

Are “Superwomen” without social support at risk for postpartum depression and anxiety?

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Abstract

Postpartum depression affects as many as 18.6% of women, and postpartum anxiety affects between 10.4% and 16.2% of women. Previous research has found social support and perfectionism to be implicated in many psychological issues, postpartum depression and anxiety included. This study examined social support as a protective factor against postpartum depressive and anxiety symptoms and perfectionism as a risk factor; associations between subscales of social support and postpartum depressive and anxiety symptoms; social support as a moderator between the relationship of perfectionism and postpartum depressive and anxiety symptoms. A total of 596 postpartum participants were included. Participants completed measures on postpartum depression, anxiety, social support, and perfectionism. Multivariate regressions revealed perfectionism was not significantly associated with depressive or anxiety symptoms, Wilks' $\Lambda = .99$, $F(2, 592) = 1.98$, $p = .14$. Social support was a significant protective factor against depressive and anxiety symptoms, Wilks' $\Lambda = .86$, $F(2, 592) = 46.89$, $p < .05$, partial $\eta^2 = .14$. Further analyses revealed that all social support subscales were significantly associated with depressive and anxiety symptoms, with support from friends having the largest effect size, Wilks' $\Lambda = .94$, $F(2, 591) = 19.14$, $p < .001$, partial $\eta^2 = .06$. High levels of social support significantly moderated the relationship between perfectionism and depressive symptoms, and average and high levels of social support significantly moderated the relationship between perfectionism and anxiety symptoms. These results emphasize the importance of social support for postpartum women's mental health. Implications for healthcare and policies are discussed.

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Postpartum Depression and Anxiety

It is normal for postpartum mothers to feel stressed, sad, and anxious (American Psychological Association [APA], n.d.). These feelings are called the “baby blues.” Up to 80% of mothers admit feeling this way after having given birth (National Institute of Mental Health [NIMH], n.d.). This should be a fairly-transient state, lasting less than two weeks and going away on its own (NIMH, n.d.). If these feelings persist more than two weeks and intensify, sometimes to the extent of taking a toll on how well the mother can take care of herself and her baby, the mother may receive a postpartum depression diagnosis (NIMH, n.d.).

Postpartum depression is a specification of major depressive disorder, as outlined by the DSM-5. It states that it can be “applied to the current or most recent episode of major depression” if the symptoms start during pregnancy or up to four weeks postpartum (American Psychiatric Association, 2013b, p. 186). The symptoms related to postpartum depression are the same or similar as the symptoms for major depressive disorder. These symptoms include: depressed mood; loss of interest in previously pleasurable things; feelings of guilt; difficulty with memory or concentration; and recurrent thoughts of death (American Psychiatric Association, 2013). The Centers for Disease Control and Prevention (2018a) reports that about 1 in 9, or about 11%, of women experience postpartum depression in the United States. This number may be higher in other countries. For instance, one study reported that the prevalence rate was as high as 18.6% in women in Qatar (Bener, Gerber, & Sheikh, 2012).

Along with postpartum depression, some women may feel symptoms classified as postpartum anxiety. Postpartum anxiety is a newer area of research, as more physicians and researchers are broadening their screenings beyond depression (Field, 2018). An aim of this

study is to add more knowledge to the limited existing literature about postpartum anxiety. While postpartum anxiety is not listed in the DSM-5, many postpartum women can suffer from anxiety symptoms, such as excessive worry, restlessness, fatigue, and difficulty concentrating (American Psychiatric Association, 2013a).

Similar to issues with postpartum depression, there are still inconsistent findings on the prevalence rate of postpartum anxiety. Research has yielded different rates from the use of diverse samples, measures, and analyses. Matthey, Barnett, Howie, and Kavanagh (2003) found the prevalence of anxiety only for first-time mothers at six weeks postpartum to be between 10.4% and 16.2%. However, anxiety and depression are highly comorbid. The lifetime prevalence of an anxiety disorder with a depressive disorder has been found to be 75% and the current prevalence is approximately 40% (Howland et al., 2009; Lamers et al., 2011).

Because of the high comorbidity, many of the risk factors that may influence the development and maintenance of depression and anxiety are similar. These risk factors include a previous history of depression and anxiety; low household income; educational attainment; low postpartum social support and relations; and high levels of perfectionism, particularly self-oriented perfectionism and socially-prescribed perfectionism (Badr, Ayvazian, Lameh, & Charafeddine, 2018; Bener, Gerber, & Sheikh, 2012; Dennis, Heaman, & Vigod, 2012; Macedo et al., 2009; Matthey et al., 2003).

Social Support

Low social support, overall, has been cited as a risk factor in the development of postpartum depression (Badr, Ayvazian, Lameh, & Charafeddine, 2018). Stapleton et al. (2012) discussed the specific importance of support from the father, while other studies have looked toward other types of support as benefit (Bener et al., 2012; Field, 2018).

