

DOES SELF-CARE MODERATE THE RELATION OF STRESS  
TO QUALITY OF LIFE OF FEMALE DOCTORAL  
STUDENTS IN PROFESSIONAL PSYCHOLOGY?

By

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## Abstract

Increasing numbers of women are pursuing doctoral degrees in psychology, and the stress of being a female doctoral student can create a risk for aversive consequences (e.g., ineffective clinical work, impaired competence). Psychologists lack an understanding of the extent to which women can protect themselves from undue stress in professional psychology programs by engaging in self-care. The lack of a comprehensive framework for this phenomenon calls for the need to apply and test the Health Promotion Model to the experience of women in professional psychology programs. The current investigation assessed the extent to which self-care activities would moderate the negative association between stress and quality of life in a sample of five hundred and fifty eight women from clinical, counseling, and school psychology programs throughout the U.S. Norm comparison tests indicated that women in the sample reported significantly more stress, significantly less self-care, a significantly higher self-reported physical quality of life, and a significantly lower self-reported psychological, environmental, and social quality of life in comparison to previous samples. Multivariate multiple regression analyses did not support the moderation hypothesis, in that the interaction between self-care and stress did not contribute significantly to quality of life. On the other hand, self-reported stress was significantly negatively associated with quality of life and there was a significant (though relatively small) main effect of stress on quality of life. These results suggest that stress may supersede the self-care efforts in maintaining or improving an individual's quality of life. Implications for theory, practice, and research are discussed in addition to strengths and limitations of the study.



## **Chapter I**

### **Introduction**

Life as a graduate student in professional psychology tends to be particularly stressful. As Offstein, Larson, McNeill, and Mwale (2004) commented, “stress is at the core of the graduate student experience” (p. 396). There are several ways to conceptualize stress. One common definition captures the relationship between an individual and his or her environment: When stressed, individuals view the environment as pushing or exceeding their resources or threatening their well-being (Lazarus & Folkman, 1984).

In a recent survey, nearly 70% of student members in the American Psychological Association (APA) reported one or more stressful events that negatively affected their functioning as a graduate student (El-Ghoroury, Galper, Sawaqdeh, & Bufka, 2012). It is important to note that women comprised 78% of the sample, reflecting the prevalence of women pursuing graduate degrees in professional psychology, which has increased from 42.0% in 1973 (Stoup & Benjamin, 1982) to 73.6% in 2011 (Graham & Kim, 2011). In particular, female graduate students in professional psychology programs are vulnerable to stress due to the competing demands of work and family, navigating new roles in research and clinical work, limited finances, and ubiquitous evaluation (Barnett & Chesney, 2009; Barnett, Johnston, & Hillard, 2006; Cahir & Morris, 1991; Oswalt & Riddock, 2007). For this reason, the increasing number of women in professional psychology highlights the need for a greater understanding of their stress levels and the consequences of stress on their quality of life.

For many people, stress has negative consequences, including poor physical health, family difficulties, emotional distress, poor sleeping patterns (McEwen, 2008; McKinzie et al., 2006), low job or school satisfaction (Whitman, Spendlove, & Clark, 1984), and poor academic

performance (Whitman et al., 1984). High stress levels have also been associated with increased desire for comfort foods, decreased exercise and social interaction, increased alcohol consumption, cognitive impairment, and depressed mood (McEwen, 2009). Perhaps more importantly, research has shown that feelings of discontent as a result of stress are strongly and directly related to the impaired competence of psychologists in clinical practice, creating the potential for malpractice and harm to clients (Sherman & Thelen, 1998).

The consequences of stress reflect the *quality of life* of an individual. Quality of life is a global construct that includes physical health (e.g., energy), psychological health (e.g., self-esteem), social relations (e.g., social support), and environmental well-being (e.g., finances; Skevington, Lofty, & O'Connell, 2004). According to Skevington et al. (2004), quality of life refers to “an individual’s perception of their position in life in the context of the culture and value systems in which they live, and in relation to their goals, expectations, standards, and concerns” (p. 299). The literature on the quality of life of female doctoral students is sparse so that it is difficult to fully understand the relations between quality of life and stress. However, research suggests that women are more likely than men to experience stress in the work place (Galanakis, Stalikas, Kallia, Karagianni, & Karela, 2009), in graduate school (Nelson, Dell’Oliver, Koch, & Buckler, 2001), in psychology graduate programs (Cushway, 1992; Oswalt & Riddock, 2007), and in clinical settings (Barnett et al., 2006; Sherman & Thelen, 1998).

According to the Committee on Women in Psychology (CWP, 2002), women are more likely than men to experience stress due to the traditional roles and expectations of women to serve as caregivers. Working mothers tend to complete 75% of the domestic duties at home and 70% of childcare responsibilities (Eyer, 1996). Some scholars pointed out that the issues unique to women are not being adequately addressed in education and training (e.g., pregnancy,

maternity leave, and postpartum depression), leaving them even more vulnerable to stress (CWP, 2002).

Research suggests that professional women with high stress levels tend to believe that they have little control over their environment (Lerner, 1994), thereby affecting their home and family lives. In an effort to promote cohesion in the family at home, women may complete additional chores at home, which makes them vulnerable to experience chronic exhaustion, frequent illness, and decreased sex drive (Hoschschild, 1989). The aversive consequences of stress and the unique challenges faced by women pursuing degrees in professional psychology require them to monitor and manage their levels of stress so they can adequately care for their clients as well as themselves.

Theorists have argued that psychological and social resources, including self-care, can protect individuals from negative consequences of stress (e.g., Anderson & Mieztis, 1999). Some evidence supports the theorized buffering effects of social and psychological resources on stress for quality of life for women (Achat et al., 1998) and caregivers (Acton, 2002) in the nursing profession, as well as in the general community (Lin & Ensel, 1989). Although these authors posited that self-care can buffer the negative consequences of stress for some populations, the literature in professional psychology lacks a cohesive theoretical model or empirical research on the relations among self care, stress, and quality of life.

The Health Promotion Model (Pender, Murdaugh, & Parsons, 2010) was developed in the field of nursing for use with women and was the basis for the present investigation. The Health Promotion Model is theoretically grounded, has the potential to provide psychologists with a theoretical understanding of self-care and stress, and has not yet been applied to the field of professional psychology. Applying and testing the Health Promotion Model in professional

psychology will fill a gap in the literature regarding women in professional psychology by providing a theoretical model for assessing the relations of stress, self-care, and quality of life in the context of professional psychology training.

### **Health Promotion Model and Self-Care**

According to the Health Promotion Model (Pender et al., 2010), *self-care* is a multidimensional construct that is unique to the needs and environment of individuals. In this Health Promotion Model, the importance of attending to health responsibility, exercise, nutrition, interpersonal support, stress management, and self-actualization is emphasized. Moreover, this emphasis directly reflects the activities mentioned by scholars as necessary for maintaining well-being (e.g., adequate sleep, exercise, spiritual growth; Barnett, 2008).

According to Pender et al. (2010), “Health-promoting behaviors, particularly when integrated into a healthy lifestyle that pervades all aspects of living, should result in improved health, enhanced functional ability and better quality of life at all stages of development” (p. 74). Although the importance of self-care is discussed in the literature, there is a lack of research that tests and applies theories of self-care to women in professional psychology (Myers et al., 2012). It was reasoned that based on the model, self-care behaviors are likely to decrease the consequences of stress and increase women’s quality of life.

Barnett (2008) wrote that in order to function well, female graduate students in professional psychology programs need to balance the various demands of their doctoral work with their personal lives to reduce the likelihood of distress and impairment. Not only is this balance necessary for quality of life, but it is also necessary for effective clinical work. According to the APA Ethics Code (2010) and the Feminist Code of Ethics (Feminist Therapy Institute, 1990), therapists need to maintain psychological well-being and self-awareness through

appropriate self-care strategies. Aside from this ethical imperative, self-care is included as one essential component in the national competency benchmarks in professional psychology training (Fouad et al., 2009).

According to Barnett (2008), psychologists, and by extension psychologists-in-training, need time to sleep, exercise, and eat well; to socialize with loved ones; to engage in activities of personal interest that promote relaxation; to take occasional breaks and vacations from work; and to commit to spiritual growth. Barnett argued that these kinds of behaviors equalize the energy and time spent on work, subsequently reducing the likelihood of experiencing the negative outcomes of stress. The behaviors outlined by Barnett (i.e., sleep, exercise) correspond to those listed in Pender et al.'s (2010) Health Promotion Model.

### **Application of the Health Promotion Model to Women in Professional Psychology**

Over the past several decades, researchers have documented relations among self-care, stress, and quality of life (i.e., physical, psychological, social, and environmental well-being) for women and for the general public (e.g., Achat et al., 1998; Case, 2001; Coster & Schwebel, 1997; McKinzie et al., 2006). These studies, however, focused on specific components of self-care, such as maintaining a healthy diet or an exercise routine (McKinzie et al., 2006), spiritual practice (Case, 2001), social support (Achat et al., 1998; Coster & Schwebel, 1997), or healthy sleeping practices (McKinzie et al., 2006). A recent survey distributed to APA-accredited clinical psychology PhD programs suggested that self-care utilization was a significant, strong, positive predictor of quality of life for doctoral students (Goncher, Sherman, Barnett, & Haskins, 2013). Despite these results, comprehensive theorizing has yet to be applied and tested in professional psychology.

