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### Risk and Protective Factors for Depression and Anxiety in PCOS

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# Risk and Protective Factors for Depression and Anxiety in PCOS

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& Stacey L. Williams, Ph.D.

## Introduction

**Purpose:** Research in the area of PCOS is limited; and the psychological scope is even smaller. One study found that 3% of the PubMed articles discusses the psychological factors of PCOS (Himelein & Thatcher, 2006). That percentage has remained relatively stable over the years since. As well no studies have examined PCOS within psychological science. The overarching purpose of this study was to contribute to the understanding of psychosocial experiences of PCOS.

**Background:** Polycystic ovary syndrome is an endocrine condition that affects individuals born with ovaries. We see most of the research on the physical symptoms like hirsutism (male-patterned body/facial hair), obesity, and acne can contribute to higher depression and lower quality of life (Alur-Gupta et al., 2019), but perceived stigma and body image can also be a cause for concern regarding PCOS. Lower qualities of life include multiple factors: life and sexual dissatisfaction, depression, and infertility among others (Barnard et al., 2007). Researchers have found that body image, perceived stigma, and lower quality of life are large contributing factors leading to depression and anxiety (Alur-Gupta et al., 2019). Within this we find that the protective factors, self-compassion and social support, can help in combating these risk factors (Forbes et al., 2020).

**Current Study:** The current study aimed to examine risk and protective factors of PCOS and how they correlate with depression and anxiety in individuals living with PCOS.

## Method

**Participants:** The full sample included 50 gender (48% cisgender women, 52% gender diverse) and ethnically diverse (46% white non-Hispanic, 54% ethnically diverse) individuals living with PCOS who completed a one-on-one phone interview. The ages ranged from 19-46, with an average age of 29 (SD = 6.49).

**Measures:** Depressive and anxiety symptoms, and risk and protective factors were measured through a series of Likert scales on an online platform, Redcap. Of the original 50 individuals living with PCOS, 46 (92%) completed the online survey, answering questions about risk (perceived stigma, body image, internalized weight bias) and protective (self-compassion, social support) factors, and mental health (depression and anxiety).

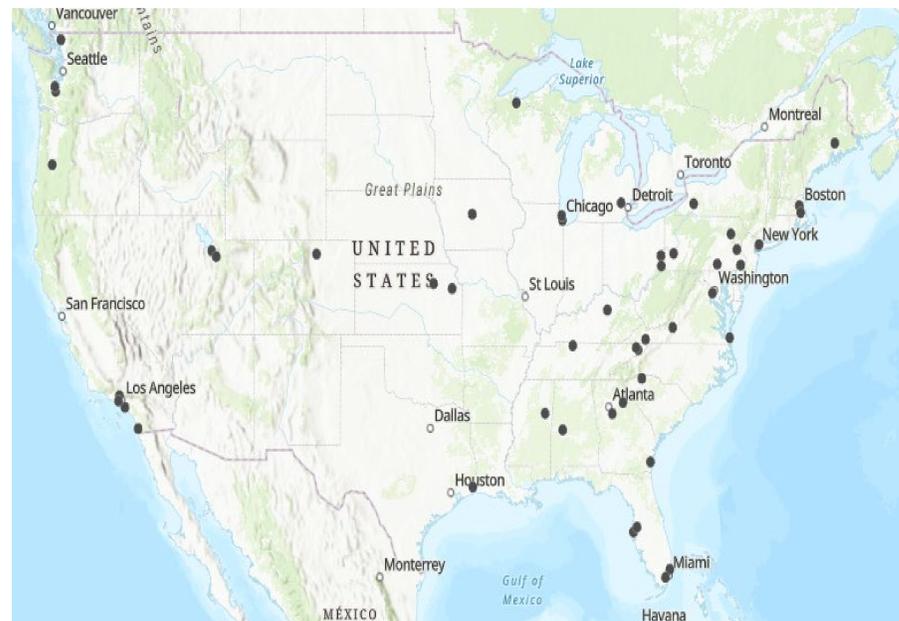


Figure 1: Geographic location of individuals living with PCOS in this study (N = 50)

Symptoms	N (%)
Irregular Menstrual Cycle	50 (100%)
Obesity	43 (86%)
Excess Hair (i.e., Hirsutism)	41 (82%)
Depression	40 (80%)
Anxiety	37 (74%)
Acne	35 (70%)
Pain	35 (70%)
Ovarian "Cysts"	29 (58%)

Table 1: Frequency of PCOS Symptoms Reported by Individuals Living with PCOS (N = 50)

References available upon request

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## Results

Analyses were conducted via SPSS software. Minimum, maximum, means, and standard deviations are reported in Table 2 (below). Means fell at approximately the mid point of the scales. Though the online survey assessed depressive and anxiety symptoms rather than clinical diagnoses, the mean values for the sample translate into moderate levels of depression and anxiety symptoms. Results of bivariate correlations revealed that perceived stigma ( $r = .37, p = .02$ ;  $r = .34, p = .03$ ) and body image ( $r = .53, p = .00$ ;  $r = .38, p = .02$ ) were significantly related to more depressive and anxiety symptoms, respectively. In addition, results showed that self-compassion ( $r = -.72, p = .00$ ;  $r = -.61, p = .00$ ) and social support ( $r = -.42, p = .01$ ;  $r = -.37, p = .02$ ) were significantly related to fewer depressive and anxiety symptoms.

Measure	Minimum	Maximum	Mean	Std. Deviation
Depression	2.00	22.00	11.28	5.55
Anxiety	0.00	21.00	9.46	6.08
Self-compassion	1.00	4.92	2.76	0.82
Perceived Stigma	1.75	5.00	3.71	0.77
Social Support	2.58	7.00	5.38	1.06
Body Image	23.00	92.00	61.13	17.49
Weight Bias	2.09	6.82	4.51	1.20

Table 2: Descriptive Statistics

## Discussion

Most of the participants reported experiencing physical symptoms of PCOS and struggles with moderate levels of depression and anxiety. Main findings examining risk and protective correlates of depressive and anxiety symptoms revealed the more perceived stigma and negative body image, the more depressive and anxiety symptoms, whereas the more self-compassion and social support, the less depressive and anxiety symptoms reported by individuals living with PCOS. The present study was among the first to examine risk and protective factors in conjunction with depressive and anxiety symptoms. However, the study had a small sample size and the design was a self-report cross-sectional study. Future research is needed that is longitudinal in design with large samples of diverse individuals with PCOS.