Social support is a complex construct that can be defined and measured in many ways. Cohen, Gottlieb, and Underwood (2001, p. 129) defined it as “the social resources that persons perceive to be available or that are actually provided to them by nonprofessionals in the context of both formal support groups and informal helping relationships.” Many different measures have been created in order to capture different types of social support within different relationships. Cohen and Wills (1985) found that perceived support was particularly important in the buffering effects of stressful events. The current study will devote effort towards learning more about the effects of perceived social support in particular.

Previous studies have found social support to be an important mediator between health, depressive symptoms, and illness-related absences from employment (Eib, Bernhard-Oettel, Hanson, & Leineweber, 2018). Specific to postpartum depression, Paykel et al. (1980) found that women with postpartum depression received less help and support from partners than women without postpartum depression. Similarly, Bener et al. (2012) found an association between postpartum anxiety and low family support. In addition, research with Chinese women and African American women found that social support and postpartum depression were negatively correlated (Beeghly, 2017; Zhang & Jin, 2014). Furthermore, social support may serve as a protective factor against depression and anxiety, specifically when women experience high levels of perfectionism, thus serving as a moderator.

Perfectionism and the Superwoman Schema

Perfectionism has received relatively little attention within the postpartum literature. One of the few studies, conducted by Gelabert et al. (2012), found that perfectionism and, more specifically, high-concern over mistakes was associated with postpartum depression. Moreover, Macedo et al. (2009) found self-oriented and socially-prescribed perfectionism to be associated

with anxiety and depression in pregnant women. While Maia et al. (2012) found significant positive correlations between self-oriented and socially prescribed perfectionism and depression in pregnancy, there were no significant correlations in the postpartum period for self-oriented perfectionism. The authors proposed that the insignificant findings may be because postpartum women were not experiencing work-related stressors (Maia et al., 2012).

Perfectionism may influence women in many areas of their life, such as work, marriage/relationship, appearance, and motherhood. A “Superwoman” is a woman that attempts perfection in multiple roles-- being both “feminine” when necessary and “masculine” when necessary. For example, a Superwoman would have to be feminine and nurturing toward her family but masculine and strong within the workforce. Murnen, Smolak, and Levine (1994) proposed that Superwomen have a greater risk of eating disorders. Indeed, Hart and Kenny (1997) found that aspects of the Superwoman are positively associated with eating disorder symptoms. Superwomen may also have an increased risk of other psychopathology, such as postpartum depression and anxiety, though there is no research with this specific construct. The current study aims to fill this gap in the literature.

Effects of Postpartum Depression and Anxiety

Postpartum depression and anxiety affect negatively the creation and maintenance of the mother-baby bond, the romantic relationship with a significant other, and, simply, the psychological well-being of the mother. Many women may not get the help they need because of the stigma and guilt surrounding their thoughts and feelings, especially since society often views pregnancy and birth as joyful and renewing (Pearlstein, Howard, Salisbury, & Zlotnick, 2009).

Mothers with postpartum depression and anxiety tend to be less responsive to their babies, leading to the babies becoming more withdrawn and the possibility of developing an

insecure attachment (Milgrom, Westley, & Gemmill, 2004; Stein et al., 2012; Teti, Gelfand, Messinger, & Isabella, 1995). Children of mothers with postpartum depression and anxiety are more likely to have lower intelligence scores, be described as having a learning disability, and develop depression and anxiety themselves, as well as other psychopathology (Hay et al., 2001; Weissman et al., 1987).

The readjustment of life and a romantic relationship may also be difficult for many couples, regardless of whether it is the couple's first child or not (Belsky, Spanier, & Rovine, 1983; Goldberg & Sayer, 2006). For instance, Belsky et al. (1983) found a decrease in positive interactions and perceived marital cohesion in parents from third trimester to three months postpartum. Moreover, postpartum depression and anxiety may cause higher parental stress and have an adverse effect on memory (Kizilbash, Vanderploeg, & Curtiss, 2002; Teti et al., 1995). Relatedly, Escribà-Agüir and Artazcoz (2010) found postpartum depression in one partner was a significant predictor of postpartum depression in the other. Furthermore, 6% of all deaths of postpartum women are by suicide (Grigoriadis, 2017).

Rationale and Hypotheses

The present study focused on the effects of social support and adherence to the Superwoman schema in women during the postpartum period. Primarily, the study addressed the extent to which social support, using a detailed measure, is a protective factor against postpartum depression and anxiety, and the extent to which perfectionism is a risk factor. Moreover, this study examined the specific subtypes of perceived social support, seeking to understand what relationships may be most associated with postpartum depression and anxiety. In addition, the study examined perfectionism, investigating the relationship between attempting to excel in

multiple roles and postpartum depression and anxiety. Therefore, the hypotheses for this study were:

1. Social support will be a protective factor against postpartum depressive and anxiety symptoms, while perfectionism will be a risk factor.
2. Spousal support will have the strongest negative association with postpartum depressive and anxiety symptoms compared to other types of social support.
3. Social support will act as a moderator between adherence to the Superwoman schema and postpartum depressive symptoms.
4. Social support will act as a moderator between adherence to the Superwoman schema and postpartum anxiety symptoms.

