor of Psychological wellbeing - Autonomy and it has a negative relationship with Psychological wellbeing - Autonomy ($\beta = 0.18$, $p < 0.01$). The contribution of Late menstrual period in the variance of Psychological wellbeing - Autonomy was 34%.

Moreover model 3 shows that Worried about having PCOS is a predictor of Psychological wellbeing - Autonomy and has a negative relationship with it ($\beta = -0.21$, $p < 0.01$). The contribution of Worried about having PCOS in the variance of Psychological wellbeing - Autonomy was 31%.

Model 4 shows that Automatic Thoughts - low self- esteem is a predictor of Psychological wellbeing - Autonomy and it has a positive relationship with Psychological wellbeing - Autonomy ($\beta = 0.20$, $p < 0.05$). The contribution of Automatic Thoughts - low self- esteem in the variance of Psychological wellbeing - Autonomy was 19%. The total variance in Psychological wellbeing - Autonomy contributed by these four predictors is 1.02%. Thus, H1(B)(i), H3(A)(i), H3(B)(i) and H1(C)(i) have been accepted.

Table 3 Showing the stepwise regression analysis for predictors of Psychological wellbeing subscale environmental mastery

Predictor	ΔR^2	β
<u>Criterion: Psychological wellbeing</u>		
<u>- Environmental mastery</u>		
Model 1	0.32	
1. Automatic thoughts		-0.57**
Model 2	0.03	
1. Automatic thoughts		-0.43
2. Body investment		0.23**
Model 3	0.01	
1. Automatic thoughts total		-0.47
2. Body investment total		0.22
3. Family and friends awareness on PCOS		0.10*
Model 4	0.00	
1. Automatic thoughts		-0.46
2. Body investment		0.30
3. Family and friends awareness on PCOS		-0.09
4. Body investment – body protection		0.10*
Total Adjusted R ²	0.36	

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According to the results displayed in Table 3, Automatic thoughts total is a predictor of Psychological wellbeing – Environmental mastery. As seen in model 1, Automatic thoughts total was found to have a negative relationship with Psychological wellbeing – Environmental mastery ($\beta = -0.57, p < 0.01$) and the contribution of Automatic thoughts total in the variance of Psychological wellbeing – Environmental mastery was 32%.

Similarly, model 2 shows that Body investment total is a predictor of Psychological wellbeing – Environmental mastery and it has a positive relationship with Psychological wellbeing – Environmental mastery ($\beta = 0.23, p < 0.01$). The contribution of Body investment total in the variance of Psychological wellbeing – Environmental mastery was 0.03%.

Moreover model 3 shows that Family and friends awareness on PCOS is a predictor of Psychological wellbeing – Environmental mastery and has a positive relationship with it ($\beta = 0.10, p < 0.05$). The contribution of Family and friends awareness on PCOS in the variance of Psychological wellbeing – Environmental mastery was 0.01%.

Model 4 shows that Body investment – body protection is a predictor of Psychological wellbeing – Environmental mastery and it has a positive relationship with Psychological wellbeing – Environmental mastery ($\beta = 0.10, p < 0.05$). The contribution of Body investment – body protection in the variance of Psychological wellbeing – Environmental mastery was 0%. The total variance in Psychological wellbeing – Environmental mastery contributed by these four predictors is 36%. Thus, H1(F)(ii), H2(E)(ii), H3(C)(ii) and H2(D)(ii) have been accepted.

Table 4 Showing the stepwise regression analysis for predictors of Psychological wellbeing subscale personal growth

Predictor	ΔR^2	β
<u>Criterion: Psychological wellbeing - personal growth</u>		
Model 1	0.23	
1. Automatic thoughts		-0.47**
Model 2	0.05	
1. Automatic thoughts		-0.45
2. Close ones empathetic about PCOS		0.23**
Model 3	0.03	
1. Automatic thoughts		-0.29
2. Close ones empathetic about PCOS		0.25
3. Body Investment - Body image, feelings and Attitude		0.24**
Model 4	0.02	
1. Automatic thoughts		-0.27
2. Close ones empathetic about PCOS		0.22
3. Body Investment - Body image, feelings and Attitude		0.27
4. Late menstrual period		-0.16**

