Symptom Differences by Gender for Outpatient Clients as Measured by the SCL-90-R

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Abstract

It has been well accepted that women demonstrate a significantly higher prevalence for mood disorders than their male counterparts. This study included the administration of the Symptom-Checklist 90-Revised (SCL-90-R) over the course of a one-month period to a sample (n = 243) of females (66%) and males (34%) receiving treatment from an outpatient community mental health clinic. Descriptive statistics, a MANOVA, and subsequent ANOVAs revealed that women scored higher on every sub-scale of the SCL-90-R, except the psychoticism sub-scale, however, only the difference on the somatization sub-scale was statistically significant. Implications of these results for mental health providers are explored.

Keywords: gender differences, SCL-90-R, outpatient, severe psychopathology, community mental health
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Researchers have discussed, postulated, and identified several mental health and general personality characteristic differences between the genders (Breslau & Anthony, 2007; Else-Quest, Hyde, Goldsmith, & Van Hulle, 2006; Gentile et al., 2009; Harkness et al., 2010; O’Hare 1995; Olff, Langeland, Draijer, & Gersons, 2007; Nordentoft & Branner, 2008), with most studies indicating that females have a higher prevalence of mood disorders than men (Eaton et al., 2011). While gender differences specific to various domains have been found across several populations, there are few studies that have attempted to examine gender differences across multiple domains of psychopathology in outpatient community mental health populations. Specifically, there is limited research that has attempted to determine whether or not male and female outpatient clients significantly differ in regard to the presence and severity of common psychopathological symptoms and how participant cooperation in assessment may skew data and subsequent analysis.

Several studies have found that gender differences are evident across various psychopathologies and personality features. Some of these studies have demonstrated low to moderate etiological and epidemiological differences between men and women (Gentile et al., 2009; Hovanitz & Kozora, 1989; Kessler, 2003; Nordentoft & Branner, 2008). Some of these findings indicated that women are at a greater risk for developing various disorders, and for specific disorders, demonstrated significantly higher prevalence (Breslau & Anthony, 2007; Eaton et al., 2011; Olff et al., 2007). The gender differences research encompasses a variety of psychopathologies with subtleties in the presentation of these disorders as well as in their etiologies.
Gender differences have been researched in domains such as self-esteem (Gentile et al., 2009), posttraumatic stress disorder (PTSD; Breslau & Anthony, 2007; Olff et al., 2007), temperament (Else-Quest et al., 2006), major depressive disorder (MDD; Harkness et al., 2010; Hiott et al., 2006), co-occurring disorders (O’Hare, 1995), suicidality (Nordentoft & Branner, 2008), as well as several other characteristics. While several disorders that indicate major gender differences have been clearly identified in the research (e.g., depression; Harkness et al., 2010; Kessler, 2003), some of the disorders indicate only mild to moderate differences between genders including (a) suicidality (Harriss, Hawton, & Zahl, 2005; Hawton, 2000), (b) PTSD (Breslau & Anthony, 2007; Olff et al., 2007; Perkonigg, Kessler, Storz, & Wittchen, 2000), (c) Borderline Personality Disorder (Kaehler & Freyd, 2011; Levy, 2005), and (d) co-occurring disorders (Helzer & Pryzbeck, 1988; Wilsnack & Wilsnack, 1991). Although several studies related to gender differences and pathology have been useful, some findings lack practical applicability to mental health clinicians who seek methods and techniques to appropriately address cultural and pathological differences between men and women. Studies directly tied to the pathology and symptomatology differences between the genders appear to offer the most value to the practicing mental health clinician.

Suicidality and Depression

One of the more serious issues facing mental health clients and treatment professionals is suicidality. Clear gender differences have been identified in this domain and a paradox has been identified. Specifically, more men commit suicide but more women attempt suicide (Hawton, 2000). Low suicidal intent has been found to be positively correlated with a low risk of repeated suicide attempts in women, whereas a low suicidal intent for men appears to be associated with a higher risk for future suicide attempts (Harriss, Hawton, & Zahl, 2005). In a 2008 study of

Literature Review

A key component of effective writing is the synthesis of multiple sources to support statements. This is important throughout the entire manuscript, but most prominent in the early portion of the literature review.
Posttraumatic Stress Disorder

Several studies have shown that epidemiological factors for PTSD are different for women than they are for men. After an episode of assaultive violence, women have been found to be at a greater risk to develop PTSD than men (Breslau & Anthony, 2007). Olff et al., (2007) noted evidence that suggested several factors may contribute to women's higher risk of developing PTSD including (a) higher levels of substance abuse following trauma-related incidents; (b) age of a female when the trauma occurred; (c) violent trauma, especially of a sexual nature; (d) insufficient support systems; and (e) a pronounced perception of a loss of control. Researcher findings have indicated that men are exposed to more traumas than women, yet women have a higher risk of developing PTSD (Perkonigg, Kessler, Storz, & Wittchen, 2000), therefore it is not the number of trauma exposures that explains women's higher risk for PTSD. Further, Breslau, and Anthony (2007) found that women who have been exposed to an episode of assaultive violence are at greater risk to develop PTSD if they experience a non-assaultive subsequent episode, whereas this increased risk was not identified in men.