Data Analysis Plan

IBM SPSS Statistics 25 was used to analyze the data. Hypothesis 1 and 2 were analyzed by conducting multivariate regression analyses within the general linear model function with separate models for each predictor against the two combined outcomes (depression symptoms and anxiety symptoms). To test Hypothesis 3 and 4, the 3rd version of PROCESS macro was used (Hayes, 2017). PROCESS allows for moderation, mediation, and conditional process analyses.

Methods

Procedure

This study was approved by the university's Institutional Review Board. Individuals who were age 18 or older and had given birth within the last 12 months were eligible to participate. Participants were recruited online (e.g., via Facebook groups for infant moms) and through flyers posted in places for mother-baby activities (e.g., baby swim classes) and directed to the survey

link on Qualtrics. Participants read and signed informed consent and completed measures on perfectionism (SWS), social support (MSPSS), postpartum depressive symptoms (EPDS), and anxiety symptoms (GAD-7), taking approximately 20 minutes. Interested participants were entered into a raffle to win one of 40 \$20 Amazon gift cards.

Participants

A total of 1034 individuals accessed the survey, and a total of 596 participants were retained for analyses because they completed the survey and were eligible. Of the individuals who interacted with the survey, 140 (13.54%) did not complete the consent form and 16 (1.55%) completed the consent but were ineligible. Additional participants were removed due to incompleteness of all measures ($n = 241$, 23.31%), incompleteness of demographics ($n = 8$, .77%), incompleteness of youngest child's date of birth ($n = 22$, 2.13%), and youngest child older than one year ($n = 12$, 1.16%).

The mean age of participants was 30.89 years ($SD = 4.50$). The mean age of the youngest child was 169.44 days old ($SD = 92.76$). Table 1 shows number and percentage of participants per group of gender, race, relationship status, income level, employment status, education level, and depression and/or anxiety diagnosis.

Measures

Demographic Questionnaire. The demographic questionnaire included information about the participants' age, gender, race/ethnicity, educational background, marital status, income level, pregnancy/children, and mental health.

Edinburgh Postnatal Depression Scale (EPDS). The EPDS (Cox, Holden, & Sagovsky, 1987) is the most common scale used to measure postpartum depression in women. It is a 10-item measure with responses on a four-point Likert scale about symptoms within the past seven

days. Examples of statements on the EPDS are: “I have been able to laugh and see the funny side of things” (reverse-coded), “I have been so unhappy that I have had difficulty sleeping,” “I have felt sad or miserable,” and “The thought of harming myself has occurred to me.” Responses are summed, with a possible total of 30, and women who score 13 points or higher are likely to have a depressive illness (Cox et al., 1987). Despite this cut-off point indicated by the authors, many articles within the literature have used non-validated cut-off scores, citing a variety of different reasons (Matthey, Henshaw, Elliott, & Barnett, 2006). Matthey et al. (2006) analyzed previous studies that deviated from the validated cut-off by Cox et al. (1987) and recommend that the cut-offs for postnatal English-speaking women be a score of 13 or more to indicate probable major depression and a score of 10 or more to indicate a minimum of probable minor depression. The EPDS has demonstrated good internal consistency (Cronbach’s $\alpha = .87$) and validity (sensitivity 85% and specificity 77%; Cox et al.). Using data from the present study, Cronbach’s α was .90, indicating excellent internal consistency.

Generalized Anxiety Disorder-7 Item. The GAD-7 (Spitzer, Kroenke, Williams, & Löwe, 2006) is a measure used to detect generalized anxiety. There are seven items that are rated on a four-point Likert scale. Examples of statements on the GAD-7 are: “Feeling nervous, anxious or on edge,” “Worrying too much about different things,” and “Being so restless that it is hard to sit still.” The highest possible total is 21. Previous research suggested a cut-off score of five to represent mild anxiety, 10 to represent moderate anxiety, and 15 to represent severe anxiety. It is also indicated that a score of 10 or higher may warrant further evaluation and a possible diagnosis of generalized anxiety disorder. The GAD-7 had a Cronbach’s α of .92 in the original study and the current study, and has demonstrated good construct and factorial validity (Spitzer et al., 2006). Specific to perinatal samples, the GAD-7 has demonstrated accuracy and

specificity, with a sensitivity of 76% and 51.5% with a cut-off score of 10 and sensitivity of 61.3% and specificity of 72.7% with a cut-off score of 13 (Simpson, Glazer, Michalski, Steiner, & Frey, 2014).