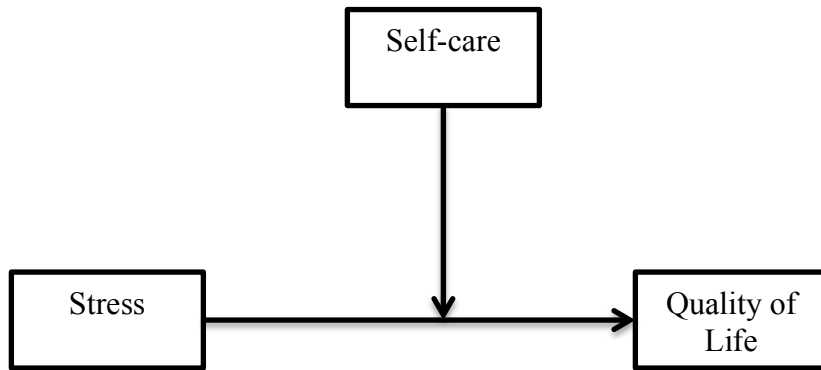
Research findings appear consistent with the relations between stress and sleeping habits (e.g., McKinzie et al., 2006; Myers et al., 2012), social support (Achat et al., 1998; Adams, Bowden, Humphrey, & McAdams, 2000; Anderson & Mieziitis, 1999; Myers et al., 2012), and mindfulness and relaxation (e.g., Carlson, Speca, Patel, & Goodesy, 2003; Myers et al., 2012). However, there is a lack of consistency regarding the relations of stress and quality of life to exercise (e.g., Achat et al., 1998; McKinzie et al., 2006; Myers et al., 2012), smoking (e.g., Achat et al., 1998; McKinzie et al., 2006), negative affect, positive affect, eating habits, alcohol consumption (McKinzie et al., 2006), and spirituality (Case, 2001). This piecemeal approach to studying self-care is flawed, in that the larger construct is neither defined nor investigated, thereby preventing a synthesis and comparison of results across studies. In other words, the mixed findings from studies on specific aspects of self-care in isolation, such as exercise, do not reflect the higher order construct, *self-care*, that refers to an ongoing commitment to a healthy lifestyle more broadly defined.

In addition to researching individual aspects of the multidimensional construct of self-care, researchers have also tended to assess only one aspect of quality of life (e.g., psychological well-being, professional quality of life; Daniels & Guppy, 1993; Lawson & Myers, 2011). Doing so again limits the capacity to understand the full construct. Researchers who have assessed the full construct of quality of life have done so with four separate components: social, psychological, environmental, and physical well-being (e.g., Nyklicek & Kuijpers, 2008; Schoormans & Nyklicek, 2011). These four components, however, are significantly intercorrelated ( $r_s = .46 - .67, p_s < .0001$ ; Skevington et al., 2004), suggesting the presence of an underlying more global component (i.e., it is multidimensional). Hence, quality of life was investigated as a multidimensional construct in the study.

## Research Hypothesis

Increasing numbers of women are pursuing doctoral degrees in psychology, and the stress of being a doctoral student and a woman can place them at risk for aversive consequences such as ineffective clinical work and impaired competence. As professional psychologists move forward in appreciating the value of health promotion (e.g., Hoffman & Driscoll, 2000), it is important to understand how women can protect themselves from undue stress in professional psychology programs. The lack of a comprehensive framework for this phenomenon calls for the need to apply and test the Health Promotion Model (Pender et al., 2010) to the experience of women in professional psychology programs. To do so, it was hypothesized:

1. Self-care would moderate the inverse relationship between stress and quality of life (see Figure 1). That is, the magnitude of the effect of stress on quality of life would decrease as self-care increased. As self-care decreased, the extent to which stress affects quality of life would increase, when controlling for the unique contributions of stress and self-care;
2. Stress would be negatively associated with quality of life when controlling for self-care. That is, participants who were relatively more stressed would report a poorer quality of life, regardless of the extent to which they engaged in self-care; and
3. Self-care would be positively associated with quality of life when controlling for stress, such that participants who engaged in relatively more self-care would report a greater quality of life, regardless of stress levels.



*Figure 1.* Hypothesized Moderation Model



## Chapter II

### Method

#### Participants

**Power analysis.** For the current investigation, the median effect size of interaction terms in the counseling psychology literature (Haase, Martens, Ferrier, & Corbett, 2005) was used,  $\eta^2 = .033$ . It was determined that to assure 95% statistical power to detect a small effect size ( $\eta^2 = .033$  with a familywise  $\alpha = .05$ ), at least 320 participants would be needed for the study.

**Sample characteristics.** The target population for the current investigation was women who were part-time or full-time matriculated doctoral students in professional psychology doctoral programs in the U.S. Men and students in master's degree programs were excluded due to the unique stressors faced by female students in doctoral programs, as discussed earlier. Initially, 587 participants responded to the survey. Of those, 558 women met the inclusion criteria and completed all of the questionnaires.

Participants ranged in age from 21 to 65 years ( $M = 27.83$ ,  $SD = 5.03$ ). Approximately three quarters of the sample was White/Caucasian (75.5%), followed by Asian (4.7%), Hispanic (4.7%), biracial or multiracial (4.5%), African American/Black (4.3%), and other (6.5%). In terms of relationship status, 40.8% of participants were single, 19.7% were in a committed relationship, 18.6% were married, 13.2% were engaged, 2.3% were widowed, 1.8% were in a civil union, 1.4% were divorced, 0.7% were in a domestic partnership, and 1.5% were other. Nearly half of the participants lived with a partner (43.5%;  $n = 243$ ), and reported completing an average of 69.8% of chores in the household ( $SD = 27.08$ ); 59.6% of participants felt they had an even distribution of chores, given the other people in their households. Most participants (89.3%;  $n = 489$ ) had no children; 60 women (10.9%) had between one and six children.

Most respondents were enrolled in clinical psychology programs (53.9%;  $n = 301$ ), followed by school (23.5%;  $n = 131$ ) and counseling (18.6%;  $n = 104$ ) psychology programs. PsyD (65.8%;  $n = 367$ ) and PhD (31.5%;  $n = 176$ ) programs were represented. Most participants entered the program with an undergraduate degree (65.4%;  $n = 365$ ), while 193 (34.6%) entered with a master's degree. The majority of participants were full-time students (94.6%;  $n = 528$ ). Participants had completed between one month and 13 years 10 months of work in their doctoral programs ( $M = 2.65$ ,  $SD = 1.83$  years,  $Mdn = 2.5$ ).

Regarding level of training, most students were currently in practicum placements (58.1%), followed by pre-doctoral internship (14.1%), classes only (10.7%), pre-practicum (10.7%), post-doctoral fellowships (1.4%), and other (e.g., ABD; 5.0%). More than three quarters of the women (76.2%) were taking classes; 70.4% were doing clinical work at a training site; 69.4% were conducting research; 45.7% had an assistantship, 22.6% were engaged in professional service (e.g., APA committees), 21.1% were teaching, 19.0% had a part-time job outside of the program, and 4.8% had a full-time job outside of the program. Of eight professional development activities noted (i.e., classes, clinical work, research, assistantship, professional service, teaching, part-time job, full-time job), 29.0% of participants were engaged in 3 of the activities; 23.5% were engaged in 4 of the activities; 17.2% were engaged in 2 of the activities; 14.0% were engaged in 5 of the activities; 8.4% were engaged in 1 of the activities, 5.2% were engaged in 6 of the activities, 2.0% were engaged in none of the activities, and 0.4% were engaged in 7 activities. Participants who were working with clients ( $n = 390$ ) had roughly 8 clients in their respective caseloads ( $M = 8.12$ ,  $SD = 7.87$ ,  $Mdn = 6.0$ ).

Based on a list of 13 stressors, 65.4% of participants moved to another city, 56.1% moved to another state, and 3.4% moved to another country to pursue doctoral studies. Nearly a

quarter of respondents (23.8%) moved away from their partner or spouse. In terms of romantic relations while in the program, 26.7% moved in with a partner; 17.2% became separated, divorced, or ended a relationship with their partner, and 13.3% became married. Six percent became pregnant while in the program, and 5.4% gave birth or adopted children. Nearly one third of participants (29.71%) experienced the death of a loved one, 9% were hospitalized, and nearly two thirds of respondents (64.3%) took out loans while in the program.

In response to a question about the most stressful experiences, participants noted that the largest stressor was relocating (20.4%), followed by moving away from loved ones (16.9%), death/illness of loved ones (11.1%), student loans (9.3%), ending a relationship with a significant other (6.1%), self-health emergency or hospitalization (3.8%), moving in with partner (2.0%), birth of a child (1.8%), marriage (1.6%), and divorce (1.6%).

Aside from activities endorsed on the Health Promotion Lifestyle Profile II (HPLPII; Walker et al., 1995), participants were asked to recall specific strategies used for self-care. Some of the most common activities included spending time with loved ones (34.4%), exercise (25.6%), watching TV (18.8%), reading and listening to audiobooks (15.6%), pampering self (e.g., getting hair or nails done; 10.8%), fine arts (10.6%), taking time off to relax (7.0%), and crafts and hobbies (4.3%). Religion and spiritual practice was also noted by 9.3% of the sample. Nearly half of the women in the sample endorsed a religious or spiritual affiliation (42.7% Christian, 6.3% Jewish, 2.7% Buddhist, 0.9% Muslim, 0.5% Hindu). Others in the sample identified as agnostic (18.9%), none (12.4%), atheist (9.3%), or other (5.2%).

On a scale of 1 to 7 (1 = *not at all*, 4 = *moderately*, 7 = *frequently*) in the demographic questionnaire, participants reported engaging in self-care to a moderate extent ( $M = 4.75$ ,  $SD = 1.36$ ). Participants perceived that their doctoral programs explicitly encourage self-care practices

to a moderate extent ( $M = 3.91$ ,  $SD = 1.72$ ). Participants reported that programs support family and personal responsibilities moderately ( $M = 3.84$ ,  $SD = 1.62$ ). Faculty members were perceived as being moderately sensitive to the unique needs of women ( $M = 3.71$ ,  $SD = 1.65$ ) and modeling self-care to a moderate extent ( $M = 3.63$ ,  $SD = 1.53$ ).

