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Stress, Cognitive Distortions, Engagement in Self-care, and Burnout in Psychology Graduate Students

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Philadelphia College of Osteopathic Medicine
School of Professional and Applied Psychology

STRESS, COGNITIVE DISTORTIONS, ENGAGEMENT IN SELF-CARE, AND
BURNOUT IN PSYCHOLOGY GRADUATE STUDENTS

Lauren Matturro

Submitted in Partial Fulfilment of the Requirements for the Degree of

Doctor of Psychology

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SCHOOL OF
PROFESSIONAL AND
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DISSERTATION APPROVAL

This is to certify that the thesis presented to us by Christina Vroman

on the 9th day of May 2019, in partial fulfillment of the

requirements for the degree of Doctor of Psychology, has been examined and is

acceptable in both scholarship and literary quality.

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Abstract

Psychology graduate students are tasked with finding a balance between academic responsibilities, clinical training, home life, time constraints, and financial concerns. These competing demands lead to stress, which is well documented in medical students with similar workloads, but understudied in psychology graduate students. Previous studies indicate that perceived stress can be linked to prevalence of an individual's cognitive distortions. Additionally, stress within the human service fields often leads to burnout. Self-care is widely recognized as a preventative effort against developing burnout. However, as students have limited time, they may find engaging in self-care activities to be difficult. The purpose of the current study was to demonstrate the relationship between stress, cognitive distortions, and self-care and their ability to predict burnout in psychology graduate students. Results demonstrated that these constructs are correlated and predictive of two of the three components of burnout, emotional exhaustion and depersonalization. Additionally, time constraints and financial concerns were identified as the two largest stressors for psychology graduate students. These findings provide insight into the experience of psychology graduate students, and recommendations are offered to improve their well-being.

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Chapter 1: Introduction

Statement of the Problem

Psychology graduate students are tasked with finding a balance between academic responsibilities, clinical training, home life, time constraints, and financial concerns. For example, more than three quarters of psychology graduate students have an average debt of \$100,603.79 owing to educational costs and have student loan payments of \$402.19 per month (Doran, 2016), leaving students financially strained. Negotiating these areas is difficult, and stress experienced by psychology graduate students has interested researchers for at least the past 2 decades (Cushway, 1992). In addition to stress, students in the mental-health field also experience compassion fatigue, vicarious trauma (Rummel, 2015; Shannon, Simmelink-McCleary, Im, Becher, & Crook-Lyon, 2014b), decreased physical health, and decreased mental health (Rummel, 2015). In fact, a recent poll of students in programs accredited by the American Psychological Association (APA) found more than half of students endorsed physical symptoms of feeling easily fatigued, headaches, back pain, and irritable bowels, and psychological symptoms of fatigue, feeling overly stressed, feeling anxious or worried, irritability, difficulty concentrating, lack of motivation, sleep difficulties, and increased appetite, all of which are likely the result of stress (Rummel, 2015). If stress is viewed through the conservation of resources theory (Hobfoll, 1989), graduate psychology students often find themselves lacking “energies” resources like time, money, and knowledge.

Students may also find that the way they view the world and themselves, referred to by Hobfoll (1989) as personal characteristics, may be impacting their stress levels. Errors of logic in persons’ ways of viewing the world and themselves, or cognitive

distortions, affect their experience of stress (Coban, 2013; Hammen, 1978; Sowa & Lustman, 1984), and according to Beck's model, they are considered important factors in the development of depression and other psychopathology (Gilbert, 1998; Lefebvre, 1981). Although the literature suggests a relationship between stress and cognitive distortions (Coban, 2013; Hammen, 1978; Sowa & Lustman, 1984), to date, no one has looked at cognitive distortions in the often-stressed population that is psychology graduate students.

High stress levels can increase students' chances of experiencing burnout (El-Ghoroury, Galper, Sawaqdeh, & Bufka, 2012). Burnout is indicated by "emotional exhaustion, depersonalization (approaching others negatively and treating them as objects), and reduced motivation and sense of achievement" (Butler, Carello, & Maguin, 2016, p. 2). Professional psychologists in a variety of settings have reported experiencing burnout (Clark, Murdock, & Koetting, 2009). According to Rodolfa, Kraft, and Reilley (1988), professional psychologists experience less stress than interns or practicum students, with the least experienced of the group reporting the highest stress. Therefore, one could expect that graduate-level psychology students should experience burnout as well, considering their high levels of stress. Burnout and stress are concerning because they can lead clinicians to be ineffective in their clinical practices and to make poor, and even unethical, decisions (El-Ghoroury et al. 2012).

Because inexperience is associated with higher levels of burnout (Butler et al., 2016), students learning coping strategies for stress associated with their new roles as clinicians while they still have support from faculty and supervisors may help protect them from burning out. One way to combat stress and burnout is engaging in self-care

(Butler et al., 2016). Self-care is defined as “engagement in behaviors that maintain and promote physical and emotional well-being and may include factors such as sleep, exercise, use of social support, emotion regulation strategies, and mindfulness practice” (Myers et al., 2012, p. 56). Research shows that higher engagement in self-care is associated with lower levels of perceived stress (Myers et al., 2012). In addition, self-care is positively correlated with improved ethical decision making (Bamonti et al., 2014) and is even suggested as a possible preventative measure for suicide in professional psychologists (Kleespies et al., 2011). Investigation of student self-care engagement, specific practices, and interventions often focuses on medical and social-work students (Butler et al., 2016; Dobkin & Hutchinson, 2013; Dyrbye & Shanafelt, 2011; Gockel, Burton, James, & Bryer, 2013; Greeson, Toohey, & Pearce, 2015; Kligler, Linde, & Katz, 2013; Kushner, Kessler, & McGaghie, 2011), so more research on the population of psychology graduate students is needed (Bamonti et al., 2014; Myers et al., 2012).

Because self-care positively impacts psychology students’ and psychologists’ levels of stress (Myers et al., 2012) and their abilities to perform both academically and as clinicians (Bamonti et al., 2014; Pakenham & Stafford-Brown, 2012; Slade & Kies, 2015), more proactive self-care engagement throughout graduate training is recommended (Bamonti et al., 2014). Research into incorporation of self-care in graduate programs has increased over time (Christopher & Maris, 2010; Gockel et al., 2013; Kushner, Kessler, & McGaghie, 2011; Pakenham, 2015; Shannon et al., 2014a). However, although program emphasis on self-care is positively correlated with both quality of life and use of self-care in students (Goncher, Sherman, Barnett, & Haskins, 2013), many programs may not be placing enough emphasis on self-care, as indicated by

the small number of programs that reference self-care in a general program handbook or in a clinical training area (Bamonti et al., 2014).

Literature Review

Stress in Graduate Students

An early study investigating stress in psychology graduate students used a sample size of only 22 students from various areas of interest in psychology (clinical, developmental, social, cognitive, and biopsychology; Goplerud, 1980). Despite the small sample size in this study, Goplerud (1980) provided early evidence for the relationship between graduate school and stress. Stress levels of first-year students were determined by recording and rating stressful life events over a 6-month period. Of those life events, 57% of all events and 59% of events rated as intense events specifically related to graduate school. Additionally, the higher the number of intense stressful life events students endorsed, the more health and emotional problems they had (Goplerud, 1980). Cushway (1992) later studied stress in a larger sample of 287 psychology graduate students. Students were asked to self-report their levels of stress as a result of their clinical training. Seventy-five percent of psychology graduate students said they were moderately or very stressed and second- and third-year students reported more stress than did first-year students (Cushway, 1992). Specific stressors reported by these students included poor supervision, traveling, deadlines, lack of finance, moving, separation from partner, and academic work. In one survey, close to half of psychology graduate students had to delay personal milestones because of their financial situations and reported significant financial stress (Dorociak, Rupert, & Zahniser, 2017). This population has been found to be more stressed than undergraduate students (Wyatt & Oswalt, 2013),

with 10.3% of graduate students endorsing tremendous stress and 44.2% endorsing more-than-average stress. Additionally, early-career and midcareer psychologists report more frequent experience of poor mental health and greater perceived stress than do late-career psychologists (Dorociak et al., 2017), suggesting that fewer years of experience may be a risk factor for significant stress.

Rummel (2015) explored the physical symptoms associated with stress, including feeling easily fatigued, headaches, back pain, irritable bowels, muscle soreness, stomach upset, and weight gain or loss, and found that more than half of psychology graduate students surveyed endorsed these symptoms. Psychology graduate students reported numerous physical symptoms of stress, specifically in regard to experiencing fatigue, headaches, back pain, and irritable bowels two or more times a week (Rummel, 2015). These physical symptoms suggest not only that students are under large amounts of stress, but also that they may increase students' stress levels. For example, fatigue and headaches may interfere with students' abilities to complete their academic responsibilities or to be present in a session with a client; back pain may result from and may make it difficult for students to sit for long periods of time while studying, writing, or providing services to clients; and irritable bowels, depending on severity, may make sitting in a room with clients back to back without opportunities for use of the bathroom difficult for students. Additionally, according to Van Berkel & Reeves (2017), graduate students sleep an average of 6.8 hours a night, and participate in vigorous exercise only 0.05 hours and in very vigorous activity only 0.01 hours a week, both well below healthy sleep and exercise recommendations. All these physical concerns can leave students feeling depleted and stripped of their resources.

Conservation of Resources Theory of Stress

Based on the conservation of resources theory of stress, which postulates that people try to develop, maintain, and protect resources and are therefore threatened by any real or potential loss of said resources, stress can be understood as “a reaction to the environment in which there is (a) the threat of a net loss of resources, (b) the net loss of resources, or (c) a lack of resource gain following the investment of resources” (Hobfoll, 1989, p. 516). Hobfoll (1989) defined resources as “those objects, personal characteristics, conditions, or energies that are valued by the individual or that serve as a means for attainment of these objects, personal characteristics, conditions, or energies” (p. 516). Object resources may offer direct value, secondary value, or both. For example, all shelter has value, but larger or fancier homes have additional value because they show someone’s social status. Personal characteristics, as resources, are positive ways in which one views the world and oneself. Conditions include marriage, tenure, and seniority, and their value to the individual is predictive of their stress-resistance potential (Hobfoll, 1989). Lastly, energies refers to such resources as time, money, and knowledge. Unlike personal characteristics, energies are not intrinsically valuable, but rather provide individuals with means to access other resources. Social support can also be a resource, provided that it increases access to or preservation of one’s other resources. However, social relationships can also deplete resources (Hobfoll, 1989). Hobfoll (1989) noted that when individuals were asked to provide support to others when they also were in need of support, the individuals became more distressed. This finding and the conservation of resources theory provide a framework by which psychology graduate student stress can be viewed. Psychology graduate students have to balance coursework,

research, financial concerns, home life, time constraints, and their clinical training. They have reported stress related to each of these areas (El-Ghoroury et al., 2012), and according to the conservation of resources theory (Hobfoll, 1989), their situations are unique in that the empathy and support required of psychology graduate students in their clinical roles result in further psychological distress.

