

# RELATIONSHIP OF RESILIENCE, PSYCHOLOGICAL DISTRESS, AND PSYCHOLOGICAL WELL-BEING AMONG WOMEN WITH POLYCYSTIC OVARY SYNDROME

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## ABSTRACT

The aim of the present study was to explore the relationship between resilience, psychological distress, and psychological well-being and its effect on resilience among working and non-working women suffering from PCOS. This cross-sectional comparative study was conducted in the gynecological wards of government and private hospitals from January 2023 to June 2023. Two hundred women suffering from PCOS were selected through non-probability sampling. The participants were divided into married and unmarried women. The data was collected through two reliable measures: the Mental Health Inventory 38-Urdu (MHI-U) and the Connor Davidson Resilience Scale-Urdu (CDRS-U). Data was analyzed through SPSS-26 using Cronbach alpha

reliability, Pearson correlation, Linear Regression, and t-tests. Of the 200 women 100(50%) were married and 100(50%) were unmarried. Within both group 106(55%) were working and 94(45%) were non-working women. Psychometric properties show high reliability of the study scale for MHI 38-U sub-scales (psychological distress ( $\alpha=0.82$ ) and psychological well-being ( $\alpha=0.84$ ) and for CDRS-U ( $\alpha=0.81$ ), resilience negatively predicts psychological distress (-0.51) while resilience positively predicts psychological well-being (+0.48). Working women were significantly low on psychological distress ( $p=0.001$ ) and higher on psychological well-being ( $p=0.001$ ) and resilience ( $p=0.001$ ). Married women were significantly higher on psychological distress ( $p=0.001$ ) and lower on psychological well-being ( $p=0.001$ ) and resilience ( $p=0.001$ ). Resilience needs to be enhanced among PCOS women particularly in married women as it helps them to manage their psychological distress level and will promote their psychological well-being level.

**KEYWORDS:** Psychological, distress, wellbeing, resilience, PCOS, working, non-working

## INTRODUCTION

Historically, mental well-being and mental distress were commonly perceived as two ends of a singular dimension (referred to as the single-axis model). According to this concept, heightened mental well-being would correspond to diminished mental distress, and conversely, decreased mental well-being would be associated with greater mental suffering (Keyes, 2005). To enhance the existing comprehension regarding the correlation between mental well-being and distress, Keyes (2005a) formulated the two-continuum model of complete mental health. According to the World Health Organization (WHO), mental health is characterized as a condition of overall wellness in which an individual is aware of their own capabilities, possesses the capacity to

effectively manage typical life stressors, demonstrates productivity in their work, and is capable of making meaningful contributions to their community (World Health Organisation, 2022). There exist two separate dimensions within the realm of mental health: a positive dimension that encompasses psychological well-being, and a negative dimension that encompasses psychological distress and mental diseases (Iasiello et al., 2020). This model asserts that mental well-being and mental distress, which represent symptoms of mental illness, are distinct yet interconnected aspects of mental health. In the present theoretical framework, there exists a negative relationship between mental well-being and mental distress, whereby an increase in one construct may lead to a decrease in the other. However, it is important to note that these fluctuations cannot be entirely accounted for by the influence of one construct on the other. Keyes (2005a) provided empirical evidence in favor of the two-continuum model by conducting confirmatory factor analyses on a sample of 3,032 individuals aged 25 to 74 from the Midlife in the United States (MIDUS) survey. The research was conducted to compare three models; either mental distress or well-being is the single-axis model and, the two-axis orthogonal model. The findings of the study revealed that the two-factor correlated model had superior model fit compared to both the single-factor and two-factor orthogonal models. Additional support for the two-continuum concept is offered by empirical investigations that demonstrate a correlation between individuals who exhibit low levels of mental distress and high levels of mental well-being, and various positive health outcomes (Caspi & Moffitt, 2018). Specifically, research conducted by Keyes (2007) reveals that adults who possess psychological well-being traits tend to experience a reduced incidence of chronic illnesses, utilize healthcare services less frequently, low absenteeism from work (Keyes, 2007). Keyes et al. (2010) discovered that improvements in mental well-being are associated with subsequent reductions in mental distress, but low mental

well-being is linked to increased mental distress over a 10-year period. Therefore, the evaluation of individual mental health should investigate both dimensions by taking into account the individual's psychological distress as well as their psychological well-being.