## **Design**

A one group cross sectional ex-post facto design was used to assess the extent to which self-care moderates the inverse relation between stress and quality of life. The predictor variable was perceived stress, as assessed by the Perceived Stress Scale (PSS; Cohen, Karmarck, & Mermelstein, 1983); self-care served as the moderator, as measured by the Health Promotion Lifestyle Profile II (HPLPII, Walker, Sechrist, & Pender, 1987); and the criterion variable was quality of life, as assessed by the World Health Organization Quality of Life-BREF (WHOQOL-BREF; Skevington et al., 2004).

## **Instruments**

**Perceived Stress Scale.** Participants completed the Perceived Stress Scale (PSS; Cohen et al., 1983), which is grounded in Lazarus's (1966) stress theory and was selected for its psychometric support. The measure assesses the extent to which individuals report situations in life being stressful (Cohen et al., 1983). The PSS includes 14 items that ask participants to indicate how often they experienced feelings associated with stress in the past month on a scale from 0 = *never* to 4 = *very often* (Cohen et al., 1983). Seven items were reverse scored. Items were summed, yielding total scores that could range from 0 to 56, with higher scores reflecting more perceived stress.

Internal consistency reliabilities ( $\alpha s = .84 - .86$ ) and test-retest reliability for a two-day period ( $r_{tt} = .85$ ) were strong in previous studies (Cohen et al., 1983). Concurrent validity with a

life-events scale ( $r_s = .20 - .39, p_s < .01$ ) and impact of life events ( $r_s = .24 - .49$ ), and predictive validity for depressive ( $r_s = .65 - .76, p_s < .001$ ) and physical symptomatology ( $r_s = .52 - .70, p_s < .001$ ) were established for college students and the general population (Cohen et al., 1983).

The PSS was normed on several samples, including female college students ( $M_s = 23.67 - 25.71, SD_s = 7.31 - 7.79$ ; Cohen et al., 1983), so it seemed appropriate for women in professional training programs. In the current study, internal consistency was strong ( $\alpha = .88$ ).

**Health Promotion Lifestyle Profile II.** Self-care was assessed using the Health Promotion Lifestyle Profile II (HPLPII; Walker et al., 1995). This 52-item inventory asks participants to endorse the extent to which they participate in various health promoting activities. This measure was selected for the investigation because (a) it is theoretically grounded in Pender et al.'s (2010) Health Promotion Model, (b) its scores have adequate psychometric properties, and (c) no other measure whose scores have strong psychometric properties has been established in professional psychology (Goncher et al., 2013; J. Barnett, personal communication, November 8 2012; J. Norcross, personal communication, November 13 2012).

As measured by the HPLPII, self-care refers to a set of multidimensional health-promoting behaviors used to maintain or promote one's wellness, self-actualization, and fulfillment in life (Walker et al., 1987). Participants rate each item on a 4-point scale (1 = *never*, 2 = *sometimes*, 3 = *often*, and 4 = *routinely*). Activities on the scale reflect 6 sub factors: Health Responsibility, Physical Activity, Nutrition, Spiritual Growth, Interpersonal Relations, and Stress Management. To calculate a respondent's overall health-promoting lifestyle, a mean score is derived by summing and averaging responses to the 52 items. The mean score is used to aide interpretation regarding frequency of health care promotion activities (i.e., *never* to *routinely*). Low scores reflect few self-care activities, whereas high scores reflect high levels of self-care

activities. Only the mean from the total score was used in the current study, as this score reflects a person's average level of self-care, the higher order construct of interest.

Samples of 84 adults ( $M = 2.67$ ,  $SD = 0.52$ ) and 400 women ( $M = 2.53$ ,  $SD = 0.49$ ) were used to assess internal consistency reliabilities (Cronbach's  $\alpha$ s = .92 - .94) (Acton & Malathum, 2000; Adams et al., 2000). Pearson coefficients of .81 and .91 reflected adequate test-retest reliability based on a two-week timeframe (Walker et al., 1987). Convergent validity was evidenced by moderate correlations with the Health Practices in Pregnancy Questionnaire-II ( $r = .54$ ; Lindgren, 2005) and subscales in the Basic Needs Satisfaction Inventory ( $r$ s = .62 - .76; Acton & Malathum, 2000; Leidy, 1994). Samples of 154 students in the health professions ( $M = 2.91$ ,  $SD = 0.35$ ; Stark, Hoekstra, Lindstrom Hazel, & Barton, 2012) and 1,710 undergraduate and graduate students at a large university ( $M = 2.68$ ,  $SD = 0.41$ ; Dubois, 2006) were used for comparison. The measure's internal consistency was high ( $\alpha = .94$ ) in the current sample.

**World Health Organization Quality of Life-BREF.** The World Health Organization's 100-item measure of quality of life, World Health Organization Quality of Life-BREF (WHOQOL-BREF), includes four scales of well-being. Skevington et al. (2004) have since abbreviated the measure to 26-items of health and well-being while retaining the four original scales: Physical (7 items), Psychological (7 items), Social (3 items), and Environmental (8 items).

The WHOQOL-BREF (Skevington et al., 2004) has been tested with a large international sample of adult participants. A 5-point Likert-type scale is used to indicate how often, how much, how completely, how good, or how satisfied respondents felt in the past two weeks depending on the question at hand (1 = *very poor, very dissatisfied, or not at all*, 2 = *poor, fairly dissatisfied, slightly, or a small amount*, 3 = *neither poor nor good, neither satisfied nor*

*dissatisfied, a moderate amount or somewhat, 4 = good, satisfied, a great deal, or to a great extent, 5 = very good, very satisfied, an extreme amount, or completely).*

The inventory was not created to include a total score. Rather, there are four subscale scores. Two items in the physical scale are reverse scored. Raw scores in each subscale are transformed to reflect a score of 0 to 100, allowing for ease of interpretation and comparisons across scales. High scores reflect a relatively better quality of life. The scale has not been used with doctoral students in professional psychology, so the female participants from the original normed sample ( $N = 6,270$ ) of an international population of adults were used for the comparisons ( $M_s = 70.00, 72.00, 71.00,$  and  $69.50$  on the Psychological, Social, Physical, and Environmental domains, respectively; Skevington et al., 2004). Internal consistency reliabilities ranged from .68 to .82 (i.e., .68 for social, .80 for environmental, .81 for psychological, .82 for physical) and data were normally distributed in the normed sample. Construct validity and known groups validity have been established between ill and well individuals. Cross-cultural validity was evidenced through a representative sample of participants from 23 countries (Skevington et al., 2004).

For the present investigation, the integrity of the full construct was maintained by analyzing the four domains as a multivariate linear composite and not partitioning univariate (scale level) analyses. Reliabilities on the WHOQOL-BREF for the current sample were .82 (psychological), .70 (social), .75, (physical), and .75 (environmental). These reliabilities supported the desire to treat Quality of Life as a multivariate construct.

## **Procedure**

In this web-based study, a snowball sampling method was used, primarily through professional listservs, emails to acquaintances and training directors at APA-accredited

professional psychology programs, and social networking websites (see Appendix E). Potential volunteers were given information regarding informed consent and their responses were collected on a secure online surveying interface, PsychData.

After endorsing agreement to the informed consent, participants completed the research materials. The three inventories were randomly counterbalanced, with the demographic questionnaire last. Upon completion, participants were directed to a page that invited them to designate \$2.00, supplied by the researcher, to one of 5 charities. Ninety three women selected MADRE.org, 104 selected Women for Women International, 74 selected National Partnership for Women and Families, 184 selected The Polaris Project, and 79 selected the Breast Cancer Research Foundation.

The data were stored on psychdata.com, a secure, password-protected website designed for confidential data collection. No identifying information was kept with data files, maintaining participant anonymity. Although the nature of the survey was not likely to elicit strong negative emotions, participants received referral information for mental health resources.



## Chapter III

### Results

#### Preliminary Analyses

**Tests of Assumptions.** The dataset was first examined for discrepant and missing data. As recommended by Cohen et al. (2003), steps were taken to minimize missing data, and potential reasons for missing data were examined. Missing data were checked using Little's (1988) Missing Completely At Random Test,  $\chi^2(8232) = 8399.90, p = .096$ . There were no clear indicators of missing values existed; consequently, the Expectation-Maximization algorithm (Cohen et al., 2003) was used to impute missing data for participants with fewer than 5% of missing data on any one questionnaire. This method was used for participants who missed one question on the PSS (Cohen et al., 1983), up to three questions on the HPLPII (Walker et al., 1987), and up to two questions on the WHOQOL-BREF (Skevington et al., 2004). Imputation was used for 19.5% of participants and 0.35% of the data: 80 participants had 1 missing data point, 20 participants had 2 missing data points, 4 participants had 3 missing data points, 3 participants had 4 missing data points, and 2 participants had 5 missing data points.

Linear relations among variables were examined via a series of plots including (a) standardized residuals from the regression model versus standardized values for each predictor variable, and (b) standardized residual values plotted against standardized predicted values of the criterion variable. The Lowess fit line did not show any large deviations from the 0-line, suggesting the normality assumption was met. The Box's  $M$  statistic of 41.82,  $F(30, 2909) = 1.28, p = .14$  further supported a multivariate normal distribution.

Normal distribution of residuals was also examined using a normal q-q plot to compare and fit error terms to a straight line (Cohen et al., 2003). The data points did not deviate largely

from the superimposed line on the plot, thus this assumption was met. Normal distribution of variance was also assumed. Thus, means and standard deviations were examined for potential ceiling or floor effects. No skew values exceeded the possible range of measurement for each inventory. The scatter plots of residuals against each predictor variable suggested consistent variance, and Modified Levene Tests confirmed no violations in homogeneity of variance (Cohen et al., 2003). Durbin-Watson tests confirmed independence of error terms. Finally, an assessment of the degree of multicollinearity between PSS and HPLPII found that the variance inflation factors (VIF) and tolerance coefficients suggested that the assumption had been met.