Multidimensional Scale of Perceived Social Support (MSPSS). The MSPSS (Zimet, Dahlem, Zimet, & Farley, 1988) is a 12-item scale that measures perceived social support with three subscales—family, friends, and significant other. Examples of statements on the MSPSS are: “I get the emotional help and support I need from my family” (Family), “My friends really try to help me (Friends), and “There is a special person with whom I can share my joys and sorrows” (Significant other). It is rated on a seven-point Likert scale (1 = *very strongly disagree*, 7 = *very strongly agree*). The highest possible score is 84. Zimet et al. (1988) demonstrated the scale’s internal consistency (Cronbach’s $\alpha = .88$) and test-retest reliability as well as factorial and construct validity. Strong internal reliability and validity was maintained when testing with pregnant women, specifically, however few studies have been conducted on the specifics of validation for peripartum or postpartum women (Zimet, Powell, Farley, Werkman, & Berkoff, 1990). In the current study, this measure had strong internal consistency (Cronbach’s $\alpha = .95$).

Superwoman Scale (SWS). The Superwoman Scale (Murnen, Smolak, & Levine, 1994) is a 27-item instrument that measures adherence to the Superwoman schema, or, in other words, the inclination to achieve perfection within multiple roles, such as being a mother, a professional, and an attractive woman - some traditionally feminine and some traditionally masculine. Participants are instructed to rate each item by how well they feel it characterizes them. It is rated on a six-point Likert scale from “extremely well” to “not at all.” Examples of the items include: “While it is hard for most people to do, I think I can have a strong family life and very successful career,” “I don’t leave the house until I look my best,” and “I would never consider a career that

doesn't automatically command respect from strangers.” Based on Murnen et al. (1994), the Superwoman Scale demonstrated strong internal consistency (Cronbach's $\alpha = .89$, as analyzed by Everett & Martino, 2014), and strong validity for research in gendered and stress issues. In this study, the Cronbach's α was .74, indicating moderate internal consistency.

Results

The mean of the EPDS was 8.53 ($SD = 5.68$) with 16.6% within range of probable minor depression and 22.8% within range for probable major depression (Matthey et al., 2006). The mean of the GAD-7 was 6.39 ($SD = 5.39$) with 32% of the sample in the range of mild anxiety, 13.9% in the moderate anxiety range, and 10.1% in the severe anxiety range (Spitzer et al., 2006). Table 2 shows Pearson r correlations for all predictor and outcome variables. Postpartum depressive and anxiety symptoms were highly correlated, $r = .80$, $p < .01$. Furthermore, statistically significant negative correlations were found between postpartum depressive symptoms and all social support subscales and total. Similar statistically significant negative correlations were found between anxiety symptoms and all social support subscales and total. Postpartum depressive and anxiety symptoms were not significantly correlated with perfectionism.

Hypothesis 1

A general linear model multivariate regression analysis was conducted with social support (MSPSS) and perfectionism (SWS) as predictors, entered into SPSS as covariates, and postpartum depressive symptoms (EPDS) and anxiety symptoms (GAD-7) as outcomes, entered into SPSS as dependent variables. The model for total social support predicting postpartum depressive and anxiety symptoms indicated significance, Wilks' $\Lambda = .86$, $F(2, 592) = 46.89$, $p < .05$, partial $\eta^2 = .14$. Univariate analyses for social support predicting postpartum

depressive symptoms and social support predicting postpartum anxiety symptoms were statistically significant, $F(1, 539) = 92.56, p < .001, \beta = -.14, t(1, 593) = -9.62, p < .001$ and $F(1, 593) = 46.13, p < .001, \beta = -.10, t(1, 593) = -6.79, p < .001$, respectively. The model for perfectionism predicting depressive and anxiety symptoms was not significant, Wilks' $\Lambda = .99, F(2, 592) = 1.98, p = .14$. After adjusting alpha levels to .025 to account for the additional analyses, univariate analyses were not significant for postpartum depressive or anxiety symptoms, $F(1, 593) = 2.75, p = .10$ and $F(1, 593) = 3.93, p = .05$, respectively.

Hypothesis 2

A general linear model multivariate regression analysis was conducted with the three social support subscale (MSPSS) as predictors, entered into SPSS as covariates, and postpartum depressive symptoms (EPDS) and anxiety symptoms (GAD-7) as outcomes, entered into SPSS as dependent variables. All social support subscales were statistically significant predictors of depressive and anxiety symptoms: Significant Other: Wilks' $\Lambda = .97, F(2, 591) = 9.91, p < .001$, partial $\eta^2 = .03$; Family: Wilks' $\Lambda = .95, F(2, 591) = 14.55, p < .001$, partial $\eta^2 = .05$; Friends: Wilks' $\Lambda = .94, F(2, 591) = 19.14, p < .001$, partial $\eta^2 = .06$. Univariate analyses for Significant Other support predicting postpartum depressive and anxiety symptoms were both significant, $F(1, 592) = 8.82, p < .01$, partial $\eta^2 = .02, \beta = .19, t(1, 592) = 2.97, p < .01$ and $F(1, 592) = 19.41, p < .001$, partial $\eta^2 = .03, \beta = .27, t(1, 592) = 4.41, p < .001$, respectively. Similarly, univariate analyses for Family support were significant for both postpartum depressive and anxiety symptoms, $F(1, 592) = 28.43, p < .001$, partial $\eta^2 = .05, \beta = -.31, t(1, 592) = -5.33, p < .001$, and $F(1, 592) = 21.66, p < .001$, partial $\eta^2 = .04, \beta = -.27, t(1, 592) = -4.65, p < .001$, respectively. Univariate analyses for Friend support were significant for postpartum depressive and anxiety symptoms as well: $F(1, 592) = 33.85, p < .001$, partial $\eta^2 = .05, \beta = -.27, t(1, 592) = -5.82, p <$