Resilience, defined as the capacity to adapt and recover from adversity, plays a pivotal role in shaping psychological outcomes such as distress and well-being. Its influence is evident in how individuals navigate stress and manage their mental health, making it a critical focus for psychological research and intervention (Badri, 2017). High resilience serves as a buffer against psychological distress, helping individuals cope more effectively with stressors and reducing the likelihood of developing conditions like anxiety and depression (Bacchi & Licinio, 2016). This protective mechanism is rooted in several key factors. First, resilient individuals tend to have a robust set of coping strategies, such as cognitive restructuring and problem-solving, which allow them to view challenges as opportunities rather than threats. By reframing stressful situations positively, they can mitigate the emotional impact of stressors. Moreover, high-resilience individuals often have strong social support networks, providing them with emotional and practical assistance during tough times. This support not only alleviates immediate stress but also contributes to long-term mental health resilience (Bariola et al., 2015). Research consistently shows an inverse relationship between resilience and psychological distress. For example, longitudinal studies reveal that people with high resilience report lower levels of anxiety and depression over time. This indicates that resilience not only aids in managing current stressors but also offers protection against future psychological challenges (Lenzo et al., 2024). On the flip side, resilience also significantly influences psychological well-being. Individuals who exhibit high resilience are more likely to experience positive emotions, greater life satisfaction, and overall happiness. This connection is partly due to their ability to maintain a positive outlook and

engage in adaptive emotional regulation (Arakkathara & Bance, 2020). Resilient people often have a sense of purpose and find meaning in their experiences, which enhances their overall sense of well-being (Owen et al., 2022). Furthermore, resilience supports adaptive functioning by promoting effective emotional management and coping skills. This ability to regulate emotions and maintain a positive perspective contributes to greater life satisfaction and reduced negative affect (Ifeagwazi et al., 2014)

Resilience in the context of chronic illness refers to an individual's capacity to adapt positively despite the ongoing physical, emotional, and social challenges associated with long-term health conditions (Pangngay, 2023). It involves maintaining psychological well-being, effective coping strategies, and a positive outlook even in the face of debilitating symptoms and lifestyle restrictions (Manning et al., 2016). Research on chronic illnesses and resilience has grown significantly in recent years, as scholars and healthcare professionals seek to understand how resilience can help individuals manage the challenges associated with long-term health conditions (Tecson et al., 2019).

Polycystic Ovary Syndrome (PCOS) is indeed classified as a chronic illness. It is a complex endocrine disorder that affects women of reproductive age and is characterized by a combination of symptoms including irregular menstrual cycles, excess androgen levels, and polycystic ovaries (Peña & Metz, 2017). PCOS can have significant long-term health implications, such as increased risk of insulin resistance, type 2 diabetes, cardiovascular disease, and mental health issues (Paweł Dybciak et al., 2023). Some researches indicate the relationship between resilience, psychological distress, and psychological well-being (Wright et al., 2020). In Pakistan, the prevalence of PCOS is 52% which is much higher than the Western countries (Sidra

et al., 2019) and there is the dearth of literature on psychological distress, psychological well-being, and resilience among PCOS women is very limited. The primary objective of this study is to examine the correlation between resilience, psychological distress, and psychological well-being in women diagnosed with Polycystic Ovary Syndrome (PCOS).

## **METHOD**

### **STUDY SITE**

The research design of the present study is a correlation research design. The sample of 200 (n=100 married, n=100 Unmarried) women suffering from PCOS was taken through Purposive sampling. The sample was taken from Different government and private hospitals. The age range of the sample was 18-45 years with a mean age of  $36.72 \pm 4.34$  years, the reason behind is fertile age among the women (Mogilevkina et al., 2016). After 45 years peri menopausal stage starts.

### **ASSESSMENT MEASURES**

#### **DEMOGRAPHIC DATA SHEET**

A demographic data sheet consisting of variables like age, education, socioeconomic status, marital status, weight, BMI, history of illness in family, history of illness in mother, taking medicine and hairs on body, hair fall and irregular periods used in the study.

