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Examining the Impact of Educational Modules on Self-care, Burnout, and Professional Impairment on Graduate And Medical Students

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EXAMINING THE IMPACT OF EDUCATIONAL MODULES ON SELF-CARE, BURNOUT, AND PROFESSIONAL IMPAIRMENT ON GRADUATE AND MEDICAL STUDENTS

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Dissertation Approval

This is to certify that the thesis presented to us by Samantha Giangrande on the 19th day of July, 2018, 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

Graduate school is a time of academic rigor, personal growth, stress, change, fear, and confrontation. It is important for medical and other graduate students to prepare themselves to serve and treat their patients effectively. An important part of this involves learning skills to better manage challenges and demands through ongoing self-care. However, little research has examined what knowledge students have of self-care strategies and burnout or whether education about these constructs is lacking in higher education. The purpose of this study was to examine the efficacy of self-care and impairment modules for medical and other graduate students enrolled in an interprofessional education (IPE). Graduate physician assistant, psychology, and mental health counseling students and osteopathic medical students completed a series of online questionnaires, including a demographics survey, a burnout measure, and a self-care assessment measure, before and after the study. A repeated measures analysis of variance (ANOVA) and multiple regressions were utilized to examine the relationship between self-care and burnout, as well as correlations between group membership, symptoms of burnout, and use of self-care over time. There were varying levels of significance of changes in self-care practices and levels of burnout, specifically during exposure to educational modules on impaired professionalism and self-care. Future studies may wish to utilize a larger sample and focus on education about specific self-care practices. A better understanding of medical and other graduate student burnout may improve student wellness initiatives and assist students in becoming more empathic and self-aware practitioners, with a decreased risk for burnout as future clinicians.

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Chapter 1: Introduction

Statement of the Problem

Burnout is a commonly used term among individuals in the healthcare field. Burnout can be defined as "a clinical syndrome characterized by emotional exhaustion, depersonalization, and a decreased sense of personal accomplishment" (Bittner, Khan, Babu, & Hamed, 2011, p.17). Symptoms of burnout include physical exhaustion, poor judgment, cynicism, guilt, feelings of ineffectiveness, and a sense of disconnection with others (Bittner et al., 2011; Dunn, Iglewicz, & Moutier, 2008; Maslach, 1997). Among physicians, 50% report that they experience increased stress and personal distress as a result of their medical practice (Bittner et al., 2011). Many practitioners, physicians and psychologists alike, experience doubt, guilty feelings, and an exaggerated sense of responsibility; these attributes constitute the central personality characteristics of many physicians (Gabbard, 1985). These personality traits may make medical and other graduate students particularly vulnerable to burnout, addiction, and emotional impairment (Novack, Epstein, & Paulsen, 1999). Among clinical psychology students and professionals, burnout symptoms may present as emotional exhaustion, treating others with detached coldness, dehumanization of patients, and decreased feelings of worth, competence, and success (Clark, Koetting, & Murdock, 2009; Maslach, 1997). Healthcare professionals' awareness of personal physical and mental health concerns can contribute to correct patient diagnoses and empathy towards their patients (Novack et al., 1999). Optimally, professionals should have a certain sense of inner peace, self-regard, and security (Novack et al., 1999). If these traits are not fostered during graduate school, it may be difficult for healthcare professionals to develop these traits when in practice.

Higher Education and Psychological Distress

Graduate school is a time of academic rigor, personal growth, stress, change, fear, and confrontation (Gold, Johnson, Leydon, Rohrbaugh, & Wilkins, 2015). It is also the time when health habits and self-care practices are formed (Gold et al., 2015). Fifty percent of graduate students in the United States experience burnout while in school, due to professional and personal issues. This burnout often results in higher attrition rates (Bittner et al., 2011). Although students entering medical and other graduate schools have similar rates of depression to their counterparts, their risk for decline in mental health increases (Dunn et al., 2008; Dyrbye, Thomas, & Shanafelt, 2005). Furthermore, students, residents, and physicians appear to be at increased risk for suicidal thoughts, attempted suicide, and successful suicide (Bittner et al., 2011; Dunn et al., 2008). Astonishingly, one third of practicing physicians do not seek regular care for their physical or mental health (Gross, Mead, Ford, & Klag, 2000). As with medical students, psychology students face numerous challenges and stressors that place them at risk for experiencing distress, burnout, vicarious traumatization, and eventually impaired professional competence (Barnett, Baker, Elman, & Schoener, 2007). Self-care is necessary for psychologists in training because of the physical and psychological exhaustion that often occurs. It is important for them to reinvigorate themselves in order to serve and treat their patients effectively (Baker, 2003). Therefore, students need to better manage their challenges and demands through ongoing self-care and wellness efforts (Barnett et al., 2007).

Research has shown a high prevalence of depression and poor mental health among medical and other graduate students (Dyrbye et al., 2005). There are many

consequences of high levels of stress, depression, and burnout in this population, including poor academic performance, decreased empathy, increased substance abuse, and increased suicidal ideation (Gold et al., 2015). Students' well-being is affected by many stressors, but attention to coping resources can help promote well-being and minimize burnout (Dunn et al., 2008). The specific coping strategies that students utilize may impact the effect of stress on their psychological and physical health (Dyrbye et al., 2005). Strategies that focus on disengagement often have negative consequences and correlate with depression, anxiety, and poor mental health (Dyrbye et al., 2005). Conversely, strategies that involve engagement, such as problem solving, reliance on social support, and expression of emotion, may enable students to respond more adaptively to stress (Dyrbye et al., 2005).