In a measure of the influence of data points, leverage values showed that 68 cases surpassed the critical value of 0.011. In a further assessment of these cases, Cook's D values were calculated for each of the criterion variables (Cohen et al., 2003); no cases exceeded the critical value of 0.79. DFBETAS were then calculated to assess influence of outliers on regression coefficients; 16 values surpassed the critical value of 0.08, but these cases appeared valid and were retained. An examination of studentized deleted residual scores showed that one case surpassed the cutoff value of  $|3.0|$ , but appeared valid when reviewed and was retained. Based on these indicators, the data appeared consistent and valid.

**Additional analyses.** In a test of the counter-balancing of measures, a one-way MANOVA using three sequences of inventories as the independent variable, and scores on the PSS and HPLPII measures as the dependent variables was not significant, Pillai's  $V = 0.021$ ,  $F(6, 986) = 1.72$ ,  $p = 0.11$ ,  $\hat{\rho}^2 = .004$ , 95% CI [0.00, 0.02]. The non-significant findings suggested no potentially biased sequencing effects.

Finally, norm comparison tests were conducted by comparing the means of the original sample for each measure to the means obtained from the present study. Participants endorsed

significantly higher levels of stress on the PSS ( $M = 26.62$ ,  $SD = 7.46$ ) than Cohen et al.'s (1983) sample of 209 female undergraduate psychology students ( $M = 23.57$ ),  $t(557) = 9.66$ ,  $p < .001$ ,  $\hat{\rho}^2 = .14$ , 95% CI [0.10, 0.19] and 53 undergraduate female freshmen ( $M = 25.71$ ),  $t(557) = 2.88$ ,  $p = .004$ ,  $\hat{\rho}^2 = 0.01$ , 95% CI [0.00, 0.03]. Participants also reported significantly less self-care on the HPLPII ( $M = 2.54$ ,  $SD = 0.41$ ) compared to participants in the health professions ( $M = 2.91$ ; Stark et al., 2012),  $t(557) = -21.32$ ,  $p < .001$ ,  $\hat{\rho}^2 = .45$ , 95% CI [0.40, 0.50] as well as undergraduate and graduate students at a large university, ( $M = 2.68$ ; Dubois, 2006),  $t(557) = -8.31$ ,  $p < .0001$ ,  $\hat{\rho}^2 = .10$ , 95% CI [0.07, 0.15].

Participants also reported significantly less psychological ( $M = 62.25$ ,  $SD = 15.38$ ),  $t(557) = -11.90$ ,  $p < .001$ ,  $\hat{\rho}^2 = .20$ , 95% CI [0.15, 0.25]; social, ( $M = 65.60$ ,  $SD = 21.03$ ),  $t(557) = -7.19$ ,  $p < .0001$ ,  $\hat{\rho}^2 = 0.08$ , 95% CI [0.05, 0.12]; and environmental ( $M = 67.41$ ,  $SD = 13.83$ ),  $t(557) = -3.57$ ,  $p < .001$ ,  $\hat{\rho}^2 = 0.21$ , 95% CI [0.16, 0.27] quality of life in comparison to the international sample of 6,270 adult women on which the scale was normed ( $M_s = 70.00$ , 72.00, 69.5; Skevington et al., 2004). They reported significantly higher levels of physical quality of life ( $M = 73.11$ ,  $SD = 14.0$ ),  $t(557) = 3.56$ ,  $p < .0001$ ,  $\hat{\rho}^2 = 0.02$ , 95% CI [0.01, 0.04] in comparison to the same international sample of women ( $M = 71.00$ ; Skevington et al., 2004). On a scale of 1 (*very poor*) to 5 (*very good*) on the first scale item, participants rated their overall quality of life as “good” ( $M = 4.05$ ,  $SD = .78$ ). On the second scale item, scores suggest participants were somewhat satisfied with their health (3 = *neither satisfied nor dissatisfied*, 4 = *satisfied*;  $M = 3.58$ ,  $SD = 1.00$ )

## Major Analyses

Based on guidelines from Cohen et al. (2003), sets of predictor variables were used in a sequence of multivariate multiple regression analyses to test the variance in the quality of life

attributed to PSS and Self-Care. That is, sets of predictor variables were used to partial out the variance in Quality of Life due to their unique effects. A modified Bonferroni procedure with  $\alpha_{pc} = .017$  (Holland & Copenhaver, 1988) was used to control Type I and II error rates.

First, the full multivariate regression model was tested using both predictor variables and the interaction term, based on raw scores (i.e., PSS, Self-Care, PSS x Self-Care) to determine the multivariate  $R^2$  coefficient for the full model. Stress, self-care, and their interaction accounted for a significant 21.83% of the variance in the Quality of Life linear composite, Pillai's  $V = 0.67$ ,  $F(12, 1659) = 39.89$ ,  $p < .0001$ ,  $\hat{\rho}_{MV}^2 = .22$ , 95% CI [0.16, 0.27] where  $\hat{\rho}_{MV}^2$  is the multivariate effect size (Haase & Ellis, 1987).

Second, to test the first hypothesis (i.e., that self-care would moderate the relation between stress and quality of life, such that this relation would decrease as self-care increased), the regression model was run with the interaction term (PSS x Self-Care) and the two main effects predictor variables as separate sets. No unique moderation effect was found, deeming the first hypothesis unsupported, Pillai's  $V = 0.01$ ,  $F(4,551) = 0.65$ ,  $p = 0.62$ ,  $\hat{\rho}_{mv}^2 = .00$ , 95% CI [0.00, 0.01]. Hence, the interaction of self-care and stress did not contribute significantly to Quality of Life.

Third, to test the second hypothesis (i.e., that stress would be negatively associated with quality of life when controlling for self-care), the squared multivariate semipartial coefficient for perceived stress was examined. PSS scores accounted for 4% of the variance in the Quality of Life composite, over and above the influence of self-care, Pillai's  $V = 0.05$ ,  $F(4, 551) = 7.29$ ,  $p < .001$ ,  $\hat{\rho}_{MV}^2 = .04$ , 95% CI[0.01, 0.06]. Thus, this hypothesis was supported.

Finally, the third hypothesis, which assessed the extent to which Self-Care would account for unique variance in quality of life, was not supported, Pillai's  $V = 0.02$ ,  $F(4, 551) = 2.85$ ,  $p =$

0.02,  $\hat{\rho}_{MV}^2 = .01$ , 95% CI[0.00, 0.02]. This result indicated that self-care activities did not significantly account for variance in quality of life when controlling for level of stress.

## **Chapter IV**

### **Discussion**

#### **Overview**

The purpose of the present study was to apply and empirically test Pender et al.'s (2010) Health Promotion Model with a target population of female doctoral students in professional psychology. That is, the potential buffering effect of self-care activities on the relation between stress and quality of life was assessed. The results indicated that there are no main effects between self-care and quality of life. Furthermore, health promotion activities did not moderate the relation between perceived stress and quality of life in this sample of female doctoral students. Rather, the significant negative association between stress and quality of life may supersede an individual's self-care efforts. In considering the implications of these findings, it is important to take the study's limitations and strengths into account.

#### **Limitations**

In terms of limitations, the data reflect a convenience sample of women in professional psychology doctoral programs. There was a strong potential for self-selection bias, which limits external validity (Shadish et al., 2002) and limits the ability to generalize findings to all women in professional psychology doctoral programs throughout the U.S. That is, the extent to which participant was stressed, or was interested in stress and self-care, may have influenced whether she chose to participate in the study.

Another potential limitation pertains to the use of the HPLPII (Walker et al., 1987). Due to the nature of the HPLPII, the mean score of each participant is used to reflect self-care levels. Self-care is an individualized process and varies from one participant to another, meaning the average score on the total measure may not be the best reflection of one's health promotion

activities. To get a high score on the HPLPII, one needs to do many activities in each of the six sub-factors routinely. Some participants may engage in a few activities routinely but may not practice other aspects of self-care. Hence, the use of the mean score limits the ability to capture some of the more nuanced characteristics inherent in health promotion activities. Furthermore, the scale does not capture all of the self-care activities mentioned by women in the sample (e.g., pamper self, watch TV). These characteristics may have limited some of the variance in the sample and contributed to findings.

Additionally, no causal inferences are permitted due to the ex post facto nature of the design. Moreover, it is not appropriate to imply temporal precedence or causality of variables when interpreting the findings. Finally, the sole use of self-report raises the possibility of mono-method bias (Shadish et al., 2002). The variability in perceived stress, self-care, and quality of life is limited to self-perceptions of each construct, and does not capture their entirety. Such self-perceptions may have affected variance and relations between constructs.

### **Strengths**

Despite those limitations, several strengths of the study are noteworthy. Empirical research on the self-care of women in professional psychology doctoral programs has been conducted in the absence of theory (e.g., Cushway, 1992; Goncher et al., 2013; Myers et al., 2012) and the literature reflects piece-meal approaches to multidimensional constructs (e.g., Achat et al., 1998; Case, 2001; Coster & Schwebel, 1997; McKinzie et al., 2006).

In contrast, the current study was theoretically driven, used a large sample of 558 participants that reflected substantial statistical power, used a modified Bonferroni approach to prevent inflation of Type I and Type II errors, and calculated shrunken effect sizes to assure that data were properly interpreted. The data were examined closely for order effects, violations of

multivariate assumptions, the presence of outliers, and influential data points. The norm comparison tests provided additional information and strong foundation from which to interpret findings.