Cognitive Distortions and Stress

According to Beck's model, cognitions and beliefs are integral in developing and maintaining depression (Lefebvre, 1981), as well as a variety of other types of psychopathology (Gilbert, 1998). Errors of logic are referred to as cognitive distortions, which are believed to filter people's perceptions of themselves and the world around them. Originally, Beck (1967) identified six cognitive distortions: (a) dichotomous thinking, (b) arbitrary inference, (c) minimization and magnification, (d) overgeneralization, (e) personalization, and (f) selective abstraction. Later, Burns (1980) added to and altered these labels, using a more colloquial vernacular. These included (a) all-or-nothing thinking, (b) discounting the positive, (c) emotional reasoning, (d) jumping to conclusions (e) labeling, (f) magnification or minimization (g) mental filter (h) overgeneralization (i) personalization and (j) should statements. Three more cognitive distortions were added by Freeman and DeWolf (1990, 1992) and Freeman and Oster (1999) that focused more on thinking errors related to relationships with other: (a) comparison, (b) externalization of self-worth, and (c) perfectionism (as cited in Rosenfield, 2004).

Gilbert (1998) looked at cognitive distortions from an evolutionary prospective, described as follows:

1. **Attentional Biases.** This cognitive distortion refers to focusing more on the negative aspects of a situation. It can happen without conscious awareness and serves the evolutionary purpose of allowing the individual to quickly assess a situation for signs of danger.
2. **Jumping to Conclusions.** This cognitive distortion is evolutionarily similar to attentional biases. It again serves the purpose of determining “threat or no threat,” but jumping to conclusions refers more to categorical thinking than to the detail-oriented thinking of attentional biases. Additionally, people may use this thinking error to support the labelling of a group of people and discriminating against them.
3. **All-or-Nothing Thinking.** Another categorical cognitive distortion, all-or-nothing thinking, is also known as black-or-white thinking. Gilbert (1998) noted that people are more likely to engage in this kind of cognitive distortion when they are in an environment where they feel threatened.
4. **Emotional Reasoning.** Emotional reasoning is a cognitive distortion that was once adaptive, but is less adaptive in today’s world. Gilbert (1998) used an example of going out and searching for a missing loved one who is late to return home. The individuals who exhibited this kind of prosocial behavior were probably more likely to survive than those who did not care to look for the other person or those who were too concerned about their own safety to try.
5. **Disqualifying the Positive.** Disqualifying the positive can be thought of as serving the adaptive function of “better safe than sorry.” For example, if a person is unsure of his or her abilities, erring on the side of caution may decrease their

risk of failure. Disqualifying the positive also may be socially adaptive, as it is related to modesty.

6. **Social Comparison.** People often compare themselves to others. They may see themselves and their relationships as being better or worse than those of others, thereby either improving their view of themselves or making themselves feel inadequate and unhappy. From an evolutionary perspective, social comparison serves to let animals know when engaging with another animal is safe. It allows them to evaluate whether or not they can get ahead of the other animal based on their relative strength.
7. **Self-Blame.** Self-blame can increase submissive behavior, an adaptive avoidance of conflict. It may also give individuals the perception that they have control over a negative outcome. However, self-blame is also known to increase experiences of some types of psychopathology.

All-or-nothing thinking, disqualifying the positive, social comparison, and self-blame may all potentially factor into the experience of a psychology graduate student. All-or-nothing thinking may appear when students have an assignment or client that is particularly difficult for them. For example, if a student has difficulty building rapport with a new client, he or she may ignore other client/clinician relationships and think, “I cannot connect with any of my clients.” Disqualifying the positive may occur when a client improves. The student treating the client may think, “Nothing I did contributed to this; it just happened spontaneously.” Throughout graduate school, students are constantly interacting with classmates, discussing cases, academic work, and personal lives. All this interaction with others in similar situations can lead to social comparison.

Students may think, “He has so much more experience than I do,” “She does everything I do and is raising children. Why do I feel like I am unable to start a family?,” or “He got a better grade, so he must be smarter.” All these thoughts can lead to feelings of inadequacy. Finally, self-blame may occur when clients relapse or their depression does not immediately improve. As new clinicians, students are vulnerable to taking on more personal responsibility for their clients’ difficulties and feeling personally at fault when they do not improve or when they have a setback.

An individual’s cognitive distortions can affect their experience of stress (Coban, 2013; Hammen, 1978; Sowa & Lustman, 1984). However, the relationship between stress and cognitive distortions is unclear in the research. Hammen (1978) compared depressed and nondepressed college students on stressful life events and cognitive distortions. The results of this study suggested that cognitive distortions were not present in nondepressed individuals regardless of whether they had high or low stressful life events, indicating that cognitive distortions may not relate to stress. However, the depressed individuals with high levels of stressful life events were less likely to have cognitive distortions than those with low levels of stressful life events. Hammen (1978) indicated that these findings may differentiate between two groups of depressed individuals: those who are depressed as a result of their cognitive distortions and those who are depressed as a result of stressful life events. Psychology graduate students have a 33 to 39% prevalence rate of depression (El-Ghoroury et al., 2012; Peluso, Carleton, & Asmundson, 2011; Rummell, 2015). According to the results of Hammen (1978), this high rate of depression in psychology graduate students may place them in the category of depressed as a result of stressful life events. However, Hammen (1978) assessed

stressful life events from the previous 6 months and noted “the possibility that depressed recent high life stress scorers simply have not yet developed patterns of depressive cognitive bias as measured by the present instrument” (p. 191). Psychology graduate students have likely been under stress throughout their academic careers, which would extend beyond the 6-month timeframe assessed by Hammen (1978). Therefore, they may have had sufficient time to develop cognitive distortions as a result of prolonged stress.

In terms of gender differences, Sowa and Lustman (1984) found that men were more likely to have cognitive distortions than women and to endorse more stressful life changes. However, women were more depressed and had high positive and negative evaluations of their stressors. This relationship between stress, cognitive distortions, and depression differs from the depressed group in Hammen (1978). While Hammen (1978) suggested that depressed participants fell into two categories, high cognitive distortions/low stressful life events and low cognitive distortions/high stressful life events, the men in Sowa and Lustman (1984) had high cognitive distortions and high stressful life events and the women were low in both cognitive distortions and stressful life events, yet were more depressed than the men. As the women evaluated their stressors more strongly than did the men (Sowa & Lustman, 1984), they may still fit the explanation suggested by Hammen (1978). Additionally, although Sowa and Lustman (1984) referred to their construct as cognitive distortions, they used the Automatic Thoughts Questionnaire, which may not have been an appropriate tool to measure cognitive distortions.

Burnout and Its Effects

With stress caused by the depletion of resources (Hobfoll, 1989) and potential for

experiencing cognitive distortions related to their novice practitioner status, psychology graduate students are at risk for burnout. Burnout in psychologists is characterized by depersonalization of clients, emotional exhaustion, and feeling a lack of personal accomplishment (Bearse, McMinn, Seegobin, & Free, 2013; Rupert, Stevanovic, & Hunley, 2009). Individuals experiencing emotional exhaustion may feel they have no resources left to give (Rupert et al., 2009), lack physical and emotional energy, and dread the workday (Clark et al., 2009). Symptoms of depersonalization include emotional coldness, seeing clients as objects (Clark et al., 2009), and having negative attitudes toward clients (Rupert, 2009). Lastly, feeling a lack of personal accomplishment refers to a decrease in one's feelings of success, work, and competence (Clark et al., 2009). Many human service providers experience burnout, potentially resulting from placing the needs of others before their own needs, feeling increased sensitivity to the environment and people, having to control one's own emotions when a client presents with trauma or other strong emotional experiences, managing negative client behaviors, completing large amounts of paperwork, being therapeutically unsuccessful, feeling isolated (Bearse et al., 2013), and balancing work and family (Rupert, 2009). Higher levels of emotional exhaustion and lower levels of personal accomplishment are reported in early-career psychologists than late-career psychologists (Dorociak et al., 2017). According to Balogun, Hoerberlein-Miller, Schneider, and Katz (1996); Haack (1998); Pines, Aronson, and Kafry (1981); and Tobin and Carson (1994), students are likely affected by burnout as well, reporting middle to upper levels of burnout as cited in Clark et al., 2009). Burnout is not experienced by all students, but Clark et al. (2009) found that in a sample of 284 counseling psychology doctoral students, global stress, advisor support, and

psychological sense of community predicted burnout. This evidence supports the relationship between stress, burnout, and the interpersonal aspects of self-care.

Bearse et al. (2013) found that burnout was the factor psychologists most frequently endorsed as having an effect on their therapeutic effectiveness. Burnout poses a potential risk to clients whose psychologists are unable to work to their full abilities; it contributes to a high turnover rate, increasing costs for employers, and is distressful to the practitioner experiencing it (Bearse et al., 2013). While counseling psychologists report experiencing burnout regardless of setting (Clark et al., 2009), evidence suggests that higher levels of burnout are present in psychologists who work in public agencies than in independent practice (Rupert et al., 2009). This finding and the greater sense of work accomplishment that independent practitioners experience coincide with public-agency psychologists endorsing less control, more hours of paperwork, more negative client behaviors, and fewer hours doing therapy (Rupert et al., 2009).

Self-Care

A primary recommendation for combating burnout is self-care (Badali & Habra, 2003; Norcross & Guy, 2007). Self-care can be considered an “ethical imperative” (Ayala & Almond, 2018, p. 177) and is associated with better self-compassion, decreased psychological distress, and improved life satisfaction (Colman et al., 2016). Self-care refers to “engagement in behaviors that maintain and promote physical and emotional well-being” (Myers et al., 2012, p. 56), and according to Colman et al. (2016), engaging in self-care is associated with better levels of psychological distress, GPA, stress, and life satisfaction in psychology graduate students such that “80% of those graduate students in professional psychology programs who engage in self-care activities would show better

outcomes than the average graduate student who does not engage in self-care” (p. 194). The same study found that graduate students primarily engaged in self-care in the forms of mindfulness, seeking social support, and “mixed” (exercise, holistic wellness intervention, etc.). However, there are many ways to engage in self-care that are not commonly recognized. Norcross and Guy (2007) recommended 12 categories of self-care: valuing the person of the psychotherapist, refocusing on rewards, recognizing the hazards, minding the body, nurturing relationships, setting boundaries, restructuring cognitions, sustaining healthy escapes, creating a flourishing environment, undergoing personal therapy, cultivating spirituality and mission, and fostering creativity and growth. Each of these strategies focuses on a different aspect of self-care and can be approached in a variety of ways.

Valuing the person of the psychotherapist essentially entails remembering that therapists are human. The main goal is to make a realistic assessment of one’s own needs. This goal can be accomplished by asking family, friends, and coworkers if they have noticed areas in which one may be neglecting self-care, self-monitoring, journaling, or otherwise tracking self-care, essentially assessing oneself as one would a patient. Once one finds areas in which one is lacking, improving upon those areas should be a priority (Norcross & Guy, 2007).

Refocusing on the rewards refers to attending to the positive aspects of a career as a therapist. This strategy involves reflecting on why one became a therapist to begin with, focusing on the joy one can experience by helping others, acknowledging and appreciating the freedom and independence that comes with the career, enjoying all the different experiences one is exposed to through one’s clients, allowing oneself to feel

intellectually stimulated by the work, experiencing emotional growth, and experiencing reinforcement for personality qualities that make one a good therapist (Norcross & Guy, 2007). Even in their short time spent in the field, psychology graduate students can lose sight of some of the reasons they initially became interested in psychology. Balancing a heavy workload of academic and clinical responsibilities may cloud a student's ability to appreciate some of the smaller, more pleasurable portions of working with clients.