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Model 5	0.02
1. Automatic thoughts	-0.23
2. Close ones empathetic about PCOS	0.25
3. Body Investment - Body image, feelings and Attitude	0.22
4. Late menstrual period	0.23
5. Worried about PCOS	-0.18**
Model 6	0.01
1. Automatic thoughts	-0.17
2. Close ones empathetic about PCOS	0.24
3. Body Investment - Body image, feelings and Attitude	0.22
4. Late menstrual period	0.25
5. Worried about PCOS	-0.18
6. Notice excessive body hair	-0.13*
Total Adjusted R2	0.36

According to the results displayed in Table 4, Automatic thoughts total is a predictor of Psychological wellbeing – personal growth. As seen in model 1, Automatic thoughts total was found to have a negative relationship with Psychological wellbeing – personal growth ($\beta = -0.47$, $p < 0.01$) and the contribution of Automatic thoughts total in the variance of Psychological wellbeing – personal growth was 23%.

Similarly, model 2 shows that Close ones empathetic about PCOS is a predictor of Psychological wellbeing – personal growth and it has a positive relationship with it ($\beta = 0.23$, $p < 0.01$). The contribution of Close ones empathetic about PCOS in the variance of Psychological wellbeing – personal growth was 0.05%. Moreover model 3 shows that Body Investment - Body image, feelings and Attitude is a predictor of Psychological wellbeing – personal growth and has a positive relationship with it ($\beta = 0.24$, $p < 0.01$). The contribution of Body Investment - Body image, feelings and Attitude in the variance of Psychological wellbeing – personal growth was 0.03%.

Model 4 shows that Late menstrual period is a predictor of Psychological wellbeing – personal growth and it has a negative relationship with it ($\beta = -0.16$, $p < 0.01$). The contribution of Late menstrual period in the variance of Psychological wellbeing – personal growth was 0.02%. Model 5 shows that Worried about PCOS is a predictor of Psychological wellbeing – personal growth and it has a negative relationship with it ($\beta = -0.18$, $p < 0.01$).

Model 6 shows that Notice excessive body hair is a predictor of Psychological wellbeing – personal growth and it has a negative relationship with it ($\beta = -0.13$, $p < 0.05$). The total variance in Psychological wellbeing – personal growth contributed by these six predictors is 36%. Thus, H1(F)(iii), H3(D)(iii), H2(A)(iii), H3(A)(iii), H3(B)(iii), and H3(E)(iii) have been accepted.

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Table 5 Showing the stepwise regression analysis for predictors of Psychological wellbeing subscale personal relations with others.

Predictor	ΔR^2	β
<u>Criterion: Psychological wellbeing – personal relations with others</u>		
Model 1	0.19	
1. Automatic Thoughts - personal maladjustment and desire for change		0.44**
Model 2	0.03	
1. Automatic Thoughts - personal maladjustment and desire for change		-0.43
2. Close ones empathetic about PCOS		0.19**
Model 3	0.01	
1. Automatic Thoughts - personal maladjustment and desire for change		-0.46
2. Close ones empathetic about PCOS		0.21
3. Concerned about body weight		-0.13*
Model 4	0.02	
1. Automatic Thoughts - personal maladjustment and desire for change		-0.53
2. Close ones empathetic about PCOS		0.24
3. Concerned about body weight		0.17
4. Body investment		0.18**
Total Adjusted R2	0.25	

According to the results displayed in Table 5, Automatic Thoughts - personal maladjustment and desire for change is a predictor of Psychological wellbeing – personal relations with others. As seen in model 1, Automatic Thoughts - personal maladjustment and desire for change was found to have a positive relationship with Psychological wellbeing – personal relations with others ($\beta=0.44$, $p<0.01$) and the contribution of Automatic Thoughts -

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personal maladjustment and desire for change in the variance of Psychological wellbeing – personal relations with others was 19%.

Similarly, model 2 shows that Close ones empathetic about PCOS is a predictor of Psychological wellbeing – personal relations with others and it has a positive relationship with it ($\beta = 0.19, p < 0.01$). The contribution of Close ones empathetic about PCOS in the variance of Psychological wellbeing – personal relations with others was 0.03%. Moreover model 3 shows that Concerned about body weight is a predictor of Psychological wellbeing – personal relations with others and has a negative relationship with it ($\beta = -0.13, p < 0.05$). The contribution Concerned about body weight in the variance of Psychological wellbeing – personal relations with others was 0.01%.