### **Implications of the results**

The present results indicated that self-care activities did not moderate the relation between perceived stress and quality of life. As such, for this sample of women in professional psychology, it seems that self-care activities did not buffer the negative consequences of stress on quality of life. These findings contradict previous research studies that have supported the buffering effects of self-care on stress and quality of life in other populations with different measures (e.g., Achat et al., 1998; Acton, 2002; Anderson & Mieztis, 1999; Lin & Ensel, 1989). Consequently, the present findings also question the applicability of the Health Promotion Model to the target population (Pender et al., 2010). It seems likely that the unique psychosocial stressors of female doctoral students in professional psychology may limit the proposed benefits of health promotion activities (Pender et al., 2010).

**Descriptive findings.** Some of the most striking descriptive findings pertain to the norm comparison tests. In short, significant differences in the scores from the current sample of women and the other samples were observed on all the major measures. Participants were significantly more stressed ( $\hat{\rho}^2 = .14$ ;  $\hat{\rho}^2 = 0.01$ ), reported significantly lower levels of self-care ( $\hat{\rho}^2 = .44$ ;  $\hat{\rho}^2 = .10$ ), and endorsed significantly lower psychological ( $\hat{\rho}^2 = .20$ ), social ( $\hat{\rho}^2 = 0.08$ ), and environmental ( $\hat{\rho}^2 = 0.21$ ) quality of life in comparison to norm samples. They also endorsed significantly higher levels of physical quality of life ( $\hat{\rho}^2 = 0.02$ ) in comparison to a normed sample.



***Perceived Stress.*** Women in the current sample were either substantively or moderately more stressed than female undergraduate psychology students, depending on the comparison samples. The Perceived Stress Scale (Cohen et al., 1983) assesses the extent to which participants feel their lives are “unpredictable, uncontrollable, and overloading” (p. 387). The present findings imply that these feelings are more common for women in doctoral programs than undergraduate students, and corroborate previous research that suggested that professional women with high stress levels tend to believe that they have little control over their environment (Lerner, 1994).

In addition to heavier coursework, new clients, and new demands, the present participants were also more likely to experience developmental milestones in terms of relationships, family, and other personal realms, and thus experience higher stress levels in comparison to other target populations (Barnett & Chesney, 2009; Barnett, Johnston, & Hillard, 2006; Cahir & Morris, 1991; Oswald & Riddock, 2007). Findings in the current investigation support this premise, as women in the sample reported stressors associated with relocating, relationships, and student loans, amongst others. The combination of stressors from school and the unique psychosocial stressors of the sample may reinforce feelings of a lack of control and reflect the large differences in stress levels that emerged between undergraduate and graduate women in psychology.

***Self-care.*** Participants noted significantly less self-care when compared to a sample of students in the health professions (Stark et al., 2012) and with a large interdisciplinary sample of undergraduate and graduate students at a large university (Dubois, 2006). Self-care activities are specific to health, so students in the health professions may be more educated in these areas and consequently more likely to engage in such behaviors. Additionally, women in professional

psychology programs may be significantly different from interdisciplinary students with respect to self-care activities.

The Health Promotion Model may also shed light on some of these findings. According to Pender et al. (2010), engagement in self-care activities “is less likely to result in the desired behavior when competing demands over which persons have little control require immediate attention” (p. 64). Hence, women in professional psychology doctoral programs may be less likely to engage in self-care activities due to competing demands (over which they have little control) that are prioritized over self-care efforts. In the current investigation, the mean response on a 4-point scale for Health Responsibility activities was 2.01 ( $SD = 0.57$ ), suggesting that women “sometimes” take time out of their schedules to make appointments with health professionals or seek guidance for health concerns (Table 1). It may be that self-care activities (e.g., physicians appointments) compete with graduate school demands and are thus less prioritized than classes, research meetings, clients, and other professional activities. Future researchers may want to assess how efforts to engage in self-care are typically received by women in doctoral programs, their peers, their faculty members, and their greater support network; if efforts to care for oneself are not appreciated, women may be less likely to take time off and prioritize time for the self.

***Quality of life.*** Finally, reported quality of life was significantly lower than the normed sample three of the four realms: psychological, social, and environmental. Significantly lower values in quality of life suggest that the current participants have a significantly lower perception of their “position in life” than that of the normed sample, which consisted of 6,270 women representing 23 first-, second-, and third world countries (Skevington et al., 2004, p. 299). If this is the case, the findings suggest that women in the current sample experienced low quality of life

in relation to their goals, expectations, standards, and concerns in life (Skevington et al., 2004). These findings support past research that has displayed the negative effects of stress on components of quality of life (McEwen, 2008; McKinzie et al., 2006), and suggests that the significant differences may be due to the unique stressors of graduate study.

Ultimately, the findings regarding low quality of life are disconcerting; Fouad et al. (2009) and the ethical guidelines for the American Psychological Association (2002) noted the importance of monitoring one's personal health and well-being in order to promote professional competence and functioning. High stress levels, low self-care, and poor quality of life may lead to psychological distress (Cushway, 1992), hinder or impair professional competence (Sherman & Thelen, 1998), and negatively affect the ability to care for clients and perform professional duties of women in professional psychology doctoral programs (Oliver, Bernstein, Anderson, Blashfield, & Roberts, 2004). These findings speak to the need to understand the complex nature of the relations between stress, self-care, and quality of life for women in professional psychology doctoral programs.

**Inferential findings.** The first major inferential finding pertains to small yet significant relations between self-care activities and quality of life, which disappear when controlling for stress. An examination of intercorrelations between variables in the current investigation (see Table 2) showed significant positive associations between self-care and psychological,  $r_{\text{adj}} = .62$ ,  $p < .001$ , social,  $r_{\text{adj}} = .48$ ,  $p < .001$ , physical,  $r_{\text{adj}} = .59$ ,  $p < .001$ , and environmental quality of life,  $r_{\text{adj}} = .54$ ,  $p < .001$ . The significance of these effects disappeared, however, when controlling for stress levels in the multivariate model ( $\hat{\rho}^2 = .00$ ,  $p = .02$ ), suggesting that perceived stress superseded the role of self-care activities in quality of life. These findings

coincide with prior research suggesting that stress influences low quality of life for students in professional psychology (e.g., Cushway, 1992; Sherman & Thelen, 1998).

Pender et al. (2010) argued that although engagement in self-care activities leads to greater quality of life, it is hindered when competing demands from the environment require immediate attention. This theory is consistent with the significant negative relation that emerged between stress and self-care,  $r_{\text{adj}} = -.55, p < .001$ . This negative relationship could help explain failure to support the first hypothesis, given that highly stressed women engage in fewer self-care activities. In future studies, it may first be important to assess the specific barriers that prevent women in professional psychology doctoral programs from experiencing the benefits of health promotion activities.

Future researchers could also focus on other factors that promote self-care activities and improve quality of life. For example, Goncher et al. (2013) recently found that engagement in self-care activities serves as a partial mediator between programmatic emphasis on self-care and quality of life. Furthermore, self-care utilization and an emphasis on self-care accounted for 50% of variance in quality of life scores for doctoral students in clinical psychology in their research (Goncher et al., 2013). These findings contradict findings in the current investigation, where 1.0 % of variance in quality of life was accounted for by engagement in self-care activities ( $p = 0.02$ ).

The second major inferential finding pertains to the negative relationship between stress and quality of life. According to the current results, stress levels accounted for only 4.3% of variance in quality of life when controlling for engagement in self-care activities ( $p < .001$ ). This small effect size suggests other factors undoubtedly contribute to the quality of life of female doctoral students. The literature is sparse on associations between stress and quality of life for

doctoral students in professional psychology. However, the findings corroborate research with medical students regarding high levels of burnout, depressive symptoms, and significantly lower quality of life when compared to the general population (Dyrbye et al., 2007).

### **Implications for practice and training**

Pender et al. (2010) posited that individuals are more likely to engage in health promotion activities when their families and peers model these behaviors, support engagement in the behaviors, and expect the behaviors to occur. When applying these principles to women in professional psychology, it may be helpful to return to the culture of self-care in graduate programs.

Results from the present study suggest that self-care behaviors are moderately modeled, recognized, and appreciated by faculty members in professional psychology doctoral programs (See Table 4). The application of Pender et al.'s (2010) model may further encourage doctoral students to engage in health promotion activities. That is, women may be more likely to participate in self-care activities if faculty members and supervisors model these behaviors, support their engagement in self-care activities, and voice their expectations for such activities to take place. Researchers have begun to recognize the importance of infusing self-care within programs and communities (Johnson, Barnett, Elman, Forrest, & Kaslow, 2012). This shift will promote increased engagement in self-care, allowing further understanding of the role of health promotion in professional psychology programs.

Finally, in light of the findings pertaining to stress levels, faculty in PhD training programs may also want to assess the stress levels of their students, recognizing that such stress can be detrimental to the well-being of their students—and ultimately, their students' clients. In addition to monitoring stress levels, supervisors may want to consider the importance of creating

a safe space for women to share their stressors and concerns while in supervision. Such stressors undoubtedly affect work with clients, and discussing these occurrences will continue to contribute to professional and personal growth while protecting clients.

### **Implications for research and future directions**

In the future, it will be important to replicate the current investigation to further understand and expand these findings. Despite the growing recognition that self-care is a necessary factor in promoting professional competence (APA 2002; Barnett, 2008; Feminist Therapy Institute, 1990; Fouad et al., 2009), findings from the current investigation contradict those found in previous research using different measures (Goncher et al., 2013). Current findings suggest that self-care does not contribute to variance in quality of life when controlling for stress. The field of professional psychology will benefit by understanding the extent to which stress affects the relation between self-care and quality of life.