.001 and $F(1, 592) = 34.07, p < .001$, partial $\eta^2 = .05$, $\beta = -.26$, $t(1,592) = -5.84, p < .001$, respectively.

Hypothesis 3

To test the hypothesis that social support moderates the relationship between perfectionism and postpartum depressive symptoms, PROCESS macro (Hayes, 2017) was utilized. The overall model was statistically significant, $R^2 = .14, F(3, 592) = 33.44, p < .001$. The interaction was also significant, $\beta = .0028, t(592) = 2.53, p = .012$ with $\Delta R^2 = .0092, F(1, 592) = 6.38, p = .01$. Johnson-Neyman tests were conducted revealing that the significance occurs at the social support value of 67.42 with 56.38% of values remaining above. These results partially support the hypothesis that social support would act as a moderator between adherence to the Superwoman schema and postpartum depressive symptoms, as the relationship is only statistically significant at high levels of social support (see Figure 1).

Hypothesis 4

PROCESS macro was also utilized to test the hypothesized moderation of social support on the relationship of perfectionism and postpartum anxiety. The overall model was statistically significant, $R^2 = .082, F(3, 592) = 17.58, p < .001$. The interaction between social support and perfectionism was also statistically significant, $\beta = .0023, t(592) = 2.13, p = .03$ with $\Delta R^2 = .0071, F(1, 592) = 4.55, p = .03$. The conditional effects revealed that the moderation was statistically significant among average and high levels of social support, partially supporting the hypothesis of social support moderating the relationship between perfectionism and anxiety symptoms. As social support increases, perfectionism has less of an effect on anxiety symptoms, therefore acting as a buffer. At low levels of social support, there were no significant differences

in postpartum anxiety between women with different levels of perfectionism. Figure 2 illustrates this relationship.

Discussion

One of the main purposes of this study was to determine whether social support is a protective factor against postpartum depressive and anxiety symptoms and whether perfectionism, or adhering to the Superwoman schema, is a risk factor. The results indicate that perfectionism is not a risk factor for postpartum depressive or anxiety symptoms. However, social support was a significant protective factor against postpartum depressive and anxiety symptoms. Support from friends, family, and significant other were also all individually related to lower levels of depressive and anxiety symptoms.

While perfectionism was not a significant predictor of postpartum depressive or anxiety symptoms, the insignificance may be due to the difference between adaptive and maladaptive perfectionism. As first defined by Hamachek (1978), and later reanalyzed by Periasamy and Ashby (2002), individuals with high standards who experience satisfaction within their efforts demonstrate adaptive perfectionism. On the other hand, individuals with high standards who perceive the results and efforts as unacceptable and unsatisfactory engage in maladaptive perfectionism. As Schalkwijk, Someren, and Wassing (2019) pointed out, the self-evaluation of whether one met or failed to meet their high standards is critical to determine if the type of perfectionism. While the Superwoman Scale used in this study does capture many dimensions, it may not accurately capture the “discrepancy” aspect of adaptive versus maladaptive perfectionism.

Furthermore, the results indicate that social support is a protective factor against postpartum depressive and anxiety symptoms. The higher amount of social support mothers

report, the lower their depressive or anxiety symptoms. Additionally, while all three types of social support were negatively associated with psychopathology, support from friends had the largest effect size, thus having the greatest importance. Although research suggested that support from a significant other is the most important in protection from a depressive disorder (Stapleton et al., 2012; Stewart, Umar, Tomenson, & Creed, 2014), support from friends has also been found as a significant protective factor (Nasser & Overholser, 2005). Further, support from friends may be interpreted as a special connection between women, as friends, in commiserating and mutual understanding. It is also possible that the results from this analysis are skewed, as the majority of participants indicated high significant other support, leading to low variance and inability to fully explore the effects of low social support from a significant other. Regardless, support from a significant other, family, and friends were all positively associated with lower postpartum depressive and anxiety symptoms. Thus, postpartum mothers would greatly benefit from supportive personal relationships, as well as social policies that encourage more social support for mothers.