Model 4 shows that Body investment total is a predictor of Psychological wellbeing – personal relations with others and it has a positive relationship with it ($\beta = 0.18, p < 0.01$). The contribution of Body investment total in the variance of Psychological wellbeing – personal relations with others was 0.02%. The total variance in Psychological wellbeing – personal relations with others contributed by these four predictors is 25%. Thus, H1(B)(iv), H3(D)(iv), H3(F)(iv) and H2(E)(iv) have been accepted.

Table 6 Showing the stepwise regression analysis for predictors of Psychological wellbeing subscale purpose in life.

Predictor	ΔR^2	β
<u>Criterion: Psychological wellbeing - purpose in life</u>		
Model 1	0.03	
1. Body Investment - Comfort in touch		0.19**
Model 2	0.01	
1. Body Investment - Comfort in touch		0.16
2. Self-conscious as a result of having PCOS		-0.13**
Total Adjusted R ²	0.04	

According to the results displayed in Table 6, Body Investment - Comfort in touch is a predictor of Psychological wellbeing – purpose in life. As seen in model 1, Body Investment - Comfort in touch was found to have a positive relationship with Psychological wellbeing – purpose in life. ($\beta = 0.19, p < 0.01$) and the contribution of Body Investment - Comfort in touch in the variance of Psychological wellbeing – purpose in life was 0.03%.

Similarly, model 2 shows that Self conscious as a result of having PCOS is a predictor of Psychological wellbeing – purpose in life and it has a negative relationship with it ($\beta = -0.13, p < 0.01$). The contribution of Self conscious as a result of having PCOS in the variance

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of Psychological wellbeing – purpose in life was 0.01%. The total variance in Psychological wellbeing – purpose in life contributed by these two predictors is 0.04%. Thus, H2(B)(v) and H3(G)(v) have been accepted.

Table 7 Showing the stepwise regression analysis for predictors of Psychological wellbeing subscale self acceptance.

Predictor	ΔR^2	β
<u>Criterion: Psychological wellbeing - self-acceptance.</u>		
Model 1	0.46	
1. Automatic thoughts		-0.67**
Model 2	0.02	
1. Automatic thoughts		-0.55
2. Body Investment		0.20**
Model 3	0.01	
1. Automatic thoughts		-0.57
2. Body Investment		0.22
3. Concerned about body weight		-0.10**
Total Adjusted R2	0.49	

According to the results displayed in Table 7, Automatic thoughts total is a predictor of Psychological wellbeing – self acceptance. As seen in model 1, Automatic thoughts total was found to have a negative relationship with Psychological wellbeing – self acceptance ($\beta=-0.67$, $p<0.01$) and the contribution of Automatic thoughts total in the variance of Psychological wellbeing – self acceptance was 46%.

Similarly, model 2 shows that Body Investment total is a predictor of Psychological wellbeing – self acceptance and it has a positive relationship with it ($\beta =0.20$, $p<0.01$). The contribution of Body Investment total in the variance of Psychological wellbeing – self acceptance was 0.02%.

Moreover model 3 shows that Concerned about body weight is a predictor of Psychological wellbeing – self acceptance and has a negative relationship with it ($\beta = -0.10$, $p<0.05$). The contribution Concerned about body weight in the variance of Psychological wellbeing – self acceptance with others was 0.01%. The total variance in Psychological wellbeing – self

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acceptance contributed by these three predictors is 49%. Thus, H1(F)(vi), H2(E)(vi) and H3(F)(vi) have been accepted.