Knowing that the field of professional psychology still lacks an empirical model for understanding self-care, it may also be beneficial to test a more thorough application of Pender et al.'s (2010) Health Promotion Model. Aside from theorizing that health promotion activities lead to greater quality of life, Pender et al. recognized the importance of several other factors, including but not limited to perceived self-efficacy, activity-related affect, interpersonal and situational influences, and immediate competing demands and preferences. Perhaps these factors can further account for the variance in quality of life and serve as predictive factors for self-care efforts. Future research may want to take all of these factors into account in an attempt to apply the full Health Promotion Model to the field of professional psychology and arrive at a more complex understanding of stress, self-care, and quality of life. Additional constructs of interest may include frustration tolerance, resilience, and other personality characteristics of individuals.

Moving forward, it will also be important to assess the perceived benefits of self-care as they relate to quality of life. Future researchers may want to assess the manner in which doctoral trainees value and choose to engage in self-care activities. Many of the self-care activities that women reported practicing differed from those listed in the HPLPII (e.g., zumba, watching tv or movies). A more nuanced examination of self-care may shed light on findings and further clarify the relations between constructs. Perhaps, some components of self-care are more predictive of quality of life than others. The Health Promotion Model also recognizes that engagement in health promotion activities is dependent on the perceived benefits of self-care activities (Pender et al., 2010). Hence, the extent to which a person benefits from each activity may also be worth assessing in the future.

Additionally, it will be important to turn to other predictors of quality of life for doctoral students. The full multivariate regression model accounted for only 22% of the variance in quality of life, suggesting that a large amount of variance in the quality of life of female doctoral students remains unexplained. Furthermore, only 4% of the variance was directly accounted for by stress levels. Exploring and identifying other predictors of quality of life will contribute a great deal of information to theory, research, and practice.

## **Conclusion**

Ultimately, the present results suggest that stress levels have a significantly larger effect than self-care when accounting for the quality of life of female doctoral students in professional psychology. Furthermore, female doctoral students in professional psychology perceive significantly more stress, engage in significantly less self-care, and report significantly lower levels of psychological, social, and environmental quality of life when compared to normed samples. These findings suggest that these women are vulnerable to negative consequences

associated with stress. Prior research has shown that feelings of discontent resulting from stress are strongly and directly linked to impaired professional competence among psychologists, and thus raise concerns pertaining to malpractice and client welfare (Sherman & Thelen, 1998). In addition to understanding relations between stress, self-care, and quality of life, future researchers may want to explore the potential connections between stress and professional impairment in doctoral trainees.

Self-care is recognized as an important component of professional development in the APA Ethics Code (2010), Feminist Code of Ethics (Feminist Therapy Institute, 1990), and national competency benchmarks in professional psychology training (Fouad et al., 2009). These documents and other researchers (e.g., Barnett, 2008) emphasize the role of self-care in maintaining psychological well-being and self-awareness. To promote professional competence as Johnson et al. (2012) suggest, doctoral programs may want to consider the benefits of modeling, encouraging, and discussing the importance of self-care for women pursuing careers in professional psychology.

Finally, further research with women in clinical, counseling, and school psychology training programs will help to understand the unique stressors of women in these training programs and capture how these stressors and self-care activities influence their quality of life. Ultimately, it will be important for students, supervisors, and training directors in professional psychology to appreciate the negative effects of stress on quality of life.



## References

- Achat, H., Kawachi, I., Levine, S., Bekrey, C., Coakley, E., & Colditz, G. (1998). Social networks, stress, and health-related quality of life. *Quality of Life Research, 7*, 735-750.
- Acton, G. J. (2002). Health-promoting self-care in family caregivers. *Western Journal of Nursing Research, 24*, 73-86. doi: 10.1177/1939450222045716
- Acton, G. J., & Malathum, P. (2000). Basic need status and health-promoting self-care behavior in adults. *Western Journal of Nursing Research, 22*, 796-811. doi: 10.1177/01939450022044764
- Adams, M. H., Bowden, A. G., Humphrey, D. S., & McAdams, L. B. (2000). Social support and health promotion lifestyles of rural women. *Online Journal of Rural Nursing and Health Care, 1*, 28-40. doi: 10.1016/j.ejon.2012.05.001.
- American Psychological Association. (2002). Ethical principles of psychologists and code of conduct. *American Psychologist, 57*, 1060-1073. doi:10.1037/0003-066X.57.12.1060
- Anderson, B. J., & Mieziitis, S. (1999). Stress and life satisfaction in mature female graduate students. *Initiatives, 59*, 33-43.
- Barnett, J. E. (2008). Impaired professionals: Distress, professional impairment, self-care, and psychological wellness. In M. Hersen & A.M. Gross (Eds.), *Handbook of clinical psychology* (pp. 857-884). Hoboken, NJ: John Wiley & Sons, Inc.
- Barnett, J. E., & Chesney, J. L. (2009). Preventing and addressing impaired professional competence among graduate students in psychology. *Psychotherapy Bulletin, 44*, 22-26.
- Barnett, J. E., Johnston, L. C., & Hillard, D. (2006). Psychotherapist wellness as an ethical imperative. *Innovations in Clinical Practice: Focus on Health and Wellness, 257-271*.

- Cahir, N., & Morris, R. D. (1991). The psychology student stress questionnaire. *Journal of Clinical Psychology, 47*, 414-417. doi: 10.1002/1097-4679(199105)47:3<414::AID-JCLP2270470314>3.0.CO;2-M
- Carlson, L. E., Speca, M., Patel, K. D., & Goodesy, E. (2003). Mindfulness-based stress reduction in relation to quality of life, mood, symptoms of stress, and immune parameters in breast and prostate cancer outpatients. *Psychosomatic Medicine, 65*, 571-581. doi: 10.1097/01.PSY.0000074003.35911.41
- Case, P. W. (2001). Spiritual coping and well-functioning among psychologists. *Journal of Psychology & Theology, 29*, 29-41.
- Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2003). *Applied multiple regression/correlation analysis for the behavioral sciences* (3<sup>rd</sup> ed.). New York: Taylor & Francis.
- Cohen, S., Karmarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior, 24*, 385-396. doi: 10.2307/2136404
- Committee on Women in Psychology (CWP) (2002). *2002 Annual Report*. Retrieved from <http://www.apa.org/pi/wpo/2002activities.html>
- Coster, J. S., & Schwebel, M. (1997). Well-functioning in professional psychologists. *Professional Psychology: Research and Practice, 28*, 5-13. doi: 10.1037/0735-7028.28.1.5
- Cushway, D. (1992). Stress in clinical psychology trainees. *British Journal of Clinical Psychology, 31*, 169-179. doi: 10.1111/j.2044-8260.1992.tb00981.x
- Daniels, K., & Guppy, A. (1993). Occupational stress, social support, job control and psychological well-being. *Human Relations, 47*, 1523-1544. doi: 10.1177/001872679404701205

- Dubois, E. J. (2006). *Assessment of health-promoting factors in college students' lifestyles* (Doctoral dissertation). Retrieved from Proquest, UMI Dissertations Publishing (3225260)
- Dyrbye, L. N., Thomas, M. R., Eacker, A., Harper, W., Massie, F. S., Power, D. V.,...Shanafelt, T. D. (2007). Race, ethnicity, and medical student well-being in the United States. *Archives of Internal Medicine, 167*, 2103-2109. doi: 10.1001/archinte.167.19.2103
- El-Ghoroury, N. H., Galper, D. I., Sawaqdeh, A., & Bufka, L. F. (2012). Stress, coping, and barriers to wellness among psychology graduate students. *Training and Education in Professional Psychology, 6*, 122-134. doi: 10.1037/a0028768
- Eyer, D. E. (1996). *Motherguilt*. New York: Times Books, a division of Random House, Inc.
- Feminist Therapy Institute. (1990). Feminist Therapy Institute Code of Ethics. In H. Lerman & N. Porter (Eds.), *Feminist Ethics in Psychotherapy*. (pp. 97-101). Springer: New York.
- Fouad, N. A., Grus, C. L., Hatcher, R. L., Kaslow, N. J., Smith Hutchings, P., Madson, M.B.,... Crossman, R.E. (2009). Competency benchmarks: A model for understanding and measuring competence in professional psychology across training levels. *Training and Education in Professional Psychology, 3*, S5-S26. doi: 10.1037/a0015832
- Galanakis, M., Stalikas, A., Kallia, H., Karagianni, C., & Karela, C. (2009). Gender differences in experiencing occupational stress: The role of age, education, and marital status. *Stress and Health, 25*, 397-404. doi: 10.1002/smi.1248
- Goncher, I.D., Sherman, M.F., Barnett, J.E., & Haskins, D. (2013). Programmatic perceptions of self-care emphasis and quality of life among graduate trainees in clinical psychology: The mediational role of self-care utilization. *Training and Education in Professional Psychology, 7*, 53-60.

- Graham, J. J., & Kim, Y. (2011). Predictors of doctoral student success in professional psychology: Characteristics of students, programs, and universities. *Journal of Clinical Psychology, 67*, 340-354. doi: 10.1002/jclp.20767
- Haase, R. F., & Ellis, M. V. (1987). Multivariate analysis of variance. *Journal of Counseling Psychology, 34*, 404–413. doi:10.1037/0022-0167.34.4.404
- Haase, R. F., Ellis, M. V., & Ladany, N. (1989). Multiple criteria for evaluating the magnitude of effects. *Journal of Counseling Psychology, 36*, 511-516.
- Haase, R. F., Martens, M. P., Ferrier, A. G., & Corbett, K. (2005). Some observations on a quarter of a century of magnitude of effects published in the *Journal of Counseling Psychology*: 1983–2002. Unpublished manuscript.
- Hoffman, M. A., & Driscoll, J. M. (2000). Health promotion and disease prevention: A concentric biopsychosocial model of health status. In S. D. Brown & R. W. Lent (Eds.), *Handbook of counseling psychology* (3<sup>rd</sup> ed.), (pp. 532-567). Hoboken, NJ: John Wiley & Sons.
- Holland, B. S., & Copenhaver, M. D. (1988). Improved Bonferroni-type multiple testing procedures. *Psychological Bulletin, 104*, 145-149.
- Hoschschild, A. (1989). *The second shift*. New York: Avon Books.
- Johnson, W. B., Barnett, J. E., Elman, N. S., Forrest, L., & Kaslow, N. J. (2012). The competent community: Toward a vital reformulation of professional ethics. *American Psychologist, 67*, 557 - 569.
- Lawson, G., & Myers, J. E. (2011). Wellness, professional quality of life, and career-sustaining behaviors: What keeps us well? *Journal of Counseling and Development, 89*, 163-171.
- Lazarus, R. S. (1966). *Psychological stress and the coping process*. New York: McGraw-Hill.

- Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. New York: Springer Publishing.
- Leidy, N. K. (1994). Operationalizing Maslow's theory: Development and testing of the basic need satisfaction inventory. *Issues in Mental Health Nursing, 15*, 277 - 295.
- Lerner, J. V. (1994). *Working women and their families*. Thousand Oaks, CA: Sage.
- Lin, N., & Ensel, W. M. (1989). Life stress and health: Stressors and resources. *American Sociological Review, 54*, 382-399. doi: 10.2307/2095612.
- Lindgren, K. (2005). Testing the Health Practices in Pregnancy Questionnaire-II, *Journal of Obstetric, Gynecologic, and Neonatal Nursing, 34*, 465-472.
- Little, R. J. A. (1988). A test of missing completely at random for multivariate data with missing values. *Journal of the American Statistical Association, 83*, 1198-1202.
- McClelland, G. H., & Judd, C. M. (1993). Statistical difficulties of detecting interactions and moderator effects. *Psychological Bulletin, 2*, 376-390. doi: 10.1037/0033-2909.114.2.376
- McEwen, B. S. (2008). Central effects of stress hormones in health and disease: Understanding the protective and damaging effects of stress and stress mediators. *European Journal of Pharmacology, 583*, 174-185. doi: 10.1016/j.ejphar.2007.11.071
- McKinzie, C., Altamura, V., Burgoon, E., & Bishop, C. (2006). Exploring the effect of stress on mood, self-esteem, and daily habits with psychology graduate students. *Psychological Reports, 99*, 439-448. doi: 10.2466/PR.99.2.439-448
- Myers, S. B., Sweeney, A. C., Popick, V., Wesley, K., Bordfeld, A., & Fingerhut, R. (2012). Self-care practices and perceived stress levels among psychology graduate students. *Training and Education in Professional Psychology, 6*, 55-66. doi: 10.1037/a0026534

- Nelson, N. G., Dell'Oliver, C., Koch, C., & Buckler, R. (2001). Stress, coping, and success among graduate students in clinical psychology. *Psychological Reports, 88*, 759-767. doi: 10.2466/pr0.2001.88.3.759
- Nyklicek, I., & Kuijpers, K. F. (2008). Effects of mindfulness-based stress reduction intervention on psychological well-being and quality of life: Is increased mindfulness indeed the mechanism? *Annals of Behavioral Medicine, 35*, 331-340. doi: 10.1007/s12160-008-9030-2
- Offstein, E. H., Larson, M. B., McNeill, A. L., & Mwale, H. M. (2004). Stress, coping, and success among graduate students in clinical psychology. *Psychological Reports, 88*, 759-767.
- Oliver, M. N. I., Bernstein, J. H., Anderson, K. G., Blashfield, R. K., & Roberts, M. C. (2004). An exploratory examination of student attitudes toward "impaired" peers in clinical psychology training programs. *Professional Psychology: Research and Practice, 35*, 141-147. doi: 10.1037/0735-7028.35.2.141
- Oswalt, S. B., & Riddock, C. C. (2007). What to do about being overwhelmed: Graduate students, stress and university services. *College Student Affairs Journal, 27*, 24-44.
- Pender, N. J., Murdaugh, C., & Parsons, M. (2010). *Health promotion in nursing practice* (6th ed.). Upper Saddle River, NJ: Prentice Hall.
- Schoormans, D., & Nyklicek, I. (2011). Mindfulness and psychological well-being: Are they related to type of meditation technique practiced? *Journal of Alternative and Complementary Medicine, 17*, 629-634. doi: 10.1089/acm.2010.0332
- Serlin, R. C., & Lapsley, D. K. (1985). Rationality in psychological research: The good-enough principle. *American Psychologist, 40*, 73-83.

- Shadish, W., Cook, T., & Campbell, D. (2002). *Experimental and quasi experimental designs for generalized causal inference*. Boston: Houghton Mifflin.
- Shapiro, S. L., Warren Brown, K., & Biegel, G. M. (2007). Teaching self-care to caregivers: Effects of Mindfulness-Based Stress Reduction on the mental health of therapists in training. *Training and Education in Professional Psychology, 1*, 105-115. doi: 10.1037/1931-3918.1.2.105
- Sherman, M. D., & Thelen, M. H. (1998). Distress and professional impairment among psychologists in clinical practice. *Professional Psychology: Research and Practice, 29*, 79-85. doi: 10.1037/0735-7028.29.1.79
- Skevington, S. M., Lofty, M., & O'Connell, K. A. (2004). *The World Health Organization's WHOQOL-BREF quality of life assessment: Psychometric properties and results of the international field trial*. A report from the WHOQOL Group. *Quality of Life Research, 13*, 299-310. doi: 10.1023/B:QURE.0000018486.91360.00
- Stark, M.A., Hoekstra, T., Lindstrom Hazel, D., & Barton, B. (2012). Caring for self and others: Increasing students' healthy behaviors. *Social Work Faculty Publications, 42*, 393-401. doi: 10.3233/WOR-2012-1428
- Stoup, C. M., & Benjamin, L. T. (1982). Graduate study in psychology. *American Psychologist, 37*, 1186-1202.
- Stuifbergen, A. K., & Becker, H. (2001). Health promotion practices of women with multiple sclerosis. *Archives of Physical Medicine and Rehabilitation Clinics of North America, 12*, 9-22.

Walker, S. N., Sechrist, K. R., & Pender, N. J. (1987). The health-promoting lifestyle profile: development and psychometric characteristics. *Nursing Research*, 36, 76-81. doi: 10.1097/00006199-198703000-00002

Whitman, N. A., Spendlove, D. C., & Clark, C. H. (1984). *Student stress: Effects and solutions*. Association for the Study of Higher Education—ERIC Clearinghouse on Higher Education, Washington DC, Report No. 2.



**Table 1**

Table 1

Mean scores and SD on Subscales of Health Promotion Lifestyle Profile II

Subscale	<i>M</i>	<i>SD</i>
Health Responsibility	2.01	0.57
Physical Activity	2.22	0.72
Nutrition	2.62	0.56
Spiritual Growth	3.00	0.53
Interpersonal Relationships	3.11	0.53
Stress Management	2.29	0.50

*Note.* *M* = Mean; *SD* = Standard Deviation. 1 = never, 2 = sometimes, 3 = often, 4 = routinely.

**Table 2**

Table 2

Intercorrelations and Descriptive Statistics for Study Variables

	1	2	3	4	5	<i>M</i>	<i>SD</i>
1 PSS						26.62	7.46
2 HPLPII	-.55*					2.54	0.42
WHOQOL-BREF							
3 Psychological	-.70*	.62*				62.25	15.38
4 Social	-.44*	.48*	.56*			65.60	21.03
5 Physical	-.55*	.59*	.59*	.40*		73.11	14.05
6 Environmental	-.55*	.55*	.57*	.42*	.46*	67.41	13.83

*Note.*  $N = 558$ . PSS = Perceived Stress Scale (Cohen et al., 1983); HPLPII = Health Promotion Lifestyle Profile II (Walker et al., 1995); WHOQOL-BREF = World Health Organization Quality of Life- Brief Scale (Skevington et al., 2004).

\* $p < .001$ .

**Table 3**

Table 3

Summary of Multivariate Regression Analysis

<i>Multivariate</i>						
Variable	Pillai's $V$	$F(4, 551)$	$\eta_{MV}^2$	$\hat{\rho}^2$	$p$	95% CI
Full Model	0.67	39.89	.224	.219	<.0001	[.17, .27]
HPLPII	0.02	2.85	.002	.001	.023	[.00, .00]
PSS	0.05	7.29	.050	.043	<.001	[.01, .07]
PSS x HPLPII	0.00	0.65	.005	.000	.627	[.00, .00]

*Note.*  $N = 558$ .  $\eta_{MV}^2$  is the multivariate effect size.  $\hat{\rho}^2$  is the shrunken multivariate eta squared. CI

= Confidence Interval. PSS x HPLPII = interaction term (Perceived Stress Scale x Health Promotion Lifestyle Profile II)

**Table 4**

**Table 4**

Descriptive Statistics for Supplemental Self-Care Questions

Item	M	SD
To what extent do you engage in self-care?	4.74	1.36
To what extent does your doctoral program explicitly encourage self-care?	3.94	1.72
To what extent does your program support family and personal responsibilities?	3.85	1.63
To what extent are your faculty sensitive to the unique needs of women?	3.72	1.65
To what extent do your faculty model self-care?	3.67	1.55