Borderline

The prevalence rate for Borderline Personality Disorder (BPD) in the outpatient population is 10%, and 75% of individuals diagnosed with BPD are female (American Psychological Association, 2000). Levy (2005) found the association between insecure etiology (Eaton et al., 2011; Kessler, 2003).

Literature Review

The proper structure, organization, and placement of paragraphs are crucial to effective written communication. Notice how each supporting sentence in this paragraph is directly tied to the opening sentence.
attachment styles and risk of developing BPD. In a study examining the potential effects of betrayal trauma and how these effects may differ by gender, Kaehler and Freyd (2011) identified gender differences between the level of betrayal trauma and the risk of developing BPD. Their findings suggested that low, medium, and high levels of betrayal trauma were predictors of BPD in men, however, only medium and high levels of betrayal trauma predicted BPD in women (Kaehler & Freyd, 2011).

**Co-occurring Disorders**

On average, men are more likely to suffer from alcohol dependence and abuse as well as the corresponding symptoms (O’Hare, 1995; Wilsnack & Wilsnack, 1991) however women who abuse alcohol are more likely to suffer from a co-morbid mental health condition (Eaton et al., 2011).

**Literature Review**

Use sub-headings to logically divide your content. Only create a new a level heading when there will be at least two headings at the new level, otherwise fit the content under the current heading level.

differences related to primary complaints by gender (males were more likely to complain of legal and physical health problems), but both men and women bore greater risks of pathology, including depression and anxiety, as drinking increased (O’Hare, 1995).

**Other Factors**

Several other factors, including internalization versus externalization (Eaton et al., 2011), self-esteem (Gentile et al., 2009), and coping styles (Hovanitz & Kozora, 1989) have been identified as relating to men and women differently. Eaton et al. (2011) found a higher
prevalence of internalizing in females and a higher prevalence of externalizing in males. Further, Eaton et al. (2011) found statistically significant higher lifetime prevalence for depression, anxiety, panic, and phobia in females.

Culture also plays a role in how the pathology of depression evolves differently for men and women. Hiott et al. (2006) found that within the immigrant Latino population depression level of females is heavily influenced by family-related factors, while the depression level of males is associated with their ability to earn income and maintain stable employment (Hiott et al., 2006; Magaña & Hovey, 2003).

In the current study, a sample from the outpatient mental health clients at a Mid-Atlantic community mental health clinic was assessed with the Symptom-Checklist 90-Revised (SCL-90-R). The object was to identify if there were any significant differences between the genders on any of the sub-scales of the measure. Prior research has shown that the raw scores on the SCL-90-R for women were often higher than the men (Johnson, Ellison, & Heikkinen, 1989). It was hypothesized, based on this and other prior research, that women would demonstrate a higher prevalence of symptoms consistent with depression, somatization, and anxiety (Johnson et al., 1989).

Method

Participants

The participants for this study were outpatient mental health clients being treated by a community mental health agency in the Mid-Atlantic Region of the United States. A battery of assessments, including the SCL-90-R, was administered to every client that came in for specified mental health services during the month of July, 2011, except for those clients that refused to take the battery or those who were incapable.
group mental health treatment session. In review of these clients, the majority signed the informed consent and properly completed the battery \((n = 243)\), however, a few clients were deemed incapable of completing the battery \((n = 12)\), several clients refused \((n = 67)\), and several participants’ scores had to be discarded because they did not complete the assessment battery properly \((n = 30)\). Of the participants who successfully completed the assessment battery, females \((n = 161)\) outnumbered males \((n = 82)\) by a ratio of almost two to one. Females represented a larger percentage \((58\%)\) of those who refused to take the assessment than males \((42\%)\). The average age of the participants was 42. No ethnic or cultural data was collected from the participants.

After consulting with the therapists and reviewing the charts for those who refused to participate in the study or who were not able to properly complete the assessment battery, it was determined that about 40 of the clients who refused and about 20 who failed to properly complete the assessment battery suffered from psychosis, paranoia, or personality disorders. This indicated that this segment of the outpatient mental health population was not well captured by this study and other researchers trying to measure psychometric traits in this population may experience similar problems.

The community mental health agency, from which the sample is drawn, provides services to a wide variety of clients who present with diverse pathology. Common client profiles included pathological elements such as Bipolar Disorder, Depression, Anxiety, Panic, Addiction and Schizophrenia. The agency placed an emphasis on the treatment of co-occurring mental health and substance abuse disorders, and these disorders were overrepresented in the client population. Axis IV elements that were often observed in this setting were the following: (a) low or no
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income, (b) no employment, (c) housing problems, (d) poor social skills, (e) legal trouble, (f) limited support from family or friends, and (g) low educational level.

Procedure

As part of a broader study, an assessment battery, including the SCL-90-R, and an informed consent were assembled. Institutional research board (IRB) approval was obtained from both Regent University and the community mental health clinic. The assessment battery was administered to those participants who were capable of taking the assessment battery and who did not refuse. The administration was typically an individual therapy, group therapy, psychiatric, or case management appointment. The clients were not compensated in any manner for their participation in the study.