SUMMARY OF RESULTS

The results of stepwise multiple regression revealed that

- In women diagnosed with polycystic ovary syndrome, psychological wellbeing – autonomy is predicted by:
 - Automatic Thoughts - personal maladjustment and desire for change
 - Late menstrual period
 - Worried about having PCOS
 - Automatic Thoughts - low self- esteem

- In women diagnosed with polycystic ovary syndrome, psychological wellbeing – environmental mastery is predicted by:
 - Automatic thoughts
 - Body investment
 - Family and friends' awareness on PCOS
 - Body investment – body protection

- In women diagnosed with polycystic ovary syndrome, psychological wellbeing – personal growth is predicted by:
 - Automatic thoughts
 - Close ones empathetic about PCOS
 - Body Investment - Body image, feelings and Attitude
 - Late menstrual period
 - Worried about PCOS
 - Notice excessive body hair

- In women diagnosed with polycystic ovary syndrome, psychological wellbeing – personal relations with others is predicted by:
 - Automatic Thoughts - personal maladjustment and desire for change
 - Close ones empathetic about PCOS
 - Concerned about body weight
 - Body investment

- In women diagnosed with polycystic ovary syndrome, psychological wellbeing – purpose in life is predicted by:
 - Body Investment - Comfort in touch
 - Self-conscious as a result of having PCOS

- In women diagnosed with polycystic ovary syndrome, psychological wellbeing – self acceptance is predicted by:
 - Automatic thoughts
 - Body Investment
 - Concerned about body weight

DISCUSSION

In the present study, the sample of interest individuals who belong to the category of women diagnosed with polycystic ovary syndrome. The researcher found it crucial to study the impact of Automatic Thoughts, Body investment and Psychological Wellbeing of women diagnosed with polycystic ovary syndrome.

The objective of the current study was to observe whether Automatic Thoughts (viz, Personal maladjustment and desire for change, negative self-concepts and negative expectations, low self-esteem and helplessness), Body Investment (viz, body image feelings and attitudes, comfort in touch, body care and body protection) predict the dimensions of Psychological well-being (viz, autonomy, environmental mastery, personal growth, positive relations with others, purpose in life and self-acceptance).

The findings of the current study indicate that Automatic thoughts - personal maladjustment and desire for change is a predictor of psychological well-being – autonomy. Women with polycystic ovary syndrome often experience increased personal maladjustment, leading to a greater desire for change. Autonomy can help those with polycystic ovary syndrome to take control of their lives and manage their symptoms more effectively.

Research has shown that autonomy can lead to improved self-esteem, reduced sense of helplessness, and improved mental health outcomes for individuals with polycystic ovary syndrome. Autonomy can enable individuals to build self-efficacy, increase their self-esteem and confidence, and reduce their dependence on external sources of validation. Autonomy can also empower individuals to make informed decisions about their treatment and to view themselves in a more positive light. Autonomy can be encouraged through cognitive-behavioral interventions that focus on self-determination and self-advocacy. Additionally, healthcare providers can provide support and encouragement to help individuals become more independent and take greater control over their care. A study conducted in 2017 by Leah Brennan et. al found that women with polycystic ovary syndrome often report increased levels of personal maladjustment, which can lead to a greater desire for change. Autonomy can help those with polycystic ovary syndrome to take control of their lives and manage their symptoms more effectively.

The present study also indicates that having low self-esteem was affects psychological well-being of a person on their autonomy. Research states that low self-esteem can have a significant impact on the psychological well-being and autonomy of women with polycystic ovary syndrome (PCOS). Self-esteem is a key factor in determining how individuals perceive themselves and those with low self-esteem often have difficulty making decisions and asserting themselves. Low self-esteem can also lead to anxiety, depression, and feelings of hopelessness. Autonomy can help those with polycystic ovary syndrome to take control of their lives and manage their symptoms more effectively. However, individuals with low self-esteem may struggle to gain autonomy due to their lack of confidence and a sense of helplessness. A finding of a study done in 2014 by Leila Amini et.al, states that Self- esteem is a key factor in determining how individuals perceive themselves and those with low self-esteem often have difficulty making decisions and asserting themselves. Low self- esteem can also lead to anxiety, depression, and feelings of hopelessness.

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Furthermore the present study shows that Automatic thoughts can influence psychological well-being in women with polycystic ovary syndrome (PCOS) by impacting their environmental mastery, personal growth and self-acceptance. Automatic thoughts are cognitive processes that occur without conscious effort, and they can play a major role in influencing an individual's emotional state and behavior. Research states that Automatic thoughts can inhibit a person's ability to adjust to their environment by leading to negative emotions and distorted perceptions. Automatic thoughts can also influence an individual's personal growth and self-acceptance. Negative automatic thoughts can lead to a lack of self-confidence, which can interfere with an individual's ability to gain satisfaction from their environment. In contrast, positive automatic thoughts can help an individual to gain a sense of mastery, personal growth, and self-acceptance. A study conducted by Apoorva Sharma et.al, 2022 found that Infertility is a major cause of the decline in psychological well-being in infertile women.