Additionally, refocusing on the rewards can include acknowledging positive aspects of the career outside of daily work. For example, one's emotional growth gained through training as a therapist can have a positive impact on one's interpersonal relationships, potentially improving on the ability to be a partner, parent, or friend (Norcross & Guy, 2007). Being a therapist can also improve upon how one functions and reacts to stressors in one's own life. In fact, when compared with research psychologists, clinical psychologists reported that "their work has made them wiser and more aware, increased their capacity to enjoy life, improved their value system, and accelerated their psychological development" (Norcross & Guy, 2007, p. 30). Being a therapist can also help to give a person's life meaning through the act of helping others. Finally, Norcross and Guy (2007) referred to the public recognition therapists receive. Here, they are referring to when others acknowledge the difficulty of the job; appreciate the amount of education, time spent training, and emotional strength required to become a therapist; and when people ask therapists for advice or their opinions outside of the office. Psychology graduate students may experience this recognition when friends and family acknowledge the students' hard work, ask for their advice or opinion, or share their own experiences with mental health. Beyond just acknowledging the benefits therapists experience from

the job, refocusing on the rewards requires the individual to internalize these positive qualities and allow them to improve upon their self-care.

Norcross and Guy (2007) summed up the difficulties of being a therapist in regard to *recognizing the hazards*, noting the following:

[Therapists are] regularly engulfed by their clients' pain and disability, are routinely confronted by conscious and unconscious hostility, and are ethically bound to secrecy about the most troubling confessions and occasionally the most heinous of crimes. All of this is accomplished under unremitting pressure in frequently less than humane working conditions with interpersonally disturbed patients. Emotional depletion, physical isolation, and psychic withdrawal seem natural responses. (p. 35)

Focusing on the negative aspects of the job may seem counterintuitive to self-care, but acknowledging the difficulties in practice helps one to lower the impact the difficulties will inevitably have. Hazardous areas for mental health professionals include physical isolation, emotional isolation, difficult patient behaviors, less than favorable working conditions, responsibility for the patient's life, the industrialization of mental health, and burnout. However, this long list of hazards does not mean mental health professionals are without hope.

Norcross and Guy (2007) recommended a number of ways to respond to the hazards. The first of these is simple recognition of potential hazards and realizing that the struggle is not individual, but is an experience shared by all mental health professionals. The next protective action that can be taken is acceptance. Self-empathy is another important way to combat the hazards of being a mental health professional, as

is taking a team approach. Working with a team, especially when working with more difficult clients, can both lessen the workload and offer support to the mental health professional. Next, self-care should be tailored to the individual, making sure that the self-care strategies being used are targeting the needs of the individual mental health professional. Finally, looking at these hazards from a big picture perspective can help mental health professionals to see the balance between the positive and negative aspects of the profession, as well as to see that the hazards are often small and short lived in comparison to an individual's full career (Norcross & Guy, 2007). Psychology graduate students are at a particular advantage in regard to recognizing the hazards, in that the high level of supervision they receive during their training can help to combat the isolation many clinicians feel.

Minding the body is another strategy for engaging in self-care. This self-care strategy includes getting bodily rest, nutrition and hydration, exercise, and human contact. Bodily rest refers not only to sleep, but also to relaxation of the muscles. Mental health professionals often vicariously experience their patients' anxiety, in addition to spending large parts of their day in a seated position. Taking short walks between sessions and getting massages to relieve muscle tension are both ways to help with bodily rest. According to Norcross and Guy (2007), a 2% loss in one's body water can cause weakness and tiredness, so hydration is imperative to improve stamina. Additionally, mental health professionals often eat nutritionally poor or inadequate amounts of food during their workday, possibly leading to large, late, unhealthy meals at the end of the day. Putting in effort to improve eating habits throughout the day can help individuals avoid these late-night unhealthy meals. Exercise is another important part of minding the

body. It improves mental stamina, emotional mood, and physical stamina (Norcross & Guy, 2007). Finally, contact comfort and sexual gratification fulfill a biological need and therefore are an important piece of self-care as well (Norcross & Guy, 2007). Minding the body is of particular importance to psychology graduate students, as they often have full days of clinical practice followed by evenings of didactic training or academic work to complete. Making time to exercise and eat properly may be a struggle for these students, and purposeful steps need to be taken to ensure their needs are being met.

Nurturing relationships can help to replenish the resources that being a therapist depletes. Mental health professionals can find nurturing relationships at the workplace with their clinical colleagues; through peer support and supervision groups; in clinical teams; with other professionals in the community; and through supervisors, mentors, and potentially even clients. Outside of the workplace, Norcross and Guy (2007) recommended seeking nurturing relationships with a spouse or partner, family members, or friends, noting that spending time with these people is the highest rated career-sustaining behavior among psychotherapists and the highest rated self-care method among interns. Additionally, mental health professionals can seek support from colleague assistance programs, personal mentors, and personal psychotherapists (Norcross & Guy, 2007), or from students and classmates.

As with nurturing relationships, *setting boundaries* has implications both in and out of the office. In the office, setting boundaries includes defining one's role as a psychotherapist, often influenced by theoretical orientation and personal style; determining the number of hours to put into the work week; defining the role of the client by verbalizing expectations early on in the therapeutic relationship; defining the

boundaries of the treatment relationship; defining relationships with colleagues and staff; and defining boundaries with friends and family in the context of the office. Defining boundaries with family and friends in the office may mean having to schedule specific times to communicate with them, as spontaneous phone calls and visits are not really feasible. Outside of the office, it is important for mental health professionals to avoid falling into the role of therapist with their family and friends and instead find activities that are fulfilling. In regard to clients outside of the office, mental health professionals must be aware of multiple relationships and maintaining appropriate boundaries. Finally, having friends outside of the same profession can help mental health professionals maintain balance and avoid losing themselves to the therapist persona (Norcross & Guy, 2007). Setting boundaries may be difficult for students, as they often do not have a choice regarding setting their hours, may experience supervisors with poor boundaries, or may overcommit themselves in an attempt to stand out from classmates when applying to internship and postdoctoral positions.

Restructuring cognitions can be achieved by self-monitoring for cognitive errors and being aware of common irrationalities many mental health professionals hold, for example, thinking they must be constantly successful with every patient, making unfair comparisons to other therapists, wanting to be liked and respected by all their clients, expecting clients to work to be cooperative and hard working all the time, and expecting to always enjoy oneself during therapy sessions. Common cognitive distortions that mental health professionals should be aware of in themselves include selective abstractism, taking on overwhelming tasks or more than is feasible, assuming causality, catastrophizing, and dichotomous thinking. Finally, paying attention to and managing

countertransference can help mental health professionals think more rationally and accurately (Norcross & Guy, 2007). Psychology graduate students may have assistance from their supervisors in this area.

Sustaining healthy escapes is another aspect of self-care that can be achieved both in and out of the office. Within the office, this practice can mean remembering to take breaks, taking time to practice relaxation throughout the day, engaging in humor, and getting together with coworkers periodically. Outside the office, healthy escapes include taking time off, going on vacations, participating in leisurely activities, engaging in restorative solitude, taking personal retreats, playing, reading and writing, meditating, and, again, engaging in humor (Norcross & Guy, 2007).

Creating a flourishing environment helps mental health professionals to replenish themselves. This goal can be achieved through ensuring a comforting physical environment, being aware of sensory experiences, ensuring work safety, getting business support, creating rituals that foster behavioral boundaries, being aware of the effects of institutional boundaries, and making decisions to stay or leave when the environment is not working and cannot be improved. While initially self-care may look like mental health professionals are not putting the patients first, self-care is actually imperative to caring for patients. Part of creating a flourishing environment can be to work to create opportunities for self-care within the work environment (Norcross & Guy, 2007).

Creating a flourishing environment may be difficult for psychology graduate students, as they often do not have much control over their borrowed office space or are not easily provided with the opportunity to leave an institution where they are not flourishing.

Undergoing personal therapy can help mental health professionals both personally and professionally. Norcross and Guy (2007) recommended 10 self-care pursuits relevant to personal therapy: (a) commence personal treatment at the beginning of one's career, (b) select a personal therapist carefully, (c) pursue couple and family therapy as well, (d) embrace the wounded healer inside, (e) confront one's resistance about pursuing personal therapy, (f) supplement psychotherapy with self-analysis, (g) return to personal therapy periodically, (h) obtain an annual satisfaction checkup, (i) encourage personal therapy in the profession, and (j) regard as one form of self-development. Personal therapy is not the only way to pursue self-care, but it should be used in conjunction with the other techniques suggested by Norcross and Guy (2007).

Cultivating spirituality and mission refers not only to religious and spiritual orientation, but also to seeing the profession as one's calling in life. Again, cultivating spirituality and mission plays a role both in and out of the office. Within the office, one can focus on seeing one's career as a calling, as previously mentioned, caring for others, believing in growth of oneself and one's clients, and examining one's own and one's clients' religious beliefs. Outside the office, mental health professionals can continue to seek meaning and the answers to life's biggest questions, become activists in the community for social change, integrate religion and spirituality into their personal lives, and allow themselves to be guided by their highest truths and values. Through these pursuits, mental health professionals can be sure their lives have meaning and avoid getting caught up in the sometimes repetitive practice of therapy (Norcross & Guy, 2007).

Finally, *fostering creativity and growth* is a self-care technique that helps therapists turn obstacles into challenges. Creativity, diversity, and growth all help protect the profession from becoming stagnant. Growth can be fostered through continuing education, videotaping sessions, joining and participating in professional organizations, and working with other disciplines. Through these techniques mental health professionals can be sure to continue both their personal and professional development (Norcross & Guy, 2007).

Purpose of the Study

The purpose of this study was to examine burnout in clinical psychology graduate students and its relationship to stress, cognitive distortions, and engagement in self-care. First, perceived stress, cognitive distortions, and self-care practices were assessed. Next, the relationship between each of these variables was evaluated. Finally, these variables were combined to evaluate whether they could predict students' scores on each of three aspects of burnout: emotional exhaustion, depersonalization, and diminished personal accomplishment. Additionally, the study aimed to identify specific problems (i.e., academic responsibilities, clinical training, home life, time constraints, and financial concerns) beyond cognitive distortions that cause stress in clinical psychology graduate students so that future research can be more specific in determining interventions that may target these problem areas directly.

Chapter 2: Hypotheses

The present study investigated the relationship between aspects of burnout (emotional exhaustion, depersonalization, and diminished personal accomplishment) on psychology graduate student stress levels, levels of cognitive distortions, and engagement in self-care practices. The following hypotheses about the relationship of these variables were made:

- 1) Stress as measured by the Perceived Stress Scale (Cohen, Kamarck, & Mermelstein, 1983) will positively correlate with cognitive distortions, as measured by the Inventory of Cognitive Distortions (DiTomasso & Yurica, 2011; Yurica, 2002).
- 2) Scores on the Perceived Stress Scale (Cohen, Kamarck, & Mermelstein, 1983) will have a significant negative relationship with scores of self-care engagement, as measured by the Self-Care Inventory.
- 3) Scores on the Inventory of Cognitive Distortions (DiTomasso & Yurica, 2011; Yurica, 2002) will have a significant negative relationship with scores on the Self-Care Inventory.
- 4) The linear combination of lower self-care engagement (Self-Care Inventory), higher cognitive distortions (Inventory of Cognitive Distortions), and higher perceived stress (Perceived Stress Scale) will significantly predict higher scores on the Emotional Exhaustion scale of the Maslach Burnout Inventory.
- 5) The linear combination of lower self-care engagement (Self-Care Inventory), higher cognitive distortions (Inventory of Cognitive Distortions), and higher

perceived stress (Perceived Stress Scale) will significantly predict higher scores on the Depersonalization scale of the Maslach Burnout Inventory.