Mental health is necessary for the development and maintenance of professionalism, compassion and empathy for patients, altruism, and dedication to the intensive aspects of medicine (Dunn et al., 2008). There are two overall goals for promoting medical students' self-awareness, personal growth, and well-being (Novack et al., 1999). The first is to ensure that students understand how their own personal history, current life in medical school, and values, attitudes, and biases affect their care of patients, so that they can use their emotional responses to their patients' benefit. The second is to ensure that students care for themselves physically and emotionally and welcome and seek opportunities for enhancing self-awareness and personal growth (Novack et al., 1999). To achieve these goals, self-awareness and well-being can be promoted through student support groups, literature discussion, and activities linking self-awareness to clinical simulations.

Need for Interprofessional Education Programs

As the healthcare field becomes increasingly integrative, the demand for interprofessional education programs becomes greater. These programs should educate future practitioners on the risk of impairment, burnout, stress, and positive self-care strategies. Since the release of the 1988 World Health Organization (WHO) report *Learning Together to Work Together for Health*, focusing on the need for interprofessional education (IPE) programs, various forms of IPE curricula have been implemented in higher education and healthcare. A single discipline can not adequately address the multitude of health-related problems confronting patients (Hertweck et al., 2012). Research on practitioner suicide, mental distress, and self-care underscores the need for early attention to and development of medical student well-being and the skills to recognize when burnout is approaching (Dunn et al., 2008). Self-awareness skills should be instilled in early development as a graduate student, and structures for acquiring these skills are clearly needed (Novack et al., 1999). In addition, interprofessional education (IPE) programs may assist in educating about self-care strategies to prevent burnout and professional impairment students in a team-based approach.

Purpose of the Study

Much of what has been understood about stress and graduate school has been based on research in medical students (Myers et al., 2012). Although much of the research on medical and other graduate students focused on the product of burnout, little research has examined whether education about self-care and burnout may impact burnout symptoms and self-care practices. Moreover, there is limited research on

whether self-awareness initiatives and IPE programs geared toward student wellness may be helpful in decreasing burnout. The literature regarding stress and burnout among psychology students is also limited, but does reveal significant levels of stress in this population (Cushway, 1992).

Integrating focus on awareness of their own functioning and its impact on those that they serve is imperative for all master's, doctoral, and medical students prior to entering practice (Barnett et al., 2007). Therefore, this study sought to answer the following question: Do modules on professional impairment and self-care increase medical and other graduate students' practice of self-care activities and decrease burnout 1 month posttraining?

Chapter 2: Literature Review

Burnout, Stress, and Impairment

Health professions programs foster a method of teaching focused on healing, which encompasses working to cure diseases, treat mental illness, and practice preventive medicine, thus promoting the close connection between physician and patient (Novack et al., 1999). Health professionals seek to attain a level of respect, integrity, and compassion for their patients that is unique among professions. In addition, active listening, empathic statements, understanding patients using a biopsychosocial model, and using aspects of humor are all essential to holistic treatment. However, training programs, although not consciously, tend to foster cynicism, competitiveness, and self-doubt in students (Novack et al., 1999). The workload in these programs can be overwhelming and demanding, often leading to symptoms of stress, burnout, and impairment in students who are learning how to decrease unhealthy habits in their patients and promote physical and mental wellness; the irony is profound. Therefore, it is imperative that training programs teach students about the advantages of self-care, self-care techniques, how to recognize symptoms of stress and burnout, and the risks of burnout and impairment if mental wellness is not fostered. Creating physician healers who are conscious of their own physical and mental wellness is likely to produce exceptional patient care and compassionate healers (Novack et al., 1999).

Burnout. For years, burnout has been recognized as a hazard to those working in people-oriented professions, such as healthcare, human services, and education (Maslach & Leiter, 2016). Although therapeutic relationships can be rewarding, they may also be quite stressful, as there is a tremendous emphasis on personal and emotional contact with

clients and patients (Maslach & Leiter, 2016). Burnout is a psychological syndrome of emotional exhaustion, depersonalization, and reduced personal accomplishment that can occur among individuals who work with other people in some capacity (Maslach et al., 1997), i.e., do "people work". The significance of the three-dimensional model of burnout (emotional exhaustion, depersonalization, and reduced personal accomplishments) is that it socially contextualizes the individual's stress experiences and involves the person's perceptions of both himself/herself and others (Maslach & Leiter, 2016). The American Psychological Association (APA, 2010) defines burnout as a "condition marked by emotional exhaustion and negative or cynical attitudes toward others and self." Burnout can lead to depression, which has been linked to a variety of other health concerns, such as heart disease and stroke, obesity and eating disorders, diabetes, and some forms of cancer (APA, 2010a). Chronic depression also reduces immunity to other types of illnesses and can contribute to premature death (APA, 2010a).

Symptoms of burnout can resemble physical exhaustion, poor judgment, cynicism, guilt, feelings of ineffectiveness, and a sense of disconnection with others (Bittner et al., 2011; Dunn et al., 2008). According to Maslach's (1997) theory of burnout, these emotions can be described as a *burnout syndrome,* which increases feelings of emotional exhaustion. Emotional exhaustion may be described as "wearing out, loss of energy, depletion, debilitation, and fatigue" (Maslach & Leiter, 2016, p. 103). Development of depersonalization is another component of the burnout syndrome, which consists of irritability, withdrawal, and negative, cynical attitudes and feelings about one's clients. This experience of depersonalization can cause clinicians and practitioners to view their clients' problems as minimal and simplistic, leading to a lack of empathy.