Likewise, the findings of the present study show that Body investment - body image, feelings and attitude has an effect of personal growth of individuals with polycystic ovary syndrome. Research states that body image, feelings, and attitude can have a significant impact on psychological well-being and personal growth in women with polycystic ovary syndrome (PCOS). A study conducted in 2014 by Thomas, Semara A, MD et.al., found that Body image dissatisfaction has been linked to negative emotions such as depression, guilt, and shame effecting personal growth of women.

The present study also found that having body protection affects the overall psychological wellbeing in environmental mastery in women diagnosed with polycystic ovary syndrome. Body protection can have a profound impact on psychological well-being and environmental mastery in women with polycystic ovary syndrome (PCOS). Research has shown that women with PCOS often report higher levels of distress, which can lead to a greater desire for protection from external threats. Body protection can help to reduce feelings of vulnerability, as well as physical and emotional stress. It can also lead to a sense of security, which can increase environmental mastery. Positive body protection strategies such as avoiding negative self-talk and focusing on healthy coping skills can help individuals to feel safe and secure in their environment.

Furthermore, the present study found that Body investment has been shown to be a predictor of psychological well-being, environmental mastery, personal relations with others, and self-acceptance in women with polycystic ovary syndrome (PCOS). Studies have shown that women with PCOS often report increased levels of body dissatisfaction and reduced body investment. Body investment can help to reduce feelings of vulnerability, as well as physical and emotional stress. It can also lead to a greater sense of self-efficacy, which can improve environmental mastery. A study conducted by H Teede, A Deeks & L Moran in 2010 found that Body investment can help to reduce feelings of vulnerability, as well as physical and emotional stress. It can also lead to a greater sense of self-efficacy, which can improve environmental mastery. Positive body investment strategies such as engaging in self-care activities, positive self-talk and focusing on healthy coping skills can help individuals to feel more confident and secure in their environment.

The results of the current study also show a late menstrual period has been found to be a predictor of psychological well-being, specifically in regards to autonomy and personal growth. Studies have found that women who experience a late menstrual period tend to have

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poorer psychological functioning than women with regular cycles. Women with a late menstrual period are likely to have lower levels of autonomy and self-efficacy, as well as less control over their lives. Additionally, they may be more likely to experience distress, negative emotions, and a lack of self-confidence. A study done by Osborn in 2019 on 80 participants showed that having late menstrual periods includes anxiety, stress, and feelings of self-doubt or uncertainty which affects the overall psychological wellbeing and autonomy in individuals.

The findings of the present study also show that being worried about having polycystic ovary syndrome does predicts psychological wellbeing – autonomy. Being worried can have a significant impact on a person's autonomy, or their ability to make independent decisions and act on their own behalf which affects their overall wellbeing. Decision making, self-doubt, avoidance and dependence are some ways that can affect the wellbeing and autonomy of individuals by worrying most of the times. A study conducted by Himelien and Thatcher in 2006 found that worry can have a significant impact on our sense of autonomy and control over our own lives.

The results of the current study states that automatic thoughts is a predictor of psychological wellbeing – environmental mastery. Research states that automatic thoughts can be a predictor of psychological wellbeing, including the construct of environmental mastery. Negative automatic thoughts may limit an individual's sense of control and competence in managing their environment, while positive automatic thoughts may enhance this sense of control and promote greater environmental mastery. Findings of a study done by Garcia and Al Nima in 2014 show that individuals who engaged in more positive automatic thoughts had higher levels of environmental mastery. Specifically, positive automatic thoughts were associated with a greater sense of control over one's life and the ability to achieve personal goals.

Furthermore, the present study shows that family and friends awareness on polycystic ovary syndrome predicts psychological wellbeing – environmental mastery and close ones empathetic about having polycystic ovary syndrome predicts personal growth of individuals. Research states that having social support and communication about polycystic ovary syndrome can be beneficial for overall psychological wellbeing, including environmental mastery. A study conducted by Harandi. T, Taghinasab in 2017 on social support with mental health states that social support can be a protective factor against psychological distress and promote greater psychological wellbeing, including greater environmental mastery and personal growth.