Social support has been previously implicated as a moderator and mediator between health, depressive and anxiety symptoms, and illness-related absences from employment (Eib et al., 2018; Viseu et al., 2018). Correspondingly, this study aimed to examine social support as a moderator between perfectionism and postpartum depressive symptoms, and perfectionism and anxiety symptoms. Previous research demonstrated that perfectionism was significantly associated with depressive symptoms (Gelabert et al., 2012; Macedo et al., 2009; Maia et al., 2012). Further, as the Superwoman attempts perfectionism in multiple contradicting roles, it seems appropriate that, without adequate support, the Superwoman would be overworked and at-risk for developing depression and anxiety. The results partially supported social support as a

moderator between perfectionism and depressive symptoms and perfectionism and anxiety symptoms. In particular, social support was a significant moderator between the relationship of perfectionism and postpartum depressive symptoms at high levels of social support. In other words, if a Superwoman experiences high levels of social support, the social support acts as a buffer between perfectionism and depressive symptoms. Perfectionism had little to no relationship, at low and average levels of social support, with participants' postpartum depressive symptoms. Similarly, Superwomen were also at a higher risk for postpartum anxiety symptoms, overall. Social support, at average and high levels, acted as a buffer between the negative effects of perfectionism. While minimal support may not alleviate the stress and anxiety of Superwomen, average and high levels of support would.

Based on this study's findings about social support's negative association with both postpartum depressive and anxiety symptoms, it is important that mothers and mothers-to-be be sufficiently supported. Examples of support, as outlined in the MSPSS (Zimet et al., 1988), are: being available in times of need, to talk about problems, and to share about happy and sad times. Support for mothers may also increase through improving governmental aid and legislation.

Similarly, though perfectionism was not a significant predictor of postpartum depressive or anxiety symptoms in this study, it is important that perfectionism is examined further, specifically maladaptive perfectionism. The negative effects of perfectionism may be attenuated through social support when Superwomen's efforts do not meet their own expectations, especially since support partially moderated the relationship between perfectionism and postpartum depressive and anxiety symptoms. For example, Superwomen may need support if they forget about something they were supposed to do, if they are not able to attend every social

and occupational function, and if they are not meeting their expectations of having the perfect family life and career (Murnen et al., 1994).

Other specific means of support may be shown in healthcare professionals' increasing care to detail in their observations and check-ups. Implementation of more frequent screenings could reveal women who may need help, whether it be prenatal, directly postpartum, or further along in the postpartum period. Healthcare professionals may also include screenings for postpartum anxiety. According to Field (2018), healthcare professionals may not be as concerned about postpartum anxiety, though many women can suffer from it. Furthermore, a standardization and regulation of this care may benefit women across racial and socioeconomic statuses. The installation of preventative measures may help prevention and early detection of symptoms, resulting in decreasing the prevalence of postpartum depression and anxiety. These preventative measures can come in the form of education about who may be at risk, what the warning signs are, and how to get help (Sangsawang, Wacharasin, & Sangsawang, 2018).

Further, significant protective support may come from the government. The United States has poor family leave policies. Family leave, especially when paid, may alleviate stressors that women and partners feel in returning to work in a specified amount of time or in time to be able to pay bills, while still creating a bond with the baby in time and readjusting to a new normal. Extended paid family leave could significantly help postpartum women and their families (Chatterji & Markowitz, 2008).

About 11% of women in America experience postpartum depression and anxiety (Centers for Disease Control and Prevention, 2018a; Matthey et al., 2003). While this means that 1 in 9 women are experiencing similar moods and thoughts, a strong stigma remains. The results of this study, as well as other research, may act as a catalyst for change and understanding of what

contributes to the development of these symptoms, how to take preventative measures, and the need for encouragement to women who have experienced postpartum depression and anxiety to talk about their experiences and end the stigma. Studies have shown that advocating and being vocal about mental illness lowers stigma, as well as educating individuals on mental illness (Pinfold, Thornicroft, Huxley, & Farmer, 2005). Specifically, attributional framing was an effective method in decreasing the stigma of postpartum depression (Ruybal & Siegel, 2018). Future research may seek to understand the most beneficial means of using attributional framing to decrease stigma and to understand the consequences of less stigma within the postpartum period.

This study's findings are important to help further knowledge of the postpartum experience, but there are a few limitations. First, the study sample lacked racial/ethnic diversity. The sample mainly consisted of primarily White/Caucasian individuals (86.2%), while all other races/ethnicities comprised no more than 5% within their respective groups. Furthermore, the majority of participants reported a higher socioeconomic status, with 74.2% to 81% having a household income near or above the national median of \$60,336 (Guzman, 2018). In addition, this study primarily relied on self-report measures. These measures are not diagnostic interviews and, therefore, are only capturing depressive and anxiety symptoms, not the presence of a diagnosable disorder. Another limitation of this study is the sensitive nature of the topic and the stigma surrounding it. There are strict expectations of being a mother, and, though all responses were anonymous, some individuals may not have reported their true levels of depressive and anxiety symptoms, as well as social support and perfectionism. Similarly, it may be that postpartum women, and society as a whole, are more understanding and accepting of being worried than being depressed. It could be argued that excessive worry toward the health and

wellness of a new baby is normal and even favorable. Meanwhile, feelings of sadness and lack of interest in a new baby are seen as unacceptable. Because of this, participants may have felt uncomfortable reporting their symptoms truthfully. A final limitation of this study is that the Superwoman Scale is not specific to postpartum women and has been used primarily in eating disorders research. Thus, expectations and role management in the postpartum period may be different for postpartum women.