The emergence of depersonalization seems to be related to the concept of emotional exhaustion (Maslach et al., 1997; APA, 2010a). Reduced personal accomplishment is the third construct of Maslach's burnout syndrome. This aspect refers to reduced productivity or capability, inability to cope (Maslach & Leiter, 2016), and the tendency to evaluate oneself negatively, i.e. self-doubt, specifically with regard to one's work with clients and patients (Maslach et al., 1997; Novack et al., 1999).

Heavy workload and environmental stresses and change can exacerbate stress and lead to burnout for health professionals (Stark, Hoekstra, Hazel, & Barton 2012). Clinical practice requirements, in addition to a heavy course load, employment, family obligations, and social commitments are among the many demands that students face while attending medical and other graduate schools (Stark et al., 2012). Findings from initial research on burnout syndrome suggested that it could lead to deterioration in the quality of care or service provided by clinicians and practitioners (Maslach, 1997). Burnout may be correlated with feelings of dysfunction, physical exhaustion, insomnia, increased use of alcohol and drugs, and relational and family problems (Maslach et al., 1997). Burnout develops particularly in professionals who interact intensively with patients experiencing difficulty, suffering, and depression (Schaufeli, Maslach, & Marek, 1993). Therefore nurses, physicians, teachers, lawyers, counselors, probation officers, prison workers, and social workers are at highest risk for burnout (Schaufeli et al., 1993).

Stress. Chronic stress can be emotionally draining and lead to burnout (Maslach et al., 1997). *Stress* is a term commonly used to describe students' feelings in medical school. Stress is defined as any "uncomfortable emotional experience accompanied by predictable biochemical, physiological, and behavioral changes" (Baum, 1990, p. 653).

Research indicates that graduate students experience 3.89 stressful life events during the first 6 months of their education (Goplerud, 1980). Stress can present in internal, external, acute, chronic, situational, or cumulative forms (Baker, 2003). External sources of stress can be economical, social, historical, or political. These factors exacerbate stress because many are viewed as out of one's immediate control. Internal stressors may present themselves as heart racing rapidly, running thoughts, feeling defeat, or feeling confused or overwhelmed. Common presentations of chronic stress include gastrointestinal problems, interrupted sleep, appetite change, increased illness, anxiety, attention deficits, relationships difficulties, and decreased performance (Baker, 2003). Stress can also decrease attention, reduce concentration, hinder decision making, and reduce students' abilities to establish good relationships with patients (Shapiro, Shapiro, & Schwartz, 2000). For some, stress is viewed as a motivator (APA, 2010a), such procrastination that increases stress, which in turn increases motivation to complete a task. Stress might be considered favorably by some students but unfavorably by other students, depending on their experience and coping skills (Saipanish, 2003). However, unmanageable and unhealthy stress can become overwhelming and lead to a variety of emotional consequences, such as anxiety and depression (APA, 2010a). Increased stress can also drastically impact physical health, causing erratic eating habits, lack of exercise, high blood pressure, insomnia, and elevated cholesterol levels (APA, 2010a). Maintaining optimal stress, producing motivation, excitement, exhilaration, mental alertness, and sharp perceptions, is ideal for physical and mental wellness (Craig & Sprang, 2010).

Previous research has suggested that medical students with higher levels of anxiety and depressive symptoms are likely to rate their performance poorly (Dunn et al. 2008). This negative evaluation of self may affect students' personality traits, as obsessive and compulsive tendencies affect a student's sense of expectation and vulnerability. Gabbard's compulsive triad of "doubt, guilt feelings, and an exaggerated sense of responsibility" portrays the central personality characteristics of many medical professionals (1985, p. 2927). Stressful situations and experiences, such as faculty presenting an ambiguous lecture, disorganized syllabi, and unclear assignments or exam questions, may also be out of the student's control (Dunn et al., 2008). However, resilient students may be able to overcome these challenges and change their study habits, time management, and self-directed learning. As students' lives take place in real time, the required process of acclimation to consuming large amounts of information at a very rapid pace may not always be feasible or attainable. Additionally, personal life events, such as family illness or death, divorce, personal sickness, or ending of a relationship, can cause a deterioration of healthy coping and an increased risk of burnout (Dunn et al., 2008).

The components of the compulsive triad (Gabbard, 1985) and obsessive tendencies can manifest both adaptively and maladaptively in forming important parts of the coping reservoir (Dunn et al., 2008). The *coping reservoir* illustrates how negative and positive inputs can result in one of two outcomes, burnout or resilience (Dunn et al., 2008). Curriculum, psychosocial stressors, and students' unique and internal characteristics can all lead to increased stress. The reservoir itself has an internal structure consisting of students' personal traits, temperament, and coping style (Dunn et

al., 2008). Positive inputs, also known as adaptive coping strategies, serve as filling or replenishing agents; negative inputs, or maladaptive coping strategies, drain the reservoir (Dunn et al., 2008). Students using adaptive coping strategies throughout their education have a larger coping reserve than those who use maladaptive coping strategies, e.g., perceiving small stressors as major threats or crises throughout their education. Knowledge of this reservoir and coping styles may be the difference between burnout and resilience in many medical and other graduate students attempting to find a healthy balance between school and life.