- 6) The linear combination of lower self-care engagement (Self-Care Inventory), higher cognitive distortions (Inventory of Cognitive Distortions), and higher perceived stress (Perceived Stress) will significantly predict higher scores on the Diminished Personal Accomplishments scores on the Maslach Burnout Inventory.

Chapter 3: Method

Design

The purpose of this study was to examine the relationship between the combination of distorted thinking, amount of self-care activities, and perceived stress on burnout in doctoral-level psychology graduate students. This correlational study used multiple regressions to compare aspects of burnout in professional psychology doctoral students on factors of perceived stress, cognitive distortions, and engagement in self-care.

Participants

Participants were recruited by posts on <https://www.researchmatch.org>, a graduate-student forum <https://forums.studentdoctor.net/forums/irb-approved-research-surveys.975/>, Philadelphia College of Osteopathic Medicine (PCOM) groups, and through the social networking site, Facebook. Participants included 75 doctoral-level psychology graduate students attending APA-accredited programs in clinical, counseling, and school psychology programs.

Inclusion Criteria

In order to be included in the study, participants were required to be currently in attendance at a doctoral-level, APA-accredited school, counseling, or clinical psychology program. Participants were also screened to ensure they were enrolled in their program full time, currently participating in practicum, and in good academic standing.

Exclusion Criteria

Participants were excluded from the study if they were in an organizational, experimental, social, developmental, or any other nonapplied psychology doctoral program. Additionally, participants who were currently participating in internship or

who had completed internship were excluded from the study. Finally, participants who were not enrolled in a full-time program or who were not in good academic standing were also excluded from the study.

Measures

Perceived Stress Scale

The Perceived Stress Scale (PSS; Cohen, Kamarck, & Mermelstein, 1983) is a 10-item questionnaire that assesses how stressful a person perceives his or her life to be. It has been studied for use with two college student populations and a community smoking-cessation program and is recommended for use as an “outcome measure of experienced levels of stress” (Cohen et al., 1983, p. 385). On each item, users rate how often they experienced a thought or feeling presented over the last month on a 5-point Likert scale ranging from *never* to *very often*. The scale was developed for use with individuals with a junior-high education or higher, and the questions are general in nature (Cohen et al., 1983). The coefficient alpha reliability for the PSS on two college samples and a community smoking-cessation sample were .84, .85, and .86, respectively (Cohen et al., 1983). The PSS was also found to be correlated with the Inventory of Cognitive Distortions (ICD) on a community sample. According to results from Roberts (2015), an individual’s endorsement of cognitive distortions can account for approximately 40% of the variance of that individual’s perceived stress, as indicated by the adjusted *R* squared value of .399.

Maslach Burnout Inventory

The Maslach Burnout Inventory (MBI) is a 22-item self-report measure with a 7-point Likert subscale ranging from *never* to *every day* that measures emotional

exhaustion, depersonalization, and a lack of sense of personal accomplishment (Maslach, Jackson, & Leiter, 2017). The emotional exhaustion subscale focuses on emotional overextension and work exhaustion. The depersonalization subscale examines feelings of impersonalization toward patients. Finally, the personal accomplishment subscale addresses lack of work achievement and feelings of incompetency. The internal reliability is .90 for Emotional Exhaustion, .79 for Depersonalization, and .71 for Personal Accomplishment (Maslach et al., 2017).

Inventory of Cognitive Distortions

The Inventory of Cognitive Distortions (ICD; DiTomasso & Yurica, 2011; Yurica, 2002) is a 69-item self-report inventory composed of short sentences that are designed to target 11 types of cognitive distortions and was initially created for and validated on a clinical adult population composed of individuals with symptoms of anxiety and/or depression (Yurica, 2002). Items on the ICD are scored on a 5-point Likert scale that ranges from 1 (*Never*) to 5 (*Always*). Scores on the ICD can range from 69 to 345, with higher scores indicating higher numbers of endorsed cognitive distortions. Individuals are scored both on cognitive distortions as a whole and on individual subscales that represent each of the 11 cognitive distortions the scale is designed to assess. The ICD is considered a valid and reliable test with a test-retest reliability coefficient after a 5-week interval of .998 and a Cronbach's alpha of .98, indicating high internal consistency reliability (DiTomasso & Yurica, 2011). The ICD is significantly and positively correlated with scores on other measures designed to assess psychopathology and distorted thinking, such as depression, the Beck Depression Inventory-II ($r = .70$), anxiety, the Beck Anxiety Inventory ($r = .59$), and dysfunctional

attitudes, the Dysfunctional Attitude Scale-A ($r = .70$). Additionally, because scores on the ICD can differentiate clinical participants from nonclinical participants ($p < .0001$), it has good construct validity (Yurica, 2002). Though the original ICD was developed for a clinical population, it has also been validated on a community sample (Roberts, 2015). The ICD was found to have strong internal consistency reliability with a nonclinical sample, with a Cronbach's coefficient alpha of .97. Factor analysis by Roberts (2015) suggested eight common factors with the original study: Magnification, Fortune-Telling, Externalization of Self-Worth, Perfectionism, Emotional Reasoning, Minimization, Comparison to Others, and Emotional Reasoning and Decision Making, as well as an additional four, Discounting the Positive and Personalization, Absolutistic or Dichotomous Thinking, Should Statements, and Catastrophizing.

Two measures were created for the purpose of this study. Descriptions of these measures, as well as of the procedure used to develop them, follow:

Psychology Graduate Student Stressors Inventory (PGSSI)

This measure was specifically developed for the purposes of the present study. On this checklist, participants are asked to rate on a 5-point Likert scale (ranging from *never* to *almost always*) how prevalent specific stressors, such as academic responsibilities, clinical training, home life, physical problems, time constraints, and financial concerns, are in their lives.

To ensure the content validity of the items in this inventory, items from each domain of the operational definition of this variable were created by the investigator. The investigator developed an initial list of twice as many items as needed for the measure based on a review of the literature, clinical experience, and personal knowledge

base. Once this list was developed, the investigator provided the expert panel with the potential items to be reviewed.

The expert panel was composed of a group of doctoral-level clinical psychology students with experience in and knowledge of stress. Through a Survey Monkey link, the panel was initially provided with a list of domains, and members were asked to determine whether they encompassed the construct of self-care. Next, they were provided with the operational definition of each domain and asked to carefully review each one to ensure they had a full understanding of the meaning of the definition and believed the definition adequately represented the content of the domain of interest. Next, each panel member was provided with each of the items developed and was asked to sort those items into the following categories: academic responsibilities, clinical training, home life, physical problems, time constraints, and financial concerns. Items were kept only if 100% agreement was met for acceptance. If items did not meet 100% agreement, they were resubmitted to the individual panel members. Items that did not meet 100% agreement after a second review were eliminated from the measure. Final items included in the PGSSI, as well as the scoring process, are included in Appendix A.

Self-Care Inventory (SCI)

Because few self-care measures have been developed, this measure was created for the purposes of this study. Level of engagement in each self-care practice was indicated by participants' ratings on a 5-point Likert scale ranging from *never* to *almost always*. Self-care practices were separated into categories delineated by Norcross and Guy (2007) that included the following domains: valuing the person of the psychotherapist, refocusing on the rewards, recognizing the hazards, minding the body,

nurturing relationships, setting boundaries, restructuring cognitions, sustaining healthy escapes, creating a flourishing environment, undergoing personal therapy, cultivating spirituality and mission, and fostering creativity and growth.

To ensure the content validity of the items in this questionnaire, items from each domain of the operational definition of this variable were created by the investigator. The investigator developed an initial list of twice as many items as needed for the measure based on a review of the literature, theory, clinical experience, and personal knowledge base. Once this list was developed, the investigator provided an expert panel with the potential items to be reviewed.

The expert panel comprised a group of doctoral-level clinical and research psychologists with experience in and knowledge of self-care practices. Through a Survey Monkey link, the panel was initially provided with a list of domains and was asked to determine whether the domains encompassed the construct of self-care. Next, the panel was provided with the operational definition of each domain and asked to carefully review each one to ensure they had a full understanding of the meaning of the definition and that the definitions accurately represented the domains. Next, each panel member was provided with each of the items developed and asked to sort those items into the following categories: valuing the person of the psychotherapist, refocusing on the rewards, recognizing the hazards, minding the body, nurturing relationships, setting boundaries, restructuring cognitions, sustaining healthy escapes, creating a flourishing environment, undergoing personal therapy, cultivating spirituality and mission, and fostering creativity and growth. Items were kept only if 100% agreement was met for acceptance. If items did not meet 100% agreement, they were resubmitted to the

individual panel members. Items that did not meet 100% agreement after a second review were eliminated from the measure. Final items included in the SCI, as well as the scoring process, is included in Appendix B.

Procedure

Once the SCI and the PGSSI were finalized and Internal Review Board (IRB) approval was obtained, potential participants were recruited online through a solicitation statement posted online (i.e., <https://www.researchmatch.org>, a graduate student forum <https://forums.studentdoctor.net/forums/irb-approved-research-surveys.975/>, PCOM groups, and Facebook) describing the general nature of the study and terms of participation. Once recruited, potential participants were invited to participate in a study on the experiences of psychology graduate students. The following message was sent to potential participants:

“You are invited to participate in a study about experiences of graduate students in psychology programs. Through this participation, you will be contributing to the research that will give us better insight into the experience of psychology graduate students during their professional training and factors that may affect their experience during this time. No identifying information will be reported from this study as information will be reported in aggregate form only. Participation in this study is anonymous and voluntary and you may choose to end your participation at any time during the study without consequence. There are no known risks to participating in this survey, which should take 35 minutes to complete. Upon completion of the study, you will be given the option to enter a confidential raffle to win one of three \$50 Amazon gift cards. Any contact information that you include in the entrance of the raffle will be

stored separate from the survey responses and will remain confidential. To participate in the study and complete the survey, please click on the following

link: <https://www.surveymonkey.com/r/76LZFYQY>

If you have any questions about this study, you may contact the Principal Investigator, Robert A. DiTomasso, PhD, ABPP, at robertd@pcom.edu, or myself at laurenmat@pcom.edu. This study has been approved by the Philadelphia College of Osteopathic Medicine Institutional Review Board (protocol approval # 45CFR46.101(b)(2)). Thank you for your consideration.”

They were then directed to Survey Monkey, where they again read a solicitation statement outlining the terms and conditions of the study. After participants clicked on the link, the previous message was be repeated as follows:

“As you know, you are about to participate in a study about experiences of graduate students in psychology programs. Through this participation, you will be contributing to the research that will give us better insight into the experience of psychology graduate students during their professional training and factors that may affect their experience during this time. No identifying information will be reported from this study as information will be reported in group form only.

Participation in this study is anonymous and voluntary and you may choose to end your participation at any time during the study without consequence. There are no known risks to participating in this survey, which should take 35 minutes to complete. Upon completion of the study, you will be given the option to enter a confidential raffle to win one of three \$50 Amazon gift cards. Any contact information that you include in the entrance of the raffle will be stored separate

from the survey responses and will remain confidential.”