The results of the current study also show that individuals who notice excessive hair predicts and has an affect on psychological wellbeing - personal growth. Research states that Excessive hair growth, or hirsutism, can have a negative impact on psychological wellbeing, including personal growth. A study conducted by Kumar S, et al. in 2017, shows that having excessive body hair can impact self-esteem and social relationships which also impacts the personal growth of individuals with polycystic ovary syndrome. This study shows the negative impact that hirsutism(body hair) can have on psychological wellbeing and personal growth.

The present study shows that body investment – body protection is a predictor of psychological wellbeing – environmental mastery. Research states that body protection can

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have a positive impact on psychological wellbeing and environmental mastery by promoting feelings of safety, control, and empowerment. Findings of a study done by Lee H, et al. in 2016, shows that using and following appropriate body protective measures individuals can enhance their overall wellbeing and engage in activities and environments that promote psychological wellbeing and environmental mastery in them.

The results of the current study show that body investment has an impact on psychological wellbeing self acceptance. Research has suggested that investing in one's body can lead to improved self-esteem, body image, and overall well-being. The results also show that concerned about body weight predicts psychological wellbeing self acceptance.

Research found that women who were dissatisfied with their body weight and shape had lower levels of self-esteem and self-acceptance compared to women who were satisfied with their body weight.

The findings of the present study show that being concerned about body weight predicts and affects the psychological wellbeing – personal relation with others. Research states that concerns about body weight can impact personal relationships by reducing interpersonal attraction, increasing negative social behaviors, and reducing self-esteem and relationship satisfaction. A study conducted by Sabiston and Clark in 2017 shows that body image concerns can impact personal relationships by reducing intimacy and increasing conflict.

Likewise the current study shows that body investment - Comfort in touch is a predictor of Psychological wellbeing – purpose in life. The comfort of touch has a positive impact on psychological wellbeing and purpose in life. Research has shown that touch is a fundamental human need, and that individuals who receive regular physical contact have better emotional and social functioning. The present study also shows that being self-conscious as a result of having polycystic ovary syndrome predicts negative impact on psychological wellbeing - purpose in life. Research evidence suggests that self-consciousness and negative body image as a result of having polycystic ovary syndrome can have a significant impact on psychological wellbeing and purpose in life. A study conducted by Bazarganipour and Montazeri in 2013 shows that one potential impact of polycystic ovary syndrome is that it can lead to self-consciousness and negative body image, which can have a significant impact on psychological wellbeing and purpose in life.

The findings of this study could have implications for the development of interventions to improve psychological well-being in women with PCOS. If negative automatic thoughts and poor body investment are found to negatively predict psychological well-being, interventions could be developed to target these factors, such as cognitive- behavioral therapy or body image therapy. This study could contribute to a better understanding of the complex relationships between automatic thoughts, body investment, and psychological well-being in women with PCOS. Additionally, since polycystic ovary syndrome is not yet fully recognized in many places, greater awareness about PCOS could lead to greater research findings.

A limitation of the present study was the use of self-report measures. Self-report measures are subject to the biases of the respondent, such as social desirability, which could have affected the results. Additionally, the limited number of respondents in this study could also be a limitation, as a larger sample size would be better for generalizability of the results.

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The diagnosis of polycystic ovary syndrome (PCOS) among the study participants was not performed based on definitive diagnostic criteria, which could have led to bias in the results.

Additionally, the inclusion of limited subpopulations and subgroups from a defined geographical area could have further contributed to bias in the results. In order to get a more comprehensive overview of the impacts of PCOS, future studies should include a larger and more representative sample of participants, and should use definitive diagnostic criteria for the diagnosis of polycystic ovary syndrome. Furthermore, by dividing the population in more effectively and understanding different population differences will help health psychologists to work on this and come up with interventions. Additionally, it would be beneficial to pair the diagnosis of polycystic ovary syndrome with quality of life and body mass index, as these factors are known to be associated with polycystic ovary syndrome. Doing so would allow for a more comprehensive analysis of the impacts of polycystic ovary syndrome on an individual's overall health and well-being.

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Conflict of Interest

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