Professional impairment. Professional impairment is broadly defined continuing to work in healthcare too distressed to be effective in treatment and otherwise (Sherman, 1996). Additionally, it is defined as the "interference in the ability to practice, which may be sparked by a variety of factors, such as substance abuse and/or untreated emotional difficulties, and results in a decline in effectiveness" (Sherman, 1996, p.79). The medical profession was the first to acknowledge the issue of impaired professionals. In the 1970s, employee assistance programs (EAPs) were developed to assist the workforce in a variety of domains, and self-help groups for attorneys and social workers in recovery from alcoholism were established (Sherman, 1996). The issue of impaired psychologists was first recognized in 1980 at an American Psychological Association (APA) meeting (Kilburg, Nathan, & Thoreson, 1986). As a result, two committees were formed to develop a self-help group for psychologists with substance abuse problems and publish a book on mental health professionals in distress (Kilburg et al., 1986). Through these committees, the Impaired Professional program was created and continues to exist. If an impaired psychologist does not obtain treatment, disciplinary or corrective action,

such as license suspension or revocation, is to be taken against him or her (APA, 2016). The APA Ethical Principles of Psychologists and Code of Conduct require that (a) psychologists refrain from initiating an activity when they know or should know that there is a substantial likelihood that their personal problems will prevent them from performing their work activities in a competent manner, and (b) when psychologists become aware of personal problems that may interfere with performing their work-related duties adequately, they take appropriate measures, such as obtaining professional consultation, and determine whether they should limit, suspend, or terminate their work-related activities (APA, 2002, p. 1063).

The American Medical Association (AMA) outlined the ethical responsibility to recognize and report impairment among colleagues. The AMA Code of Medical Ethics provides professional self-regulation guidance to those who may be experiencing impairment or witness an impaired colleague (AMA, 2016). The Code notes that when the wellness or health of a physician is compromised, the safety and effectiveness of the medical care may also be compromised. Therefore, physicians have a responsibility to maintain their mental and physical health and wellness by preventing or treating acute or chronic diseases, including mental illness, disabilities, and occupational stress. Additionally, the code clarifies that it is a physician's obligation to ensure that peers can also provide effective care to patients. The AMA defines *impairment* as physical or mental conditions that interfere with the ability to treat patients safely, thereby compromising professional relationships and threatening trust in medicine (AMA, 2016). Physicians have a responsibility to treat their impaired colleagues with compassion and treat them as they would their patients. If a colleague is impaired, the AMA outlines

procedures to ensure the effective treatment of this individual, stating that physicians should intervene in a timely manner, report impaired colleagues (in keeping with ethics guidance and applicable law), and assist recovering colleagues when they return to treating patients (AMA, 2016). Additionally, the American Academy of Physician Assistants (AAPA) defines impairment as the inability to practice medicine with reasonable skill and safety because of a physical or mental illness, loss of motor functioning, or substance use (AAPA, 2013, p. 10). Physician assistants have an ethical responsibility, similar to psychologists and physicians, to protect patients by identifying and assisting colleagues assumed to be impaired. They should be able to recognize impairment in themselves and others and seek the necessary assistance from appropriate resources to encourage individuals to obtain treatment (AAPA, 2013). Elements leading to professional distress may come as a direct result of inadequate self-care efforts; although a natural feeling, it can place healthcare providers at risk for harming themselves, their patients, their professional career, and others in their lives (Barnett, Johnston, & Hillard, 2006). Optimally, signs of distress are noticed before they become an issue, in order to take action and prevent burnout (Barnett et al., 2007).

Risk Factors for Burnout, Stress, and Impairment

Behavioral health professionals working with traumatized clients are especially at risk for a variety of mental health concerns. Continuous and prolonged exposure to the various trauma-related stressors experienced by their clients can lead to burnout, compassion fatigue, and compassion satisfaction (Craig & Sprang, 2010). *Compassion fatigue* reduces practitioners' capacity or interest in treating or listening to the suffering of others (Figley, 2002). For professionals treating traumatized clients, this excessive

stress may result in burnout and may turn into compassion fatigue, which can transform the professionals' sense of self and negatively impact their psychological wellness (Craig & Sprang, 2010). Evidence suggests that those who are at the forefront of treating trauma are at higher risk for developing compassion fatigue (Craig & Sprang, 2010). Professionals with years of experience in the field may feel *compassion satisfaction,* which encompasses feelings of growth and well-being associated with their practice (Craig & Sprang, 2010). Craig and Sprang (2010) researched self-reported use of evidence-based practices and whether an increased use of these practices would predict compassion satisfaction, burnout, and compassion fatigue. Their results indicated that younger professionals reported higher levels of burnout, and more experienced clinicians and providers experienced higher levels of compassion satisfaction. This suggested that younger professionals may not be properly educated on self-care techniques to decrease their risk for compassion fatigue and burnout or that these tools may develop with more experience in the field.

Statistics on Burnout, Stress, and Impairment

Half of physicians report that they experience increased stress and personal distress as a product of their medical practice (Bittner et al., 2011). Among medical students in the United States, 50% experience burnout while in school, potentially due to professional and personal issues that result in higher attrition rates (Bittner et al., 2011). Just as the patients they are treating, many medical students experience depression and suicidal ideation throughout their higher education career (Bittner et al., 2011). Research on 1,294 osteopathic medical students in the United States was conducted in order to assess level of burnout (Lapinski, Yost, Sexton, LaBaere, & LaBaere, 2016). Results on

the Maslach Burnout Inventory suggested that approximately 75% of participants met the *DSM-5* criteria for depression, and 50% of students experienced symptoms of burnout. In regard to gender, females in osteopathic medical programs were 1.5 times more likely to feel burned out than males. As for the burnout inventory subscales, males had lower feelings of emotional exhaustion and personal accomplishment and higher depersonalization than females. Students who identified themselves as being homosexual, bisexual, or asexual were 2.62 times more likely to feel burned out than heterosexual students. Personal and family stressors, in addition to average hours of sleep, average hours spent studying, and involvement in extracurricular activities, were all strongly linked to overall burnout (Lapinski et al., 2016). Graduate students are vulnerable to stress because of the multiple demands of graduate school, including academic coursework, research, clinical training, and financial constraints (Myers et al., 2012).