Participants were asked to confirm their understanding and given the option to participate or not to participate. Those who decided to participate were screened for eligibility. Those who were eligible were permitted to proceed with the study. Those who did not meet eligibility criteria were informed of such and thanked. Participants completed the surveys and their survey data were collected. Eligible participants provided demographic information (see Appendix C) and completed the five measures (PSS, MBI, ICD, SCI, and PGSSI). Participants were informed that they could withdraw from the study at any time for any reason. Upon completion of the survey, participants were able to choose to enter a drawing to win an Amazon gift card.

Chapter 4: Results

Statistical analyses were computed to examine whether perceived stress positively correlated with cognitive distortions and whether perceived stress and cognitive distortions each negatively correlated with self-care engagement. Additionally, the hypotheses that the linear combination of perceived stress, cognitive distortions, and self-care engagement would predict each of the three subscales of the Maslach Burnout Inventory (MBI; Emotional Exhaustion, Depersonalization, and Diminished Personal Accomplishment) were tested.

Statistical Analyses

The variables of interest were analyzed through the use of SPSS Version 24.0. The first power analysis was for a Pearson correlation. In this analysis, the power level was set at 0.80, and the significance level was set at 0.05 for a medium effect size as per conventional standards (Cohen, 1988, 1992). This analysis determined that 111 participants were needed to perform the following correlation. The second power analysis was for a multiple regression with three predictors. In this analysis, the power level was set at 0.80, and the significance level was set at 0.05 for a medium effect size. This analysis determined that 108 participants were needed to perform the following multiple regression analysis. The number of required participants was, therefore, set at the higher value of 111. However, only 75 participants completed the survey at the close of the study.

Demographic Analysis

A total of 75 psychology graduate students completed the survey for this study. The sample was 85.3% female and 14.7% male. Participants primarily identified as

White, non-Hispanic (77.3%) followed by 6.7% African American, 6.7% White, Hispanic, 5.3% Asian American, 2.7% Middle Eastern, and 1.3% “Other,” specified biracial. In terms of marital status, 85.3% of participants were single, and the remaining 14.7% reported being married. A majority (89.3%) of the respondents were enrolled in a clinical program along with 5.3% counseling, 2.7% school, and 2.7% combined specialty. With regard to year in the doctoral program, 46.7% were in their third year, 20% in their fourth year, 17.3% in their second year, 12% in their first year, and 4% in their fifth year. Participants also varied in years of practicum experience, with 37.3% endorsing being in their first year of experience, 36% in their second, 21.3% in their third, and 5.3% in their fourth.

Hypotheses 1 Through 3

A correlational design was used to test Hypotheses 1, 2, and 3. Specifically, Pearson correlation coefficients were used to evaluate the relationships between stress and cognitive distortions, stress and self-care, and cognitive distortions and self-care. To control for the increased likelihood of a Type 1 error, a Bonferroni correction was calculated by dividing the initial alpha of .05 by 6 to obtain a more stringent alpha level of .008. Hypothesis 1 predicted that stress would positively correlate with cognitive distortions. Pearson correlational analysis revealed a significant positive relationship such that higher scores on the Perceived Stress Scale (PSS) were associated with higher scores on the Inventory of Cognitive Distortions (ICD), $r = .646, p < .000$. Hypothesis 2 predicted that stress would have a significant negative relationship with self-care engagement, as measured by the Self-Care Inventory (SCI). Results supported the hypothesis, indicating that higher scores on the PSS were associated with lower scores on

the SCI, $r = -.434, p < .000$. Hypothesis 3 predicted that cognitive distortions would have a significant negative relationship with self-care. Pearson correlational analysis revealed that higher scores on the ICD were associated with lower scores on the SCI, $r = -.421, p < .000$. Correlations, means, and standard deviations can be found in Table 1.

Table 1

Correlations, Means, and Standard Deviations for Perceived Stress, Cognitive Distortions, and Self-Care Engagement

| | Perceived stress | Cognitive distortions | Self-care engagement | <i>M</i> | <i>SD</i> |
|-----------------------|------------------|-----------------------|----------------------|----------|-----------|
| Perceived stress | ----- | .646* | -.434* | 19.973 | 6.230 |
| Cognitive distortions | .646* | ----- | -.421* | 174.200 | 39.101 |
| Self-care engagement | -.434* | -.421* | ----- | 230.707 | 28.084 |

* $p < .000$

Hypothesis 4

To identify whether increased perceived stress, increased cognitive distortions, and decreased self-care engagement predicted increased scores on the Emotional Exhaustion scale of the MBI, a multiple regression was conducted. A multiple linear regression analysis was conducted using perceived stress (as measured by the PSS), cognitive distortions (as measured by the ICD), and self-care engagement (as measured by the SCI) as the predictor variables, and Emotional Exhaustion scores (as measured by the MBI) as the criterion variable. Tests of assumptions and multiple linear regression were met. The Durbin-Watson statistic was equal to 1.951. The Durbin-Watson statistic tests for “serial correlation between errors” (Field, 2013, p. 311). More specifically, this

statistic assesses the assumption of independent errors by testing whether “adjacent residuals are correlated” (Field, 2013, p. 311). Values of the Durbin-Watson statistic range from 0 to 4, with a value of 2 indicating that the residuals are uncorrelated (Field, 2013). The present analysis met this criterion.

Variance inflation factors (VIFs) were reviewed to assess for evidence of multicollinearity. According to Field (2013), the VIF “indicates whether a predictor has a strong linear relationship with the other predictor(s)” (p. 325). VIF values greater than 10 are considered cause for concern (Field, 2013). The values for the present analysis ranged from 1.286 to 1.816, suggesting no concern in this area. Additionally, the reciprocal of the VIF, tolerance, was reviewed. Tolerance statistics below 0.2 indicate a possible problem, while values below 0.1 indicate a serious issue. The values for the present analysis ranged from .551 to .778, indicating no tolerance issues.

Further analyses of assumptions were conducted in accordance with Field (2013). A plot of standardized residuals (ZRESID) against standardized predicted values (ZPRED) revealed that the assumptions of linearity and homoscedasticity were met. An examination of a histogram and normal probability plot of the residuals were obtained and examined to test the normality of the residuals. The histogram revealed that the assumption of normality was met. Additionally, the normal probability plot examining observed cumulative percentages to expected cumulative percentages also supported the assumption of normality.

The results of the multiple linear regression analysis, as shown in Table 2, revealed a multiple correlation of $R = .745$ with a coefficient of determination of $.556$ ($R^2 = .556$), indicating that approximately 55.6% of the variance observed can be attributed to

this combination of predictor variables. The adjusted coefficient of determination ($AdjR^2 = .537$) suggests that prediction of variance would decrease from sample to population if the population had been evaluated. The overall regression analysis, as shown in Table 3, revealed a significant regression, ($F(3, 75) = 29.585, p = .000$), indicating that the combination of these predictors made a significant contribution to the prediction of Emotional Exhaustion. As shown in Table 4, an examination of each of the predictor variables revealed that only two of the predictors made a significant contribution to the prediction of level of Emotional Exhaustion. These variables, perceived stress and self-care engagement, were positively and negatively related to the prediction of Emotional Exhaustion level, respectively.

Table 2

Model 1 Summary of the Predictor Variables (Perceived Stress, Cognitive Distortions, and Self-Care Engagement) to the Dependent Variable (Emotional Exhaustion)

| Model | R | R^2 | Adjusted R^2 | Std. error of est. | R^2 change | F change | $df1$ | $df2$ | Sig. F change |
|-------|------|-------|----------------|--------------------|--------------|------------|-------|-------|-----------------|
| 1 | .745 | .556 | .537 | 6.08832 | .556 | 29.585 | 3 | 71 | .000 |

Table 3

Overall Regression Analysis with Predictor Variables (Perceived Stress, Cognitive Distortions, and Self-Care Engagement) to the Dependent Variable (Emotional Exhaustion)

| Model | Sum of squares | <i>df</i> | Mean square | <i>F</i> | Sig. |
|--------------|----------------|-----------|-------------|----------|-------------------|
| 1 Regression | 3289.987 | 3 | 1096.662 | 29.585 | .000 ^b |
| Residual | 2631.799 | 71 | 37.068 | | |
| Total | 5921.787 | 74 | | | |

Note. b = Predictors: *Perceived Stress, Cognitive Distortions, and Self-Care Engagement*

Table 4

Coefficients of Predictor Variables (Perceived Stress, Cognitive Distortions, and Self-Care Engagement) to the Dependent Variable (Emotional Exhaustion)

| Model | Unstandardized coefficients | | Standardized coefficients | <i>t</i> | Sig. | Collinearity statistics | |
|-----------------------|-----------------------------|------------|---------------------------|----------|------|-------------------------|-------|
| | B | Std. Error | Beta | | | Tolerance | VIF |
| 1 (constant) | 27.733 | 8.793 | | 3.154 | .002 | | |
| Perceived stress | 8.008 | 1.531 | .558 | 5.231 | .000 | .551 | 1.816 |
| Cognitive distortions | .020 | .024 | .089 | .843 | .402 | .559 | 1.790 |
| Self-care | -.070 | .029 | -.221 | -2.461 | .016 | .778 | 1.286 |

Hypothesis 5

To identify whether increased perceived stress, increased cognitive distortions, and decreased self-care engagement predicted increased scores on the Depersonalization scale of the MBI, a multiple regression was conducted. A multiple linear regression analysis was conducted using perceived stress (as measured by the PSS), cognitive distortions (as measured by the ICD), and self-care engagement (as measured by the SCI) as the predictor variables, and Depersonalization scores (as measured by the MBI) as the criterion variable. Tests of assumptions and multiple linear regression were met. The Durbin-Watson statistic was equal to 1.832. The Durbin-Watson statistic tests for “serial correlation between errors” (Field, 2013, p. 311). More specifically, this statistic assesses the assumption of independent errors by testing whether “adjacent residuals are correlated” (Field, 2013, p. 311). Values of the Durbin-Watson statistic range from 0 to 4, with a value of 2 indicating that the residuals are uncorrelated (Field, 2013). The present analysis met this criterion.

VIFs were reviewed to assess for evidence of multicollinearity. According to Field (2013), the VIF “indicates whether a predictor has a strong linear relationship with the other predictor(s)” (p. 325). VIF values greater than 10 are considered cause for concern (Field, 2013). The values for the present analysis ranged from 1.286 to 1.816, suggesting no concern in this area. Additionally, the reciprocal of the VIF, tolerance, was reviewed. Tolerance statistics below 0.2 indicate a possible problem, while values below 0.1 indicate a serious issue. The values for the present analysis ranged from .551 to .778, indicating no tolerance issues.

Further analyses of assumptions were conducted in accordance with Field (2013). A plot of standardized residuals (ZRESID) against standardized predicted values (ZPRED) revealed that the assumptions of linearity and homoscedasticity were met. An examination of a histogram and normal probability plot of the residuals were obtained and examined to test the normality of the residuals. The histogram revealed that the assumption of normality was met, as the curve was relatively normal with a slight skew right. Additionally, the normal probability plot examining observed cumulative percentages to expected cumulative percentages also supported the assumption of normality.