#### **MENTAL HEALTH INVENTORY -38-URDU**

The Urdu translation of the Mental Health Inventory (MHI) done by Khan et al., 2012, originally developed by Veit and Ware in 1983, consists of a total of 38 items. The scale was composed of two subscales: Psychological Distress, which had 22 items, and Psychological Well-being, which consisted of 16 items. The Mental Health Inventory (MHI) was evaluated using a 6-point rating scale, where respondents were asked to assess their experiences on a scale ranging from 1

(indicating occurrence all of the time) to 6 (indicating occurrence none of the time). The total scores for the Psychological Distress subscale varied between 22 and 132, whereas for the Psychological Well-being subscale, the scores ranged from 16 to 96. The Psychological Distress subscale was subject to negative scoring, resulting in higher scores on the total Mental Health Inventory (MHI) indicating enhanced mental well-being. The study conducted by Stead, Shanahan, and Neufeld (2010) demonstrated that the MHI exhibited satisfactory reliability and significant internal consistencies, with coefficients ranging from .83 to .96 (Khan et al., 2015).

### **CONNOR-DAVIDSON RESILIENCE SCALE-URDU**

The instrument was initially devised by Conner and Davidson in 2003, with a total of 25 components. Recently, Sarwer and colleagues have undertaken the task of translating the instrument into Urdu in the year 2021. The Comprehensive Resilience Scale (CD-RISC) utilizes a scoring system that ranges from 0 to 100. Respondents provide ratings for each item on a 5-point Likert scale, ranging from 0 (indicating infrequent occurrence) to 4 (indicating near-constant occurrence). The Connor-Davidson Resilience Scale (CDRS) exhibits a 5-factor. Factor 1 is associated with the concept of personal competency, the adherence to high standards, and the quality of perseverance. Factor 2 encompasses the constructs of faith in one's instincts, tolerance of bad affect, and the enhancing impact of stress. The factor of 3 indicates a favorable inclination towards embracing change and fostering stable interpersonal connections. Factors 4 and 5 pertain to the aspects of control and spiritual influences, correspondingly. Greater resilience is associated with higher scores. The scale exhibits a reliability coefficient of 0.87 (Sarwar et al., 2021)

### **PROCEDURE**

The study was approved by the ethical board of International Islamic University, Islamabad. After permission was taken from respected institutions like clinics and hospitals, the participants were briefed about the research purpose and objectives. The entire participants signed informed consent. Demographic Sheet and Two scales, Mental Health Inventory-Urdu (Khan et al., 2015) and Conner Davidson Resilience Scale-Urdu (Sarwar et al., 2021) were given to participants. The data was gathered through a process of voluntary participation. The participants were provided with reassurances regarding the confidentiality of their responses and expressed gratitude for their involvement and cooperation in the research.

### **STATISTICAL ANALYSIS**

Data were analyzed through SPSS-26. The demographic factors were presented as percentages and frequency. The Cronbach's alpha coefficient was used to evaluate the study scales psychometric characteristics and regression analysis was conducted to investigate the impact of predictors on the dependent variables.

### **ETHICAL ISSUE**

Before completing the questionnaires, the subjects were provided with informed consent. The ethical review board of the International Islamic University in Islamabad, Pakistan, accepted the current research.

### **RESULTS**

Out of 200 females suffering from PCOS 106 (55%) are working and 94 (45%) are non-working. Among the participant 100(50%) were married and 100(50%) were unmarried. Among the participants, 70(35%) belonged to the lower class and 70(35%) belonged to the higher class and 60(30%) belonged to the middle class. Most of the participants had matric degree 90(45%)



than the undergraduate 70(35%) and post graduate degree 40(25%). In the sample, most of the participants 145(72.5%) have mothers suffering from PCOS and similarly more of the participant 155(77.5%) belong to the family having PCOS.

The results in table 1 show that all scales have adequate reliability coefficients. The scale standard deviation was determined to be fairly spread around the mean, neither too high or too low, indicating that the data were normally distributed. Skewness results suggested that the data were distributed normally, and the kurtosis for scale was regarded statistically acceptable ( $p < 0.001$ ) (Table 1).