Similarly to medical students, psychology students face a variety of challenges, from navigating graduate school stressors to developing the knowledge and skills necessary to provide clinical services to patients (Myers et al., 2012). Specifically, psychology students confront numerous challenges, not only in treating their patients but also within themselves. These challenges put them at risk for experiencing distress, burnout, vicarious traumatization, and problems with their own outlook on professionalism (Goncher, Sherman, Barnett, & Haskins, 2013). The American Psychological Association Ethics Code (2010b), in Standard 2.03, Personal Problems and Conflict, reviews the need to be aware of personal issues that may influence clinical practice and the importance of addressing these issues before they become harmful or

prior to working with patients. High levels of stress may impact clinical practice and overall training experience in psychology graduate students (Myers et al., 2012). Clinical psychology trainees working with psychiatric patients are also susceptible to experiencing high levels of stress during their training (Pakenham & Strafford-Brown, 2012). Clinical psychologists face the concept of ambiguity, or lack of clarity, on a daily basis. Ambiguity can occur when a psychologist encounters complicated symptoms that do not fit within a specific diagnostic criteria or when faced with an ethical dilemma. Student clinicians experience ambiguity throughout their education because they learn a variety of ways to treat symptoms that may not lead to a meaningful answer to their questions about treatment modalities (Pakenham & Strafford-Brown, 2012). Guy, Poelstra, and Stark (1989) conducted research on American clinical psychologists to assess the impact of therapists' personal distress on the quality of patient care provided. Of the 318 participants, 74.3% reported experiencing personal distress in the past 3 years, and 36.7% reported that their personal distress was hindering the quality of patient care provided. In addition, the researchers discovered that 82% of professional psychologists in a sample of 158 clinical psychologists endorsed having experienced psychotic distress, defined as "anxious or depressed moods, somatic complaints, lowered self-esteem, and feelings of confusion and helplessness about their problems" (Guy, Poelstra, & Stark, 1989).

The American Psychological Association (APA, 2006) reported that substance abuse was one of the areas most frequently researched by professional psychologists. In a survey of 379 psychologists, 9% indicated that they had an alcohol use problem (Thoreson, Miller, & Krauskopf, 1986). Further research found that 20% of the

professional psychologists sampled disclosed that they used alcohol daily or almost every day, and rates of 6.4%, 6.2%, 2.9%, and 1.1% were reported for the use of marijuana, tranquilizers, opiates, and cocaine, respectively (Good, Thoreson, & Shaughnessy, 1995). Similarly, in a sample of 108 psychologists tested for substance use disorders, 46% abused nicotine, and 35% abused caffeine, and some abused drugs categorized as mood altering: minor tranquilizers (20%), psychedelics (20%), stimulants (17%), barbiturates (14%), and opiates (8%) (Thoreson et al., 1986). However, reassuringly, professional psychologists rated the use of substances as the least effective strategy for relieving stress (Stevanovic & Rupert, 2004) and both doctoral and nondoctoral level therapists' concerns about their alcohol and drug use were among the lowest rated personal problems (Mahoney, 1997). Unfortunately, substance use among medical students, specifically, has been recognized as one of the prevalent methods of stress reduction (Shah, Bazargan-Hejazi, Lindstrom, & Wolf, 2009).

Literature regarding stress among psychology students is scant, but the existing research does reveal significantly high levels of stress among this population. A survey of 281 clinical psychology trainees revealed that three quarters reported being moderately or very stressed as a result of training (Cushway, 1992). A recent survey conducted by the American Psychological Association of Graduate Students (APAGS) and APA's Advisory Committee on Colleague Assistance found that 70% of graduate students reported that their functioning was impaired by at least one stressful factor, such as finances, academics, relationships, and health (El-Ghoroury Galper, Sawaqdeh, & Bufka,, 2012). The findings indicated the need to examine stress among psychology graduate students and to relay this information to their faculty and supervisors.

Medical and Graduate Student Burnout

Much of what has been understood about stress and graduate school has been based on research with medical students (Myer et al., 2012). All medical students experience substantial stress from the beginning of their education. Most of this stress is normal, but not all students find their increased stress level constructive or motivational. Although it is emphasized that students use self-care and adaptive coping strategies, high rates of depression, stress, and burnout are consistently found (Gold et al., 2015). Rates of depression among students differ by year of training and by gender, as more advanced students and females are more likely to have mental illness symptoms (Gold et al., 2015). There are many consequences of high levels of stress, depression, and burnout among this population, including decreased academic performance, decreased empathy, increased substance abuse, and increased suicidal ideation (Gold et al., 2015). Increased burnout is also associated with students' self-reported engagement in unprofessional behaviors, such as cheating on exams and less altruistic views about physicians' responsibility to their patients and society; thus, they may become less likely to want to serve the underserved (Gold et al., 2015).