*Note.* 1 = not at all, 4 = moderately, 7 = frequently

## Appendix A

### Demographic Questionnaire

1. What is your age? \_\_\_\_\_ (18-90)
2. What is your racial background? \_\_\_\_\_ (drop down menu)
3. What is your ethnic background? \_\_\_\_\_ (drop down menu)
4. What is your spiritual/religious affiliation? \_\_\_\_\_ (drop down menu)
5. How many years and months have you completed in your professional psychology doctoral program? (If in program for 2 years and 7 months, please enter “2, 7”)
6. Are you full- or part-time?
  7. Current level of training:
    - a. Doctoral student, entered program with bachelor’s degree
    - b. Doctoral student, entered program with master’s degree
  8. Field of study:
    - a. Counseling psychology
    - b. Clinical psychology
    - c. School psychology
    - d. Other: \_\_\_\_\_
  9. Degree:
    - a. PhD
    - b. PsyD
    - c. EdD
    - d. Other: \_\_\_\_\_
10. Marital Status: (single, committed relationship, separated, widowed, engaged, married, divorced, civil union, domestic partnership)
11. Do you live with your partner?
  - a. Yes
  - b. No

12. Do you have children?
- If yes, how many? \_\_\_\_\_ (0-15)
  - How many reside with you? \_\_\_\_\_ (0-15)
13. Approximately what percentage of chores (e.g., laundry, dishes, cleaning, childcare) do you do at home? \_\_\_\_\_ (0-100%)
- Given the people in your household, is this an even distribution of chores?
14. At what level of training are you currently?
- |  |   |
|--|---|
| a. none currently  | c. practicum                              |
| b. pre-practicum (training for<br>practicum, no<br>caseload/official site) | d. pre-doctoral internship<br>e. post-doc |
15. Are you currently seeing clients? \_\_\_\_\_
- If yes, how many? \_\_\_\_\_ (continuous)
  - How many years and months of supervised clinical experience do you have?  
Please enter the number of years followed by a comma and the number of months  
(e.g., 2,7).
16. Which of the following activities are you currently engaged in, in a typical week?
- |  |   |
|--|---|
| <input type="checkbox"/> Attending class                                       | <input type="checkbox"/> Teaching (check box)                                       |
| <input type="checkbox"/> At training site/practicum                            | <input type="checkbox"/> Professional<br>service/committee                          |
| <input type="checkbox"/> Assistantship   | <input type="checkbox"/> involvement (e.g., American<br>Psychological Association): |
| <input type="checkbox"/> Job outside of the<br>university (full- or part-time) | <input type="checkbox"/> Other: _____   |
| <input type="checkbox"/> Conducting research                                   |   |

17. When reflecting on the past month, did you (a) experience substantial stressors that dissipated in the past two weeks, or (b) experience a substantial increase in stressors over the past two weeks that were not present a month ago?

a. yes

b. no

c. unsure

18. *Self-care is defined as behaviors that promote health, wellness, and quality of life.*

*Such behaviors can include exercise, healthy diet, spiritual practice, and taking time for family or friends.*

19. To what extent do you engage in self-care? (1 = not at all, 4 = moderately, 7 = frequently)

20. To what extent does your doctoral program explicitly encourage self-care? (1 = not at all, 4 = moderately, 7 = frequently)

21. To what extent does your program support family and personal responsibilities? (1 = not at all, 4 = moderately, 7 = frequently)

22. To what extent are your faculty sensitive to the unique needs of women? (1 = not at all, 4 = moderately, 7 = frequently)

23. To what extent do your faculty model self-care? (1 = not at all, 7 = totally)

24. Aside from behaviors mentioned in the survey that you just took, what do you do for self-care?

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*Please place a checkmark next to experiences you have had since entering your current doctoral program:*

25.  Relocated geographically:

To another city?

State?

Country?

26.  Moved away from partner/spouse

27.  Moved away from children

28.  Got married

29.  Moved in with partner/spouse

30.  Got separated, divorced, and/or ended relationship with partner/spouse

31.  Became pregnant

32.  Gave birth to or adopted child(ren) (how many? \_\_\_\_\_)

33.  Experienced death of a loved one

34.  Been hospitalized

35.  Took out loans

36.  Additional stressors that weren't mentioned:

\_\_\_\_\_

37. Which of the above experiences do you believe was most stressful?



## Appendix B

### Email Solicitation

Greetings!

My name is Erin Ayala, and I am a doctoral candidate in counseling psychology at University at Albany. As a part of my dissertation research, I am interested in understanding the experiences of women who are doctoral students enrolled in clinical, counseling, and school psychology programs—particularly the stress and well-being of such women. As more women continue to pursue doctoral degrees in professional psychology, I believe it is increasingly important to understand their unique experiences.

Women who meet inclusion criteria and who are interested in participating will be invited to complete four surveys that speak to their current perceptions of stress, self-care habits, and quality of life. After responding to all questions, ***you will be invited to select one of five charities to which the primary investigator will donate a small sum of money***, in order to continue to support the unique needs of women. Because I need 300 participants, a total of \$600 will go to charity for participants' efforts.

Participation will be voluntary and confidential, and participants are free to skip questions or end their participation at any time. If you identify as a woman; are at least 18 years of age; and are currently enrolled in a doctoral program (PhD or PsyD) in clinical, counseling, or school psychology, I encourage you to participate in the study! If you know others who may be interested in contributing to this study, please forward this email to them and encourage them to contribute.

Please don't hesitate to contact me at [ering@albany.edu](mailto:ering@albany.edu) with questions, concerns, or the desire for more information.

The link to the study is as follows: <https://www.psychdata.com/s.asp?SID=156658>.

Please forward this email to at least five other women you know who are pursuing doctoral degrees in clinical, counseling, or school psychology. It seems one of the best ways to recruit participants is by personal contact, so I am asking you to personally invite five other students you know to participate in this study.

Thank you for your valuable time and consideration!

Erin Ayala  
Doctoral Candidate  
Division of Counseling Psychology  
University at Albany, State University of New York

## **Appendix C**

### **Informed Consent**

#### **Introduction:**

You are being asked to participate in this research study because you are a woman enrolled in a doctoral program in clinical or counseling psychology. Participation is voluntary and confidential. The project serves as the focus of my dissertation, so I strongly appreciate your time and consideration to participate.

#### **Why is this study being done?**

Given the unique experiences and stressors of women in clinical, counseling, and school psychology programs, the purpose of this study is to understand the stress levels, self-care activities, and well being of women in professional psychology.

#### **What are the study procedures? What will I be asked to do?**

Upon beginning participation in this study, you will be invited to respond to four questionnaires that include items on your experiences in your doctoral program thus far, especially as they relate to stress, self-care, and well-being. After responding to all questions, you will be invited to select one of five charities to which the primary investigator will donate a designated amount of money, in order to continue to support the unique needs of women.

#### **How long will it take?**

Participation will take approximately 15 minutes of your time.

**What are the benefits?**

Aside from the opportunity to donate a small sum of money to charity, information will hopefully lead to a stronger understanding of women in professional psychology doctoral programs navigate the unique stressors faced during their studies. Such information will also be helpful in understanding the training needs of students and how to promote well being of female doctoral students in psychology.

**What are the risks or inconveniences of participating?**

There are no expected risks to participating in the study, though some questions may draw attention to your levels of stress, self-care, and overall well-being. Should you feel the need to process the experience or talk about feelings of discomfort, please contact your training program's university or college counseling center.

**How will my privacy be protected?**

Women who choose to participate will respond to questions on a secure, password-protected website designed for confidential data collection. Participants will not be identifiable, and demographics will be used only in aggregate form as descriptive information.

**Will I receive payment for participation? Are there costs to participate?**

Participants will not receive payment for participation, and will instead be encouraged to donate a designated sum of money to their charity of choice. The only cost of participation will be time. Participation will take approximately 15 minutes. Note that you can choose to end your participation at any time without facing any penalties.

**How will my personal information be protected?**

All information obtained in this study is strictly confidential unless disclosure is required by law. In addition, the Institutional Review Board and University officials responsible for monitoring the study may inspect these records.

**Can I stop participating in the study and what are my rights?**

Participation in this research is entirely voluntary. Even after you agree to participate in the research, you may decide to leave the study at any time without penalty or loss of benefits to which you may otherwise have been entitled. You should also be aware that the investigator may withdraw you from participation at her professional discretion.

**Who do I contact if I have questions about the study?**

Please don't hesitate to contact the researcher ([ering@albany.edu](mailto:ering@albany.edu)) or her dissertation chair, Michael V. Ellis, Ph.D. ([mvellis@albany.edu](mailto:mvellis@albany.edu)) with questions or concerns.

**Whom do I contact if I have questions about my rights as a study participant?**

Research at the University at Albany involving human participants is carried out under the oversight of the Institutional Review Board (IRB). This research has been reviewed and approved by the IRB. If you have any questions concerning your rights as a research subject or if you wish to report any concerns about the study, you may contact University at Albany Office of Regulatory & Research Compliance at 1-866-857-5459 or [hsconcerns@albany.edu](mailto:hsconcerns@albany.edu).

**You may print a copy of this document to keep.**

**Appendix D**  
**Completion Page**

Thank you so much for your time!

To thank you for your participation, the primary investigator will donate \$2.00 to charity for every participant who completes the survey. Please choose your charity below:

1. MADRE.org: international women’s human rights organization that works in partnership with community-based women’s organizations worldwide to address issues of economic and environmental justice, women’s health and violence against women, and peace building.
2. Women for Women International: an international human rights organization that supports women in war-torn regions with financial and emotional aid, job-skills training, and rights education.
3. National Partnership for Women and Families: nonprofit organization that works to promote fairness in the workplace, access to quality and affordable healthcare, reproductive rights, and work and family policies.
4. The Polaris Project: nonprofit organization committed to combating human trafficking and modern-day slavery, and to strengthening the anti-trafficking movement in a comprehensive manner.
5. Breast Cancer Research Foundation: nonprofit organization that works to promote breast cancer prevention by increasing public awareness and by providing funding needed to perform innovative clinical and translational research at medical centers throughout the world.