Table 1: Psychometric properties and Chronbach alpha of Mental Health Inventory subscales and Conner Davidson Resilience Scale (N=200)

Scales	M	SD	$\alpha$	Range	Skewness	Kurtosis
Psychological distress	87.32	21.32	.82	54-96	-.54	-.63
Psychological well being	23.12	11.54	.84	18-32	.14	-.83
Resilience	42.03	14.55	.81	5-58	-.59	-.66

Pearson correlation of the scales has shown that psychological distress and resilience are significantly negatively correlated with each other, ( $p < 0.001$ ). (Table 2)

Table 2: Correlation Matrix between Psychological distress, psychological well-being and resilience among women with PCOS (N=200)

Sr.No	Variables	1	2	3
1	Psychological distress	-	-.84***	-0.82***
2	Psychological well being	-	-	0.73***
3	Resilience	-	-	-

p<0.001

In linear regression analysis, resilience accounts for 51% of the variance in psychological distress (Table 3).

Table 3: Linear Regression analysis showing resilience as a predictor of psychological distress among women with PCOS (N=200)

					Psychological distress			
						95% CI		
Variable				B		LL	UL	
Constant				214.98***		205.34	224.63	
Resilience				-2.61***		-2.97	-2.24	
R <sup>2</sup>					.51			
F					201.09***			

p<0.001

In linear regression analysis, resilience accounts for 48% variance in psychological well-being (Table 4).

Table 4: Linear Regression analysis showing resilience as a predictor of psychological well-being among women with PCOS (N=200)

					Psychological well-being			
						95% CI		
Variable					B	LL	UL	
Constant					10.81***	8.06	13.56	
Resilience					.71***	.49	.71	
R <sup>2</sup>					.48			
F					211.09***			

p<0.001

Results indicated that Non-working women experience higher psychological distress and have lower psychological well-being than non-working women p<0.001. The findings also indicated that Working women experience higher resilience than non-working women with PCOS, p<0.001 (Table 5).

Table 5: Comparison of Psychological distress, Psychological wellbeing and resilience between working and non-working women with PCOS (N=200)

Variables	Working (106)	Non-working (94)	t	p	LL	UL	Cohen's d
Psychological distress	75.37(29.91)	106.50(32.94)	12.65	0.000	-25.22	-17.34	0.98
Psychological well being	45.21(12.67)	32.87(10.86)	11.26	0.000	-22.18	-15.57	1.04
Resilience	65.06(8.71)	47.55(14.17)	10.36	0.000	-20.83	-14.17	1.48

Married women experience higher psychological distress and have lower psychological well-being than Unmarried women,  $p < 0.001$ . The findings also indicated that Working women experience higher resilience than non-working women with PCOS,  $p < 0.001$  (Table 6).

Table 6: Comparison of Psychological distress and resilience between married and unmarried women with PCOS (N=200)

Variables	Married (100)	Un-Married (100)	t	p	LL	UL	Cohen's d
Psychological distress	70.75(11.44)	50.37(16.40)	9.91	0.000	-24.30	-16.23	0.98
Psychological well being	26.98(10.76)	37.15(8.98)	11.06	0.000	-21.96	-15.31	1.04
Resilience	37.86(14.54)	52.71(10.06)	8.97	0.000	-19.33	-12.36	1.48

$p < 0.001$

## DISCUSSION

The prevalence of polycystic ovary syndrome (PCOS) is on the rise, and the associated risk factors are substantial and long-lasting. Women diagnosed with Polycystic Ovary Syndrome (PCOS) may experience a decline in self-esteem, a more negative self-perception, and increased levels of melancholy and psychological distress (Jabeen et al., 2022). These effects can be attributed to the physical manifestations of hyperandrogenism, such as obesity, hirsutism, cystic acne, seborrhea, and hair loss, which can have a negative effect on their sense of femininity and identity (Jones et al., 2007). Due to the stigma associated with anovulation and infertility (Jayashree, 2017) in Pakistani society, the majority of females do not seek a diagnosis, and the conditions are worsening over time. PCOS, its symptoms, consequences, and management should be the subject of a national education program. Therefore, women with PCOS should be required to maintain regular contact with their healthcare provider to maintain control of their condition (Nawaz et al., 2008).