Medical schools are responsible for ensuring that graduates are knowledgeable, skillful, and professional (Dyrbye et al., 2005). To achieve this, medical schools often use a curriculum of didactic lectures, modeling, supervised practice, mentoring, and hands-on experience to augment individual study. Although intended to be helpful, this training process may have negative consequences on students' personal health. The specific coping strategies that students utilize may determine the effect that their stress has on their psychological and physical health. Strategies that focus on disengagement,

such as avoiding problems, social withdrawal, and self-criticism and self-doubt, have negative consequences and are correlated with symptoms of depression and anxiety. Conversely, strategies that involve engagement, such as problem solving, positive view of challenges, reliance on social support, and expression of emotion, enable students to respond more adaptively to stress (Dyrbye et al., 2005). Depression may result from students' increased stress and workload. Research has shown a high prevalence of depression and poor mental health among graduate students. Although students may have access to mental health treatment at their school, they are less likely to seek treatment due to fear of confidentiality breaches, stigma of mental illness, reluctance to take time off, cost, or lack of convenience (Gold et al., 2015). Many of these issues appear to be even greater barriers for female and minority students (Dyrbye et al., 2005). Despite the high prevalence of mental health-related concerns and accessible mental health services, depressed graduate students are no more likely than the general population to seek treatment for depression (Dyrbye et al., 2005). In lieu of utilizing mental health services, students rely on social supports during periods of stress and depression. Research has shown that students are more comfortable talking to peers, social supports, and their families than seeking formal mental health treatment.

Medical and Graduate Student Responses to Burnout

Doctoral students often find the first year of graduate school very stressful, many students to withdraw from their program or transfer (Golde, 1998). Attrition during the first year accounts for approximately one third of all doctoral student attrition. Research results show that a common reason for leaving a doctoral program was the realization that graduate school was too consuming, and these students did not want to embrace that

lifestyle for the next 4 or 5 years. The time commitment and sacrifice led many students to reconsider remaining in their respective programs (Golde, 1998). Although many students leave for personal reasons that are unreported, many students leave because they experienced difficulty in the beginning. Four general tasks of transition and initial socialization into graduate student life have been identified: intellectual mastery, obtained through coursework, lab work, and work in the field; learning about the realities of life as a graduate student; learning about the profession; and integrating into the program's department policies and faculty (Golde, 1998). Learning about the realities of life as a graduate student may include questioning whether or not the degree is worth the sacrifices necessary to obtain it. The fourth task, integration into the department, may be intimidating, as this task includes ensuring compatibility with the faculty because relationships with faculty are integral (Golde, 1998). Depending on students' resiliency, these four tasks may lead to an easier acclimation to a stressful climate in graduate school or risk for burnout.

Education on Self-Care and Burnout

Promoting mental, physical, and spiritual well-being is an essential component of self-care. Self-awareness of one's professional and personal functioning has also been identified as a core competency for students (APA, 2006). Specifically, psychologists confront numerous challenges, not only in treating their patients but also within themselves. These challenges put them at risk for experiencing distress, burnout, vicarious traumatization, and problems with their own outlook on professionalism (Goncher et al., 2013). Psychology graduate students should therefore attempt to manage their overall stress and challenges effectively by utilizing self-care strategies. The APA

Advisory Committee on Colleague Assistance surveyed 500 graduate students, recruited through a posting on the APA of Graduate Students (APAGS) listserv, about the level of self-care conversations occurring on their respective campuses (2006). Results indicated that 82.8% reported their training programs did not offer material on the issues of self-care and stress, and 63.4% stated that their university did not sponsor activities promoting self-care. Providing training to graduate students and practicing psychologists on how to apply self-care strategies is imperative. Results from another study, utilizing the Perceived Self-care Emphasis Questionnaire (PSEQ; Goncher et al., 2013) and a Self-care Utilization Questionnaire showed that perceived self-care emphasis was a significant predictor of quality of life and self-care utilization, and self-care utilization was a significant predictor of quality of life in the graduate students who participated (Goncher et al., 2013). These findings continue to lend support for graduate programs to create a culture of self-care by promoting the effective management of distress, thereby avoiding subsequent interference in professional function.

Many students face challenges that disrupt their ability to form a healthy self-concept (Dunn et al., 2008). Although students entering medical school have similar rates of depression as their peers, their risk for a decline in mental health increases. Students, residents, and physicians appear to be at increased risk for suicidal thoughts, attempted suicide, and successful suicide. The research on physician suicide, mental distress, and self-care underscores the need for early attention to and development of medical student well-being and the skills to notice when burnout is approaching. Graduate schools that offer formal and informal coping skills training and promotion of self-care may further sustain students' well-being throughout their education and in their

career (Dunn et al., 2008). Graduate programs have been urged to establish an environment that provides education and training and advocates the implementation of research-informed self-care methods (Goncher et al., 2013). Through self-care conversations and initiatives, graduate schools may promote the ideal characteristics of compassion, integrity, empathy, professionalism, and commitment to service and lifelong learning among their students (Dunn et al., 2008).

Self-Care

Medical students' well-being is affected by many stressors, but students' attention to their coping resources can help promote self-care and minimize burnout (Dunn et al., 2008). Maintaining mental health, through the use of individualized self-care strategies, is necessary for the development and maintenance of those gratifying qualities of medical professionalism, compassion, and empathy for patients, altruism, and dedication to the intensive aspects of medicine (Dunn et al., 2008). For medical and other graduate students, the increased stressors for the beginning practitioner are normal and part of the developmental process, with trainees self-developing their emotional boundaries (Skovholt, 2001, p.55). Therefore, education on self-care strategies and recognizing symptoms of burnout is imperative in graduate school, prior to becoming practitioners.