The results of the multiple linear regression analysis, as shown in Table 5, revealed a multiple correlation of $R = .394$ with a coefficient of determination of $.156$ ($R^2 = .156$), indicating that approximately 15.6% of the variance observed can be attributed to this combination of predictor variables. The adjusted coefficient of determination ($AdjR^2 = .120$) suggests that prediction of variance would decrease from sample to population if the population had been evaluated. The overall regression analysis, as shown in Table 6, revealed a significant regression ($F(3, 75) = 4.359, p = .007$), indicating that the combination of these predictors made a significant contribution to the prediction of Depersonalization. As shown in Table 7, an examination of each of the predictor variables revealed that only one of the predictors contributed to the prediction of level of Depersonalization. This variable, perceived stress, was positively related to the prediction of Depersonalization level.

Table 5

Model 1 Summary of the Predictor Variables (Perceived Stress, Cognitive Distortions, and Self-Care Engagement) to the Dependent Variable (Depersonalization)

| Model | <i>R</i> | <i>R</i> ² | Adjusted <i>R</i> ² | Std. error of est. | <i>R</i> ² change | <i>F</i> change | <i>df</i> 1 | <i>df</i> 2 | Sig. <i>F</i> change |
|-------|----------|-----------------------|--------------------------------|--------------------|------------------------------|-----------------|-------------|-------------|----------------------|
| 1 | .394 | .156 | .120 | 3.76074 | .156 | 4.359 | 3 | 71 | .007 |

Table 6

Overall Regression Analysis with Predictor Variables (Perceived Stress, Cognitive Distortions, and Self-Care Engagement) to the Dependent Variable (Depersonalization)

| Model | Sum of squares | <i>df</i> | Mean square | <i>F</i> | Sig. |
|--------------|----------------|-----------|-------------|----------|-------------------|
| 1 Regression | 184.954 | 3 | 61.651 | 4.359 | .007 ^b |
| Residual | 1004.166 | 71 | 14.143 | | |
| Total | 1189.120 | 74 | | | |

Note. b = Predictors: *Perceived Stress, Cognitive Distortions, and Self-Care Engagement*

Table 7

Coefficients of Predictor Variables (Perceived Stress, Cognitive Distortions, and Self-Care Engagement) to the Dependent Variable (Depersonalization)

| Model | Unstandardized coefficients | | Standardized coefficients | <i>t</i> | Sig. | Collinearity statistics | |
|-----------------------|-----------------------------|------------|---------------------------|----------|------|-------------------------|-------|
| | B | Std. error | Beta | | | Tolerance | VIF |
| 1 (constant) | 14.725 | 5.432 | | 2.711 | .008 | | |
| Perceived stress | 1.878 | .946 | .292 | 1.986 | .051 | .551 | 1.816 |
| Cognitive distortions | -.009 | .015 | -.087 | -.597 | .552 | .559 | 1.790 |
| Self-care | -.033 | .018 | -.232 | -1.876 | .065 | .778 | 1.286 |

Hypothesis 6

To identify whether increased perceived stress, increased cognitive distortions, and decreased self-care engagement predicted increased scores on the Diminished Personal Accomplishments scale of the MBI, a multiple regression was conducted. A multiple linear regression analysis was conducted using perceived stress (as measured by the PSS), cognitive distortions (as measured by the ICD), and self-care engagement (as measured by the SCI) as the predictor variables, and Diminished Personal Accomplishments scores (as measured by the MBI) as the criterion variable. Tests of assumptions and multiple linear regression were met. The Durbin-Watson statistic was equal to 2.148. The Durbin-Watson statistic tests for “serial correlation between errors” (Field, 2013, p. 311). More specifically, this statistic assesses the assumption of independent errors by testing whether “adjacent residuals are correlated” (Field, 2013, p. 311). Values of the Durbin-Watson statistic range from 0 to 4, with a value of 2

indicating that the residuals are uncorrelated (Field, 2013). The present analysis met this criterion.

VIFs were reviewed to assess for evidence of multicollinearity. According to Field (2013), the VIF “indicates whether a predictor has a strong linear relationship with the other predictor(s)” (p. 325). VIF values greater than 10 are considered cause for concern (Field, 2013). The values for the present analysis ranged from 1.286 to 1.816, suggesting no concern in this area. Additionally, the reciprocal of the VIF, tolerance, was reviewed. Tolerance statistics below 0.2 indicate a possible problem, while values below 0.1 indicate a serious issue. The values for the present analysis ranged from .551 to .778, indicating no tolerance issues.

Further analyses of assumptions were conducted in accordance with Field (2013). A plot of standardized residuals (ZRESID) against standardized predicted values (ZPRED) revealed that the assumptions of linearity and homoscedasticity were met. An examination of a histogram and normal probability plot of the residuals were obtained and examined to test the normality of the residuals. The histogram revealed that the assumption of normality was met. Additionally, the normal probability plot examining observed cumulative percentages to expected cumulative percentages also supported the assumption of normality.

The results of the multiple linear regression analysis, as shown in Table 8, revealed a multiple correlation of $R = .256$ with a coefficient of determination of $.065$ ($R^2 = .065$), indicating that approximately 6.5% of the variance observed can be attributed to this combination of predictor variables. The adjusted coefficient of determination ($AdjR^2 = .026$) suggests that prediction of variance would decrease from sample to population if

the population had been evaluated. The overall regression analysis, as shown in Table 9, indicated that the regression was not significant ($F(3, 75) = 1.655, p = .184$), indicating that the combination of these predictors did not make a significant contribution to the prediction of Diminished Personal Accomplishments. As shown in Table 10, an examination of each of the predictor variables revealed that none of the variables significantly contributed to the prediction of Diminished Personal Accomplishments.

Table 8

Model 1 Summary of the Predictor Variables (Perceived Stress, Cognitive Distortions, and Self-Care Engagement) to the Dependent Variable (Diminished Personal Accomplishments)

| Model | <i>R</i> | <i>R</i> ² | Adjusted <i>R</i> ² | Std. error of est. | <i>R</i> ² change | <i>F</i> change | <i>df</i> 1 | <i>df</i> 2 | Sig. <i>F</i> change |
|-------|----------|-----------------------|--------------------------------|--------------------|------------------------------|-----------------|-------------|-------------|----------------------|
| 1 | .256 | .065 | .026 | 12.66426 | .065 | 1.655 | 3 | 71 | .184 |

Table 9

Overall Regression Analysis with Predictor Variables (Perceived Stress, Cognitive Distortions, and Self-Care Engagement) to the Dependent Variable (Diminished Personal Accomplishments)

| Model | Sum of squares | <i>df</i> | Mean square | <i>F</i> | Sig. |
|--------------|----------------|-----------|-------------|----------|-------------------|
| 1 Regression | 796.315 | 3 | 265.438 | 1.655 | .184 ^b |
| Residual | 11387.231 | 71 | 160.384 | | |
| Total | 12183.547 | 74 | | | |

Note. b = Predictors: *Perceived Stress, Cognitive Distortions, and Self-Care Engagement*

Table 10

Coefficients of Predictor Variables (Perceived Stress, Cognitive Distortions, and Self-Care Engagement) to the Dependent Variable (Diminished Personal Accomplishments)

| Model | Unstandardized coefficients | | Standardized coefficients | <i>t</i> | Sig. | Collinearity statistics | |
|-----------------------|-----------------------------|------------|---------------------------|----------|------|-------------------------|-------|
| | B | Std. error | Beta | | | Tolerance | VIF |
| 1 (constant) | 2.437 | 18.291 | | .133 | .894 | | |
| Perceived stress | -4.597 | 3.185 | -.223 | -1.444 | .153 | .551 | 1.816 |
| Cognitive distortions | .055 | .050 | .169 | 1.101 | .275 | .559 | 1.790 |
| Self-care | .075 | .059 | .165 | 1.267 | .209 | .778 | 1.286 |

Additional Analyses

Although not originally hypothesized, additional analyses were conducted to mine the data. Cronbach's α was computed to evaluate the internal reliability of the ICD, and the two measures created for the purposes of this study, Psychology Graduate Student Stressors Inventory (PGSSI) and Self-Care Inventory (SCI). According to Field (2013), values of .8 and above indicate that a measure is consistent. Each of the measures evaluated met that criterion, as shown in Table 11, suggesting strong internal consistency reliability ($\alpha = .97, .95, .92$, respectively).

Table 11

Reliability of Measures (Inventory of Cognitive Distortions, Psychology Graduate Student Stressors Inventory, and Self-Care Inventory)

| | Cronbach's α |
|---|---------------------|
| Inventory of Cognitive Distortions (ICD) | .972 |
| Psychology Graduate Student Stressors Inventory (PGSSI) | .953 |
| Self-Care Inventory (SCI) | .924 |

Pearson correlation coefficients were used to evaluate the relationships between perceived stress and each of the subscales of the PGSSI (Academic Responsibilities, Clinical Training, Home Life, Physical Problems, Time Constraints, and Financial Concerns). Pearson correlational analysis revealed significant positive relationships such that higher scores on the PSS were associated with higher scores on each of the subscales of the PGSSI (Academic Responsibilities, Clinical Training, Home Life, Physical Problems, Time Constraints, and Financial Concerns), $r = .726, p < .000, r = .537, p < .000, r = .737, p < .000, r = .692, p < .000, r = .805, p < .000, r = .581, p < .000$; respectively. Correlations, means, and standard deviations can be found in Table 12.

Table 12

Correlations, Means, and Standard Deviations for Perceived Stress, Academic Responsibilities, Clinical Training, Home Life, Physical Problems, Time Constraints, and Financial Concerns

| | Perceived stress | <i>M</i> | <i>SD</i> |
|---------------------------|------------------|----------|-----------|
| Perceived Stress | ----- | 19.973 | 6.230 |
| Academic Responsibilities | .726* | 22.547 | 4.697 |
| Clinical Training | .537* | 30.627 | 6.877 |
| Home Life | .737* | 19.613 | 5.178 |
| Physical Problems | .692* | 31.160 | 7.425 |
| Time Constraints | .805* | 42.387 | 9.438 |
| Financial Concerns | .581* | 34.427 | 10.809 |

* correlation is significant at the 0.01 level (1-tailed)

To identify whether high scores on each of the subscales of the PGSSI (Academic Responsibilities, Clinical Training, Home Life, Physical Problems, Time Constraints, and Financial Concerns) predicted increased scores on the PSS, a multiple regression was conducted. A multiple linear regression analysis was conducted on each of the subscales of the PGSSI (Academic Responsibilities, Clinical Training, Home Life, Physical Problems, Time Constraints, and Financial Concerns) as the predictor variables, and perceived stress (as measured by the PSS) as the criterion variable. Tests of assumptions and multiple linear regression were met. The Durbin-Watson statistic was equal to 2.410. The Durbin-Watson statistic tests for “serial correlation between errors” (Field, 2013, p. 311). More specifically, this statistic assesses the assumption of independent errors by testing whether “adjacent residuals are correlated” (Field, 2013, p. 311). Values of the Durbin-Watson statistic range from 0 to 4, with a value of 2 indicating that the residuals are uncorrelated (Field, 2013). The present analysis met this criterion.