The results indicate that resilience significantly predicts psychological distress among PCOS women. Previous studies also corroborate this result that students with high levels of resilience experience less psychological distress than those with low levels of resilience (Ononye et al., 2022). A cross-sectional descriptive study was conducted on 310 nursing students in Ahvaz Jundishapur University of Medical Sciences, Iran. The data of the study was collected through the demographic information questionnaire, the General Health Questionnaire (GHQ), the Academic Resilience Inventory (ARI), and the Sense of Coherence Scale (SOC-13). The results indicated that low sense of coherence and resilience were predictors of psychological distress among nursing students (Hasimi et al., 2023). Individual interaction, personality traits, past experience, family, and social interactions all contribute to resilience (Sisto et al., 2019). The

results of present study align with previous research conducted both locally and internationally that provide evidence supporting the relationship between psychological well-being and resilience, as well as the link between higher levels of resilience and a reduced occurrence of psychological disorders (Bano & Pervaiz, 2020; Dasti et al., 2018; Färber & Rosendahl, 2018; Poole et al., 2017). The study conducted by Sohail and Ahmed (2021) demonstrates that the ideal degree of resiliency has an essential significance in predicting the psychological well-being of young individuals. A research conducted by Idris (2019) elucidates that resilience is a significant predictor and it explains 48.2% variance in psychological well-being.

Findings also indicate that non-working women have low psychological distress, high psychological well-being and high resilience. Women who are employed are typically content, good in interpersonal relationships, passionate, practical, consistent, sheltered, naive, forgiving, joyous, and optimistic (Sinha, 2017). In general, non-working women have a lower sense of well-being than working women.

Results are also supported by previous research that married women have high levels of psychological distress, low levels of psychological well-being, and low levels of resilience. Compared to unmarried women, married women exhibit greater psychological distress and a lower level of resilience. It is widely acknowledged that motherhood is frequently viewed as a satisfying aspect of a woman's existence, resulting in a feeling of fulfillment (Hutchinson & Cassidy, 2021). Consequently, it is commonly observed that when a woman has difficulty in conceiving, she may experience feelings of inadequacy or shortcomings (Yusuf, 2016). Infertility is defined as the inability of a woman to conceive after engaging in sexual activity for six to twelve months without contraception (Daly, 2020) and when women could not conceive, they feel shame and guilt that effect the whole quality of life of women (Jayashree, 2017).

Prior studies have proposed that healthcare professionals ought to conduct screenings for psychological problems, such as anxiety and depression, in women diagnosed with Polycystic Ovary Syndrome (PCOS) (Dybciak et al., 2022; (Dybciak et al., 2022)). The findings of our study indicate that it is important for doctors to address psychological distress for the prevention of further psychological and emotional disturbances. Purposive sampling was used for data collection, which limits the present study's ability to generalize its findings to the whole population. The data was collected in just two cities (Islamabad and Rawalpindi), thereby limiting its external validity. It is suggested that the study be conducted in more than two cities in the future to increase its generalizability.

Researches have shown that resilience is linked to improved mental health outcomes and greater overall satisfaction with life. In practical terms, cultivating resilience can lead to better psychological outcomes, making it a valuable focus for mental health interventions [41] . By fostering resilience through strategies like stress management training, social support enhancement, and positive thinking techniques, individuals can better navigate life's challenges and improve their overall quality of life. As we continue to explore the role of resilience in mental health, it becomes clear that building resilience is not just about overcoming adversity but also about enhancing one's capacity for happiness and well-being. Future research should aim to identify effective methods for cultivating resilience across diverse populations and settings, ensuring that its benefits are accessible to all. By understanding and promoting resilience, we can support individuals in achieving both psychological stability and enriched well-being, ultimately contributing to a healthier, more resilient society.

The result showed a significant correlation between resilience, psychological distress, and psychological well-being. Findings also elucidate that psychological distress and psychological

well-being significantly predict by resilience. The result also indicated an m significant difference between women suffering from PCOS with respect to occupation and marital status.



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