Self-care can be defined as "taking the necessary care of oneself and continuing to learn throughout life about what deepens and strengthens our sense of personal well-being and peace of mind" (Baker, 2003, p. 59). It is strongly suggested that practitioners utilize self-care and expect their patients to use it, too. Healthcare professionals are urged to remind themselves, just as they do their clients, to stay attuned to their inner life (Baker, 2003, p. 59). There are many different forms and practices of self-care,

depending on one's personal history, gender, personality, developmental stage, or personal needs (Baker, 2003, p. 19). There are three components of self-care that future practitioners should focus on: self-awareness, self-regulation, and balance (Baker, 2003, p. 13). Self-care comprises these concepts and how they connect to self, others, and the larger community (Baker, 2003, p. 14). Components of self involve the psychological, physical, spiritual, and professional. The first component of self-awareness is the element in the responsible, mature management and regulation of one's self, both as a person and a professional. Therapist self-awareness is one of the factors associated with therapeutic efficacy and therapy outcomes. When individuals become aware of their needs and limits, they can consciously consider their options in handling those concerns (Baker, 2003, p. 14). Therefore, balance is another integral aspect of self-care. Balance is essential in helping individuals to cope with needs and concerns in both their personal and professional lives (Baker, 2003, p. 15). If self-care strategies are not fostered early in the medical and other graduate school curricula, the potential for increased professional impairment becomes greater. Integrating focus on awareness of their own functioning and its impact on those that they serve is imperative for all students and professionals in the healthcare field (Barnett et al., 2007).

Psychologist Self-Care

By definition, psychologists study and modify human behavior; therefore, they study and modify other humans (Norcross, 2000). A therapist's mental health is the foundation of his or her work; when experiencing personal problems, skills are diminished and therapeutic effectiveness is hindered (Sherman, 1996). As therapists rely on their own emotional and cognitive reactions to patients, it is important for them to

have an unclouded mindset at the time of the session. Psychologists' awareness of their own issues is essential, due to the negative effects these issues may have on their patients. This does not assume that psychologists will not or should not have impairment at some point throughout their careers, but acknowledging the impairments and the effects they may have on their patients care is imperative (Sherman, 1996).

Some therapists may become so engrossed in their patients' welfare that they become detached from their own psychological well-being (Sherman, 1996). Therapists may also experience vicarious traumatization after listening to their patients' traumatic experiences (Sherman, 1996). *Vicarious traumatization* means that an individual is experiencing secondary trauma as a result of listening to someone's traumatic experiences and taking them on as their own. Certain clients, especially those with borderline personality disorder, serious legal charges, or who threaten or engage in homicidal, suicidal, or self-injurious behavior, may be significantly taxing for therapists (Sherman, 1996). In addition to secondary traumatization, therapists with suicidal patients may themselves experience suicidal ideation (Sherman, 1996), although this is rare. During the therapy session, it is imperative that therapists set aside their personal concerns and control their emotions (Sherman, 1996). Acknowledging that patients' issues may be affecting the therapists' mental health allows the professionals to address these internalizing issues, either in supervision with their colleagues or in personal therapy, prior to the next treatment session.

Self-Care Strategies for Psychology Students

Recognizing the hazards of psychological practice entails noticing any negative experiences as a result of administering psychotherapy. Psychotherapy can often be a

grueling and emotionally demanding field (Norcross, 2000). Previous research has concluded that moderate depression, mild anxiety, emotional exhaustion, and disrupted relationships are common results of being a psychotherapist. Openly acknowledging the strenuousness of this field will yield significant benefits, as all mental health professionals experience some kind of pressure. Disconfirming these emotions is hazardous in itself. Thinking of strategies, as opposed to techniques or methods, is another aspect of self-care. Strategies should be set that correlate with the person's individual preferences, such as if an individual is experiencing anxiety due to a heavy workload but is not inclined to ask for help, s/he can brainstorm strategies to form more helping relationships and overcome that barrier. Self-awareness and self-liberation are also extremely important concepts of self-care. Self-monitoring requires individuals to examine their own behaviors and thoughts and how they may affect their distress levels (Norcross, 2000). The use of self-awareness/self-monitoring has been identified as the top-ranked contributor to optimal functioning among psychologists (Norcross, 2000). Self-liberation, the act of choosing and making independent decisions, has been an effective self-change strategy that leads to a positive outlook on life (Norcross, 2000).

Ten self-care strategies highly recommended for healthcare professionals have been compiled through extensive research on self-care (Norcross, 2000). These strategies are: recognizing the hazards of psychological practice; thinking of problem-solving strategies, as opposed to techniques or methods; beginning with self-awareness and self-liberation; embracing multiple strategies traditionally associated with diverse theoretical orientations; employing stimulus control and counterconditioning when possible; emphasizing the human element; seeking personal therapy; avoiding self-blame;

diversifying; and appreciating the rewards of working in the field. Embracing multiple strategies associated with psychologists' own theoretical orientation, such as cognitive behavioral, psychodynamic, and behavioral strategies, has been helpful in implementing self-change for therapists experiencing stress. Creating an environment, such as a relaxing office space, that works for the therapist is also a helpful self-care technique. In addition to stimulus control, counterconditioning has been identified as a helpful self-care strategy. This includes relaxation, assertiveness techniques, cognitive restructuring, and exercise (Norcross, 2000). Emphasizing the need for healthy relationships and personal therapy will improve psychologists' self-care techniques when used in combination with the aforementioned strategies. Furthermore, seeking personal therapy has been noted to yield positive results for psychologists' mental health. Diversifying the profession by utilizing multiple forms of therapy with patients, working with various populations, or teaching part-time will decrease burnout in psychologists and trainees. Most importantly, the hazards of psychological practice must be balanced with its rewards. Acknowledging that clients are more satisfied with their lives following therapy and that they are not the only ones who change through psychotherapy is imperative. Although clinical work can be grueling and demanding, it also brings relief, job satisfaction, meaning to life, growth, excitement, and personal engagement that not many professions experience (Norcross, 2000). Using a combination of these strategies will be most effective in reducing burnout and professional impairment.