Future research needs to extend efforts toward postpartum anxiety as it is largely understudied but as prevalent, or even more prevalent, than postpartum depression (Matthey et al., 2003). Specifically, research may focus on developing and validating a measure specific to anxiety in the postpartum period, as many items on other measures can overlap with the adaptation of having a new child. Further, future research may need to examine more closely the role of maladaptive perfectionism and the societal pressures on women to balance multiple roles without adequate support, as this study was unable to differentiate adaptive and maladaptive perfectionism. This may be done through use of perfectionism scales that were created to measure maladaptive perfectionism, such as the Frost Multidimensional Perfectionism Scale or the Almost Perfect Scale-Revised (Frost & Martin, 1990; Slaney, Rice, Mobley, Trippi, & Ashby, 2001). Moreover, much of the research on the Superwoman schema has been done with concerns to African American/Black women and the specific pressures placed on them. The small number of women who identify as African American in this study did not allow for post-hoc analyses by race/ethnicity. Yet, understanding the differences that African American/Black women face in their postpartum period as compared to White/Caucasian women is important, especially due to disparities in healthcare. African American/Black women are nearly three times more likely than White/Caucasian women to die in the postpartum period (Centers for Disease

Control and Prevention, 2019). They are also at higher risk for premature birth compared to White women (The Centers for Disease Control and Prevention, 2018b). Similarly, further research may look at similarities and difference within the postpartum period across countries and cultures, revealing what practices are most effective at mitigating depressive and anxiety symptoms. Since prevalence rates of postpartum depression differ from country to country (Bener, Gerber, & Sheikh, 2012; Centers for Disease Control and Prevention, 2018a), there may be a variation in the protective and risk factors associated with depression and anxiety. Stern and Kruckman (1983) suggested that postpartum depression in the United States is entirely different from other countries and caused primarily because of lack of organizational support from the family and role expectations. As many other countries provide support as family leave, accessible health care, and governmental aid, future research may need to examine whether this instrumental support is effective at lowering depressive and anxiety symptoms.

Postpartum depression and anxiety can have very damaging effects on the mother, baby, and the relationship with significant others. Society expects mothers to act a certain way during the perinatal period and toward their baby, but postpartum depression and anxiety can influence behavior, as seen in Stein et al.'s (2012) study of responsiveness in mothers with postpartum depression. Many mothers may not reach out to get the help they need because of the strong stigma against these feelings. The results of this study demonstrate that social support serves as a protective factor against postpartum depressive and anxiety symptoms. These findings point to the importance of increasing social support from friends, family, and significant others, decreasing pressures on mothers and Superwomen, and improving the quality of postpartum check-ups and governmental support to reduce postpartum depression and anxiety symptoms.

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[system.htm?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Freproductivehealth](https://www.cdc.gov/reproductivehealth/maternalinfanthealth/pregnancy-mortality-surveillance-system.htm?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Freproductivehealth%2Fmaternalinfanthealth%2Fpmss.html)
[%2Fmaternalinfanthealth%2Fpmss.html](https://www.cdc.gov/reproductivehealth/maternalinfanthealth/pregnancy-mortality-surveillance-system.htm?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Freproductivehealth%2Fmaternalinfanthealth%2Fpmss.html)

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Appendix A

Table 1. Demographics

| | <i>n</i> | % |
|--|----------|------|
| Gender | 595 | 99.8 |
| Female | 591 | 99.3 |
| Transgender | 4 | .6 |
| Race | 596 | 100 |
| Asian/Asian American | 15 | 2.5 |
| Black/African American | 10 | 1.7 |
| Hispanic | 27 | 4.5 |
| Multiracial | 27 | 4.5 |
| White/Caucasian | 514 | 86.2 |
| Other | 3 | .5 |
| Relationship status | 596 | 100 |
| Never married | 7 | 1.2 |
| Married | 517 | 86.7 |
| Divorced/separated | 4 | .7 |
| Living with someone in an intimate relationship | 68 | 11.4 |
| Income level | 592 | 99.3 |
| \$0 to \$14,999 | 11 | 1.9 |
| \$15,000 to \$24,999 | 19 | 3.2 |
| \$25,000 to \$34,999 | 27 | 4.6 |