Measures

The SCL-90-R is a 90-item self-report instrument designed to assess mental health symptoms across nine sub-scales, which are generally associated with mental health pathology, and three global scales (Derogatis, 1992). The nine sub-scales of the SCL-90-R include (a) Somatization, (b) Obsessive Compulsive, (c) Interpersonal Sensitivity, (d) Depression, (e) Anxiety, (f) Hostility, (g) Phobic Anxiety, (h) Paranoid Ideation, and (i) Psychoticism (Derogatis, 1992). The three global scales are the Global Severity Index (GSI), Positive Symptom Distress Index (PSDI), and the Positive Symptom Total (PST; Derogatis, 1992). Respondents are asked to rate the severity of their symptoms on a scale of 0 to 4 (Derogatis, 1992). The instrument has been found to have high construct validity as well as high concurrent validity with similar instruments (Derogatis & Cleary, 1977).
Analysis

Multivariate analysis of variance (MANOVA) and univariate analysis of variance (ANOVA) were conducted to identify any differences between the male and female participants’ scores. Box’s test, Levene’s test, Pillai’s Trace, and effect sizes were calculated. Descriptive statistics, including means, standard deviations, and correlation matrices were calculated for the raw scores on the nine SCL-90-R sub-scales.

Results

In an effort to reveal any gender differences a MANOVA was conducted on the nine subscales of the SCL-90-R. Box’s test was significant \( F(45, 92720) = 2.47, p < .001 \), indicating the covariance matrices of the dependent variables were not equal across groups. In light of the significant Box’s test, Pillai’s Trace was selected over Wilk’s \( \Lambda \). Pillai’s Trace indicated there was a significant difference between the genders, however, the effect size of gender was small, Pillai’s Trace = .11, \( F(9, 233) = 3.21, p < .001, \eta_p^2 = .11 \). Subsequent to the MANOVA, univariate ANOVA’s were conducted on the nine sub-scales. To correct for an elevated risk of a Type I Error, the Bonferroni method was applied and the alpha value was set to .005 (.05 divided by 9). A significant gender difference was identified for only the somatization scale, and the effect size of gender was very small, \( F(1, 241) = 9.58, p < .005, \eta_p^2 = .04 \). Further, the Levene’s test for the somatization scale was significant, indicating that the error variance of the dependent variable was not homogeneous, \( F(1, 241) = 12.52, p < .001 \).

Descriptive statistics were calculated for each of the nine sub-scales and divided by gender. Women demonstrated a higher mean raw score on eight of the nine SCL-90-R sub-scales (Somatization, Obsessive Compulsive, Interpersonal Sensitivity, Depression, Anxiety, and other).

Method - Analysis

Include description of the statistical analyses used in the study including descriptive (e.g. mean), inferential (e.g. ANOVA), other analyses (e.g. factor analysis), and the software used.
Hostility, Phobic Anxiety, Paranoid Ideation), with Psychoticism being the only sub-scale on which men scored higher.

Discussion

The findings of this study suggest that gender differences among outpatient mental health clients exist, but these differences are generally not statistically significant. These findings are not completely consistent with other studies, as this study indicate a higher prevalence of mood disorder related symptoms in females, with the exception of the somatization sub-scale. The mean raw scores for females were higher than male scores on eight sub-scales, which was consistent with the findings from Johnson et al. (1989).

The progression and execution of the study revealed that research in a pure clinical outpatient environment, particularly an outpatient community mental health clinic, may present inherent challenges to researchers. Approximately 31% of the intended sample was excluded for refusal to participate (19%), incapability to participate (3%), and improper completion of the SCL-90-R (9%). While it is unclear if obtaining the missing 31% of the expected participants
would have altered the findings as they related to gender, it appears likely that these missing participants contributed to some level of distortion in the findings. Research on how to better capture data in the outpatient community mental health population is needed, otherwise valuable quantitative data and subsequent analyses will not be available to mental health providers.

**Implications for the Treatment Community**

Two distinct implications surfaced as a result of this study: (a) Female outpatients were shown to have a higher prevalence of mental health symptoms than males (although largely not a significant difference), and (b) psychopathological measurement difficulties on the outpatient population may result in the exclusion of severe cases. While many other studies have found statistically significant gender differences in regard to psychopathology and other personality characteristics (Eaton et al., 2011; Gentile et al., 2009; O’Hare, 1995), this study only found a significant difference on the somatization sub-scale of the SCL-90-R.

**Limitations**

This study had a sufficient total sample size \( n = 243 \) from which to draw conclusions, however, the intended sample \( n = 352 \) was much larger. Given that the missing participants likely suffered from severe disorders, there is a distinct possibility that important data was not captured. Other anomalies, such as a significant Box’s test for the MANOVA and a significant Levene's test for the somatization sub-scale during the ANOVA, question the validity of the results. Further, twice as many women than men participated in the study.