VIFs were reviewed to assess for evidence of multicollinearity. According to Field (2013), the VIF “indicates whether a predictor has a strong linear relationship with the other predictor(s)” (p. 325). VIF values greater than 10 are considered cause for concern (Field, 2013). The values for the present analysis ranged from 1.628 to 6.023, suggesting no concern in this area. Additionally, the reciprocal of the VIF, tolerance, was reviewed. Tolerance statistics below 0.2 indicate a possible problem, while values below 0.1 indicate a serious issue. The values for the present analysis ranged from .166 to .614, indicating one possible tolerance issue in regard to Time Constraints.

Further analyses of assumptions were conducted in accordance with Field (2013). A plot of standardized residuals (ZRESID) against standardized predicted values (ZPRED) revealed that the assumptions of linearity and homoscedasticity were met. An examination of a histogram and normal probability plot of the residuals were obtained and examined to test the normality of the residuals. The histogram revealed that the assumption of normality was met. Additionally, the normal probability plot examining observed cumulative percentages to expected cumulative percentages also supported the assumption of normality.

The results of the multiple linear regression analysis, as shown in Table 13, revealed a multiple correlation of $R = .854$ with a coefficient of determination of $.729$ ($R^2 = .729$), indicating that approximately 72.9% of the variance observed can be attributed to this combination of predictor variables. The adjusted coefficient of determination ($AdjR^2 = .706$) suggests that prediction of variance would decrease from sample to population if the population had been evaluated. The overall regression analysis, as shown in Table 14, revealed a significant regression ($F(6, 68) = 30.553, p = .000$), indicating that the

combination of these predictors made a significant contribution to the prediction of perceived stress. As shown in Table 15, an examination of each of the predictor variables revealed that three of the six predictors made a significant contribution to the prediction of level of perceived stress. These variables, Academic Responsibilities, Home Life, and Physical Problems, were positively related to the prediction of perceived stress level.

Table 13

Model 1 Summary of the Predictor Variables (Academic Responsibilities, Clinical Training, Home Life, Physical Problems, Time Constraints, and Financial Concerns) to the Dependent Variable (Perceived Stress)

| Model | <i>R</i> | <i>R</i> ² | Adjusted <i>R</i> ² | Std. error of est. | <i>R</i> ² change | <i>F</i> change | <i>df</i> 1 | <i>df</i> 2 | Sig. <i>F</i> change |
|-------|----------|-----------------------|--------------------------------|--------------------|------------------------------|-----------------|-------------|-------------|----------------------|
| 1 | .854 | .729 | .706 | 3.38047 | .729 | 30.553 | 6 | 68 | .000 |

Table 14

Overall Regression Analysis with Predictor Variables (Academic Responsibilities, Clinical Training, Home Life, Physical Problems, Time Constraints, and Financial Concerns) to the Dependent Variable (Perceived Stress)

| Model | Sum of Ssquares | df | Mean square | <i>F</i> | Sig. |
|--------------|-----------------|----|-------------|----------|-------------------|
| 1 Regression | 2094.874 | 6 | 349.146 | 30.553 | .000 ^b |
| Residual | 777.073 | 68 | 11.428 | | |
| Total | 2871.947 | 74 | | | |

Note. b = Predictors: Academic Responsibilities, Clinical Training, Home Life, Physical Problems, Time Constraints, and Financial Concerns

Table 15

Coefficients of Predictor Variables (Academic Responsibilities, Clinical Training, Home Life, Physical Problems, Time Constraints, and Financial Concerns) to the Dependent Variable (Perceived Stress)

| Model | Unstandardized coefficients | | Standardized coefficients | <i>t</i> | Sig. | Collinearity statistics | |
|---------------------------|-----------------------------|------------|---------------------------|----------|------|-------------------------|-------|
| | B | Std. error | Beta | | | Tolerance | VIF |
| 1 (constant) | -7.039 | 2.205 | | -3.192 | .002 | | |
| Academic Responsibilities | .351 | .145 | .264 | 2.426 | .018 | .335 | 2.985 |
| Clinical Training | .047 | .073 | .052 | .649 | .518 | .614 | 1.628 |
| Home Life | .273 | .124 | .227 | 2.199 | .031 | .375 | 2.669 |
| Physical Problems | .174 | .081 | .208 | 2.161 | .034 | .431 | 2.318 |
| Time Constraints | .139 | .102 | .211 | 1.365 | .177 | .166 | 6.023 |
| Financial Concerns | .028 | .051 | .049 | .551 | .583 | .505 | 1.981 |

Finally, a review of the mean scores on each of the subscales of the PGSSI was conducted to determine the most highly endorsed stressor for psychology graduate students. Results indicated that Time Constraints and Financial Concerns were the highest rated stressors for respondents, as seen in Table 16.

Table 16

Means of PGSSI Subscales in Descending Order

| | <i>M</i> | <i>SD</i> |
|---------------------------|----------|-----------|
| Time Constraints | 3.26 | .73 |
| Financial Concerns | 2.87 | .90 |
| Physical Problems | 2.83 | .68 |
| Academic Responsibilities | 2.82 | .59 |
| Clinical Training | 2.36 | .53 |
| Home Life | 2.18 | .58 |

Chapter 5: Discussion

Implications

The first objective of the present study was to provide additional support for the previously demonstrated relationships among stress, cognitive distortions, and self-care engagement. As predicted, stress was positively correlated with cognitive distortions. These results are consistent with literature that suggests that cognitive distortions impact an individual's experience of stress (Deal & Williams, 1988; Lefebvre, 1981; Roberts, 2015; Smith, O'Keefe, & Christensen, 1994). Support was also found for the predicted negative relationships between stress and self-care engagement and cognitive distortions and self-care engagement. As discussed in Myers et al. (2102), elements of self-care, including healthy sleep habits, social support, emotion regulation, and mindfulness, were all found to have a relationship with stress such that more engagement in these activities was related to lower stress in psychology graduate students. Colman et al. (2016) showed that self-care engagement was also associated with decreased psychological distress. The results of the present study provide additional evidence for such a relationship in the growing literature on the population of psychology graduate students. The significant negative relationship between cognitive distortions and self-care engagement demonstrated by the results of this study are also consistent with research by Uhl (2007), who investigated the relationship between cognitive distortions and health habits in a sample of medical patients.

The second objective of the present study was to determine the ability for the relationship between stress, cognitive distortions, and self-care to predict each of the elements of burnout, emotional exhaustion, depersonalization, and personal

accomplishment. Support was found for stress and self-care as predictors of emotional exhaustion. Such findings are consistent with the literature on Selye's general adaptation syndrome, which conceptualizes stress into three stages: alarm reaction, resistance, and exhaustion (Selye, 1946). Selye (1946) posited that when exposed to an alarming stimulus, an organism will resist and begin to adapt to the stressful stimulus, but over continuous exposure to great amounts of stress, the adaptation fails and the organism becomes exhausted. This theory can be extrapolated to the graduate student experience such that graduate students begin their programs and feel stressed and overwhelmed by the competing demands of the new role; the students attempt to resist or adapt, but increasing demands and lack of resources lead to eventual exhaustion. The emotional exhaustion endorsed by psychology graduate students in the present study is also consistent with literature that suggests that early-career psychologists experience higher levels of emotional exhaustion compared to late-career psychologists (Dorociak et al., 2017).

Stress was also able to significantly predict depersonalization, while self-care approached prediction significance. Such findings may be explained by graduate student reactions to vicarious trauma experienced through their clinical work. Vicarious trauma refers to the long-term consequences of trauma work and its effects on the trauma workers' experience of themselves, the world, and others, as well as the experience of trauma-like symptoms that may be similar to those of their clients (Cohen & Collens, 2013). If graduate students are experiencing stress, they are likely more susceptible to developing vicarious trauma, and therefore, their experience of their clients may become more callous. Additionally, Clark et al. (2009) described seeing clients as objects as a

symptom of depersonalization. As students are often required to meet a certain number of client contact hours and may write papers or reports on clients for their classes, students may be more likely to begin to see their clients as a means to an end rather than as persons, particularly when feeling stressed about meeting academic requirements.

Of note, Lampert and Glaser (2018) explored the relationship between detached concern, or “professional balance blending concern with distance” (p. 129), and determined that it was a possible protective factor for developing burnout. More specifically, high concern and high detachment were associated with lower emotional exhaustion, while low concern and high detachment or low concern and low detachment were associated with greater depersonalization (Lampert & Glaser, 2018). Self-care may serve as a way for practitioners to create detachment between themselves and their clients, thus explaining its ability to predict emotional exhaustion and potential relationship to depersonalization when combined with empathy.

Interestingly, cognitive distortions were not significant predictors of any of the elements of burnout. As indicated in the literature, cognitive distortions greatly contribute to the development and maintenance of depression and many other mental health diagnoses (Gilbert, 1998; Lefebvre, 1981). However, burnout is not considered psychopathology. Perhaps this distinction offers an explanation for the results of the current study. A review of the items included in the Maslach Burnout Inventory (MBI; Maslach et al., 2017) provides further possible explanation for cognitive distortions not being predictive of burnout, as endorsement of items related to feeling exhausted or depersonalization are likely not the result of distorted thinking. In other words, if students state that they are tired, are exhausted, or feel emotionally hardened, they are

likely making an accurate statement about their experience and not employing any cognitive distortions.

Additionally, lack of personal accomplishment was not significantly predicated by any of the constructs studied. One possible explanation for this finding is that students, although stressed and experiencing other aspects of burnout, may still feel some excitement about their new clinical work and the opportunity to put their long hours of education to practice. They may even be seeing results for the first time and finding fulfillment from the part they played in improving their clients' symptoms. However, this interpretation is inconsistent with research in which early-career psychologists experienced lower levels of personal accomplishment than late-career psychologists (Dorociak et al., 2017).

The overarching results of this study provide additional support to the importance of emphasizing self-care as a means of protecting oneself from burnout and stress. Analysis of the results also provided information regarding students' most commonly perceived stressors, giving further insight into the experience of a psychology graduate student.

Limitations

One should note the limitations of the current study both to control for overgeneralization of the results and to highlight areas in which future studies can improve. First, because the surveys were distributed online only and participants were recruited through social media, some psychology graduate students who are not involved in social media or who do not use psychology graduate student forums were not provided with an equal opportunity to participate. Second, all measures used in the study were

self-report measures. The drawback of using a self-report measure is that not all participants are necessarily willing to disclose the full extent of their experience and may desire to present themselves in the most positive light. Third, as many students who may be experiencing stress or burnout feel overwhelmed with their daily tasks or responsibilities, they may have been unlikely to take additional time to participate in a study. If that is the case, the sample used in the study was not truly representative of the population of psychology graduate students. On the other hand, students who feel positively or neutral about their graduate school experience may also be unlikely to participate in a study relating to experiences because they may not feel the need for catharsis through disclosure of their displeasure. Finally, the two measures created for the purposes of this study (i.e., Self-Care Inventory [SCI] and Psychology Graduate Student Stressors Inventory [PGSSI]) would require additional analysis to ensure that they are reliably and accurately measuring the constructs they were designed to measure.

Future Directions for Study and Practice

The results of this study provide a foundation for future investigations. As noted in Maslach et al. (2017), the conservation of resources theory suggests that high demands and high resources lead to better functioning. Therefore, one area that would benefit from additional attention is improvement of graduate program emphasis on self-care in psychology graduate programs (Goncher et al., 2013). Given the ability for self-care engagement to predict aspects of burnout (particularly emotional exhaustion), programs should not only include education about self-care in their curricula, but also provide students with opportunities to engage in self-care. Maranzan et al. (2018) noted that self-care is considered an ethical standard for Canadian psychologists and recommended a

shift to more proactive engagement in self-care. Based on findings from the present study and additional research (Goncher et al., 2013; Maranzan et al., 2018), graduate programs should move toward viewing self-care as a competency to be taught. Future studies could examine the extent to which programs are implementing these practices and provide recommendations for ways to better incorporate self-care into curricula.