| | | |
|--|-----|------|
| \$35,000 to \$44,999 | 25 | 4.2 |
| \$45,000 to \$54,999 | 31 | 5.2 |
| \$55,000 to \$64,999 | 40 | 6.8 |
| \$65,000 to \$74,999 | 40 | 6.8 |
| \$75,000 to \$84,999 | 57 | 9.6 |
| \$85,000 to \$94,999 | 56 | 9.5 |
| \$95,000 to \$104,999 | 72 | 12.2 |
| \$105,000+ | 214 | 36.1 |
| Employment status | 596 | 100 |
| Employed, full-time | 332 | 55.7 |
| Employed, part-time | 74 | 12.4 |
| Unemployed, intentions of returning within a year | 58 | 9.7 |
| Unemployed, no intentions of returning within a year | 76 | 12.8 |
| Stay-at-home mother | 23 | 3.9 |
| Maternity/disability leave | 15 | 2.5 |
| Self-employed | 14 | 2.3 |
| Other | 4 | .7 |
| Education Level | 596 | 100 |
| Some high school | 4 | .7 |
| High school/GED | 28 | 4.7 |

| | | |
|------------------------------|-----|------|
| Some college | 91 | 15.3 |
| Associate's degree | 59 | 9.9 |
| Bachelor's degree | 229 | 38.4 |
| Master's degree | 151 | 25.3 |
| Doctoral degree | 34 | 5.7 |
| Depression/anxiety diagnosis | 596 | 100 |
| Depression only | 42 | 7.0 |
| Anxiety only | 83 | 13.9 |
| Depression and anxiety | 174 | 29.2 |
| Neither | 297 | 49.8 |

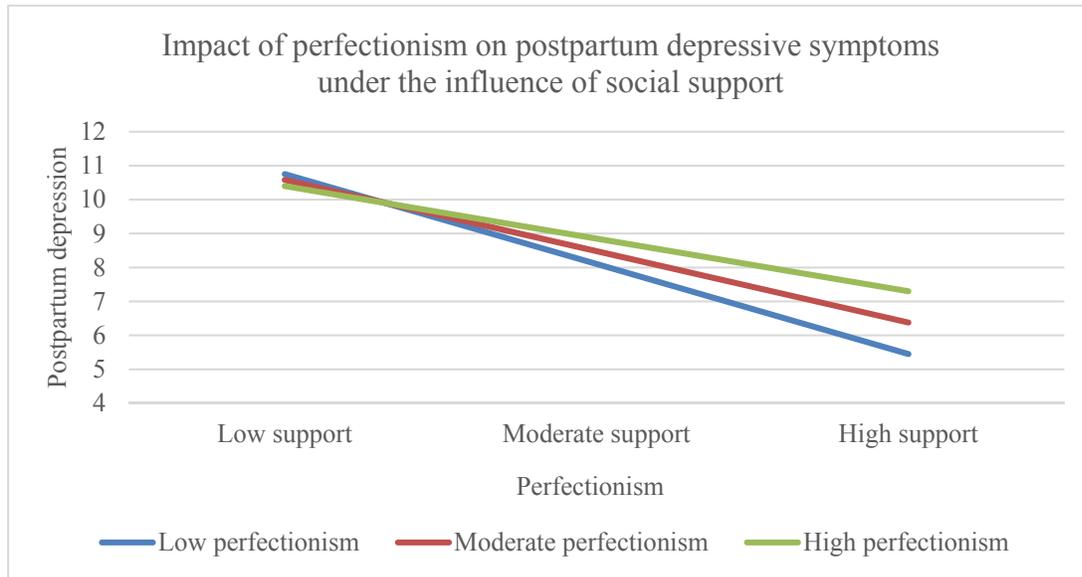
Appendix B*Table 2.* Pearson r Correlations of predictor and outcome variables

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|--------------------------------------|--------|--------|--------|--------|------|-------|-------|---|
| 1. Significant other support (MSPSS) | 1 | – | | | | | | |
| 2. Family support (MSPSS) | .75** | 1 | – | | | | | |
| 3. Friend support (MSPSS) | .57** | .59** | 1 | – | | | | |
| 4. Social support total (MSPSS) | .88** | .89** | .84** | 1 | – | | | |
| 5. Perfectionism (SWS) | .10* | 0.07 | 0.08 | .10* | 1 | – | | |
| 6. Anxiety subscale (EPDS) | -.16** | -.27** | -.31** | -.29** | 0.07 | 1 | – | |
| 7. Depression (EPDS) | -.22** | -.35** | -.37** | -.36** | 0.03 | .88** | 1 | – |
| 8. Anxiety (GAD-7) | -.11** | -.26** | -.30** | -.26** | 0.05 | .77** | .80** | 1 |

Note: ** $p \leq .01$ level (2-tailed)

Appendix C

Figure 1. Moderation of social support on the relationship between postpartum depressive symptoms and perfectionism



Appendix D

Figure 2. Moderation of social support on the relationship between postpartum anxiety symptoms and perfectionism