Psychology graduate programs or individual students may also want to consider the use of Balint groups or dialectical behavior therapy (DBT) skills as a way of protecting students against burnout. Balint groups focus on cultivating empathy and improving the doctor-patient relationship. In each group, one member presents for approximately 10 minutes, pushes back from the group, and observes as group members imagine themselves in the physician's position and discuss (Mahoney et al., 2013). These groups have been shown to be beneficial in addressing burnout in physicians (Mahoney et al., 2013; Stojanovic-Tasic et al., 2018) and may have similar effects on groups of budding psychologists. DBT skills also show promise in the prevention of burnout. According to Jergensen (2018), DBT practitioners who used DBT skills, including "all of the mindfulness skills as well as Check the Facts, Problem Solving, Self-Soothe, Radical Acceptance, and Willingness" (p. 192), were found to have lower burnout. In fact, only 3.7% of those who participated in the study reached burnout threshold. This finding is particularly exciting when considering the level of difficulty associated with working with clients who are recommended to engage in DBT. Psychology graduate students may benefit from learning DBT skills as an intervention while simultaneously being encouraged to use them in self-practice.

Specific stressors experienced by psychology graduate students were assessed through the development and use of the Psychology Graduate Student Stressors Inventory (PGSSI). Analyses revealed that time constraints and financial concerns were the most frequently endorsed stressors for graduate students. That these areas were the highest rated stressors is not surprising. While academics and clinical training may be stressful for students, they were selected into graduate programs based on their abilities and potentials in these areas. Additionally, physical problems and home life stressors are likely to be somewhat impacted by the graduate school experience, but not as intensely as the significant changes in regard to time constraints and finances. Graduate school entails numerous competing demands and leaves students with little time for self-care or for engaging in activities that lead to financial compensation. To help combat these stressors, programs may want to consider providing students with additional resources to help learn better time management and budgeting skills. Additional opportunities for supplemental income would also be beneficial.

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Appendix A

Psychology Graduate Student Stressors Inventory (PGSSI)

Instructions: Using the rating scale provided below (never = 1, rarely = 2, sometimes = 3, often = 4, almost always = 5), please answer all questions in an objective and honest fashion. There are no right or wrong answers.

1. I feel overwhelmed by my assignments.
2. I spend time worrying about my clients.
3. I have arguments with my significant other.
4. I feel easily fatigued.
5. I feel like there isn't enough time in the day.
6. I worry about debt.
7. I struggle to get my school work done.
8. I feel supported by my clinical supervisor.
9. Things are hard at home.
10. I have headaches.
11. I don't have time to get everything done that I need to do.
12. I can't afford everything I need to succeed.
13. I feel prepared for my clinical responsibilities.
14. I have back pain.
15. I get along well with my significant other/family.
16. I worry about my grades.
17. I feel comfortable with my financial situation.
18. I have had to sleep less than I wanted to get everything done.
19. I have irritable bowels.
20. I have too many assignments.
21. I enjoy my clinical placement.
22. Things are good at home.
23. I feel prepared for practicum.

24. I am rushing from one commitment to the next.
25. I wonder if I will ever pay off my tuition.
26. I feel competent to work with my current caseload.
27. I enjoy school.
28. My family is supportive.
29. I have muscle soreness.
30. I can't afford to do the things I want to do.
31. My calendar is too full.
32. My supervisor is helpful.
33. My significant other is supportive.
34. I can tell my supervisor when I'm struggling.
35. I don't have time to relax.
36. I feel stressed about money.
37. I worry about getting the clinical placement I want.
38. I worry/worried about comprehensive exams.
39. My friends are supportive.
40. I worry about liking my clinical placement.
41. I don't have time to myself.
42. I wonder if I will make rent.
43. I have stomach upset.
44. I have trouble finding a work/life balance.
45. I worry about getting enough hours at my clinical placement.
46. I feel confident managing multiple priorities simultaneously.
47. I have lost weight.
48. I worry about making enough money in the future.
49. I feel overwhelmed by all of my responsibilities.
50. I feel like my clinical experience provides me with enough both varied and specialized experiences.
51. I know what is expected of me academically.
52. I have gained weight.
53. I can afford my health insurance.

54. I have difficulty with having an inconsistent schedule.
55. I sleep well at night.
56. I have to use medical assistance due to my financial situation.
57. I worry about dissertation.
58. I have to say no to family events more than I'd like to.
59. I am tired.
60. I have time to engage in self-care.
61. I have to pay out of pocket for medications because they are not covered by my insurance.
62. I spend too much time on my commute.
63. I feel physically healthy.
64. I know what is expected of me in my clinical placement.
65. I feel confident I can afford the cost of travel expenses to internship interviews.
66. I have to say no to social activities more than I'd like to.

Scoring: Each subscale can be combined for an overall stress score or, to compare stressors to each other, the total of each subscale can be divided by the number of items in that subscale.

Academic responsibilities (8 items) can be calculated by reverse scoring items 27 and 51 and combining them with items 1, 7, 16, 20, 38, and 57.

Clinical training (13 items) can be calculated by reverse scoring items 8, 13, 21, 23, 26, 32, 34, 50, and 64 and combining them with items 2, 37, 40, and 45.

Home life (9 items) can be calculated by reverse scoring items 15, 22, 28, 33, and 39 and combining them with items 3, 9, 58, and 66.

Physical problems (11 items) can be calculated by reverse scoring items 55 and 63 and combining them with items 4, 10, 14, 19, 29, 43, 47, 52, and 59.

Time constraints (13 items) can be calculated by reverse scoring items 46 and 60 and combining them with items 5, 11, 18, 24, 31, 35, 41, 44, 49, 54, and 62.

Financial concerns (12 items) can be calculated by reverse scoring items 17, 53, and 65 and combining them with items 6, 12, 25, 30, 36, 42, 48, 56, and 61.

Appendix B

Self-Care Inventory (SCI)

Instructions: Using the rating scale provided below (never = 1, rarely = 2, sometimes = 3, often = 4, almost always = 5), please answer all questions in an objective and honest fashion. There are no right or wrong answers.

1. I get enough rest.
2. I enjoy my clinical colleagues.
3. I reflect on the positive parts of my career as a therapist.
4. I assess my own needs.
5. I self-monitor for thinking errors.
6. I make time to relax.
7. I set boundaries with my clients.
8. I think it is important to see a personal therapist.
9. I try to be creative in my clinical practice.
10. I see psychology as my calling in life.
11. I understand I may work in less than favorable working conditions.
12. I think about why I got interested in psychology.
13. I track my self-care.
14. I take time to focus on the joy of helping others.
15. I relax my muscles.
16. I feel support from my peers.
17. I leave work at work.
18. I am aware of common irrationalities many mental health professionals hold.
19. I try to make my workplace physically comfortable.
20. I am open to challenges.
21. I engage in religious or spiritual activities.
22. I go to individual therapy.
23. I take vacations.
24. I monitor my internal dialogue.

25. I leave home issues at home.
26. I focus on nutrition.
27. I spend time with my significant other.
28. I acknowledge and appreciate the freedom and independence that comes with my career choice.
29. I stay hydrated.
30. I recognize the negative impact my job may have on my relationships.
31. I exercise.
32. I say “no” when necessary.
33. I spend time with friends.
34. I compare myself to same-age peers rather than to those more advanced in their career.
35. I engage in leisure activities.
36. I utilize novel methods in therapy when appropriate.
37. I meditate.
38. I think about my mission in life.
39. I am careful about self- disclosure of personal information.
40. I get up and walk around so I’m not seated all day at work.
41. I acknowledge positive aspects of my career outside of daily work.
42. I track my sleep.
43. I utilize my support system.
44. I read for pleasure.
45. I utilize my clients’ sense of spirituality in therapy.
46. I try to engage in diverse professional activities.
47. I try not to internalize case failures as self- failures.
48. I get regular massages.
49. I have self-empathy.
50. I regularly make contact with friends and family.
51. I write for pleasure.
52. I use my own therapy as an education opportunity.
53. I engage in continuing education.

54. I maintain a hobby.
55. I have an identity outside of my profession.
56. I regularly take note of the positive experiences in my work.
57. I utilize burnout and self-care questionnaires to help monitor myself.
58. I stretch my muscles.
59. I have friends outside of my profession.
60. I engage in outdoor activities.
61. I go to family therapy.
62. I welcome lifelong growth.
63. I balance the dialectic between commitment to self and commitment to patients.
64. I play video games.
65. I try to maintain a balanced diet.
66. I recognize that I am in a demanding profession.
67. I ensure aesthetic appeal to my office décor.
68. I make time for physical comfort.
69. I am aware of my use of “must” and “should” thoughts.
70. I take personal retreats.
71. I make an effort to maintain friendships.

Scoring: Each subscale can be combined for an overall self-care score or, to compare self-care practices to each other, the total of each subscale can be divided by the number of items in that subscale.

Valuing the person of the psychotherapist (4 items) can be calculated by combining items 4, 13, 49, and 57.

Refocusing on the rewards (6 items) can be calculated by combining items 3, 12, 14, 28, 41, and 56.

Recognizing the hazards (3 items) can be calculated by combining items 11, 30, and 66.

Minding the body(11 items) can be calculated by combining items 1, 15, 26, 29, 31, 40, 42, 48, 58, 65, and 68.

Nurturing relationships (8 items) can be calculated by combining items 2, 16, 27, 33, 43, 50, 59, and 71.

Setting boundaries (7 items) can be calculated by combining items 7, 17, 25, 32, 39, 55, and 63.

Restructuring cognitions (6 items) can be calculated by combining items 5, 18, 24, 34, 47, and 69.

Sustaining healthy escapes (10 items) can be calculated by combining items 6, 23, 35, 37, 44, 51, 54, 60, 64, and 70.

Creating a flourishing environment (2 items) can be calculated by combining items 19 and 67.

Undergoing personal therapy (4 items) can be calculated by combining items 8, 22, 52, and 61.

Cultivating spirituality and mission (4 items) can be calculated by combining items 10, 21, 38, and 45.

Fostering creativity and growth (6 items) can be calculated by combining items 9, 20, 36, 46, 53, and 62.

Appendix C

Demographics Questionnaire

1. Are you:
 - a. Male
 - b. Female
 - c. Transgender Male
 - d. Transgender Female
 - e. Other (please specify)

2. What is your race?
 - a. African American
 - b. Asian American
 - c. White, non-Hispanic
 - d. White, Hispanic
 - e. Middle Eastern
 - f. Other (please specify)

3. What is your marital status?
 - a. Single
 - b. Married
 - c. Separated
 - d. Divorced

4. What is the specialty of the program in which you are currently enrolled?
 - a. Clinical
 - b. Counseling
 - c. School
 - d. Combined

5. What is your year in your program?
 - a. First
 - b. Second
 - c. Third
 - d. Fourth
 - e. Fifth
 - f. Beyond fifth year

6. If in practicum/externship, what year of practicum/externship are you currently completing?
 - a. 1
 - b. 2
 - c. 3
 - d. 4