Psychologists are no less likely than the average person to experience the effects of daily stressors or physical and mental health concerns, including mental health diagnoses and substance abuse disorders (Barnett et al., 2007). Because psychologists

are trained to attend to others' emotional states and challenges, they are at increased risk for overlooking or ignoring their own emotional needs and reactions. Therefore, psychology students should view themselves as vulnerable to emotional difficulties, become sensitive to these issues, and conduct regular self-care practices to avoid burnout and vicarious traumatization (Barnett et al., 2007). Self-care is necessary for future practitioners because of the physical and psychological exhaustion that is common in this profession. It is important for them to revitalize and maintain their well-being to serve and treat their patients effectively (Baker, 2003, p. 16). Future practitioners, as professionals and human beings, have the absolute right to take time for themselves, just as they give their time to their clients, family, and friends (Baker, 2003, p. 16).

Self-Care Strategies for Medical Students

Healing is one of the many facets of medical students' training (Novack et al., 1999). Healing involves open communication with patients, affirming patient beliefs and values, reassurance, communicating empathy, and active listening (Novack et al., 1999). However, if students are not aware of how to heal themselves first, their possibility of healing others diminishes. Research on medical students has provided information on how students' health habits affect their academic performance, emotional coping skills, and their future as successful physicians (Ball & Bax, 2002). As medical students experience a variety of issues, such as financial crises, lack of physical activities, sleep deprivation, substance use, and dissatisfaction with life, they are more susceptible to increased stress and diminished mental wellness.

The Indiana University School of Medicine has incorporated self-care, self-awareness, and personal growth as core features of the curriculum in order for students to

develop essential and effective coping strategies throughout their education. Ball and Bax (2002) researched the prevalence of and change in health habits among first-year medical students at Indiana University. They were also interested in examining self-awareness and current self-care strategies among student participants. Fifty-four first-year medical students participated in the study and were administered screening instruments to gauge self-awareness and self-care: the Beck Depression Inventory (BDI), AUDIT for substance abuse, the Friedman test for sleep, and the Medical Education Quality of Life Questionnaire (MEQL). Self-care intervention materials included a lecture on self-care, written materials on self-care habits, and a group discussion of self-care issues (Ball & Bax, 2002). The results indicated that sleep deprivation and overall life dissatisfaction were widespread over the course of the first semester. Many students experienced increased depression, especially during midterms, which seemed to dissipate slightly when finals were approaching, possibly due to the reward of an upcoming break (Ball & Bax, 2002). Additionally, with regard to alcohol consumption, Ball and Bax (2002) reported that students increased consumption as a more efficient and rapid coping strategy than socializing or exercise, which may be detrimental if students are not advised of the serious health implications of increased alcohol use. Importantly, those who maintained social interactions during midterms and finals were overall more satisfied with their life and reported higher academic performance than their peers (Ball & Bax, 2002). Students also showed an increase in exercise during finals, specifically those students who participated in the group discussion of self-care habits. Students who received feedback regarding their self-care habits and those who participated in the group

discussions showed improvements at a follow-up during their second semester (Ball & Bax, 2002).

These results may be helpful to many medical students, as they show that medical students experience a variety of challenges and changes while they adjust to their first semester in medical school. Lectures on self-care were viewed as somewhat helpful, and some students who received the education changed their behaviors, particularly by maintaining consistent sleep schedules and increasing exercise (Ball & Bax, 2002). However, future curricula may focus on education about particular issues that could impede self-care practices or could be viewed as self-care, such as alcohol consumption. Overall, the effectiveness of self-care education in this research suggests that medical schools should incorporate this as part of their regular curriculum (Ball & Bax, 2002).

Addressing Distress and Self-Care Strategies for Graduate Students

Self-care needs change over time; as we evolve from our youth, the support for our developmental needs change (Baker, 2003, p. 25). Becoming more aware of this change is important because career development can involve an immense amount of energy and focus. As mentioned, the intense environment of graduate school can create or exacerbate personal psychological vulnerabilities (Baker, 2003, p. 28). Under the most positive circumstances, the challenging experience of graduate school and beginning to consider future careers may create change and evolution in perspective and values (Baker, 2003, p. 28). However, if distress is not adequately addressed, graduate students may experience burnout. Those who work with victims of violence and other traumatic events may experience vicarious traumatization, or secondary traumatization (Figley 1995; Pearlman & Saavitne, 1995). The pursuit of psychological wellness through

continuous self-care efforts has been described as ethically imperative (Barnett et al., 2006). The awareness of emotional distress is an important first step, but self-care should be seen as an ongoing preventive activity (Barnett et al., 2007).

Myers et al. (2012) focused on specific self-care practices: sleep patterns, exercise behaviors, perceived social support, and use of emotion regulation strategies, trait mindfulness, and formal mindfulness practice. They hypothesized that engagement in the aforementioned self-care practices would be related to lower levels of perceived stress. They also hypothesized that suppression of emotions would increase levels of perceived stress. Results of their study indicated that healthy sleep practices and higher levels of social support were significantly related to lower levels of perceived stress. However, frequency of engagement in mindfulness practice did not significantly affect perceived stress contrary to their hypothesis. These results suggest that self-care practices are related to perceived stress levels among psychology graduate students across the United States. The Mindfulness Based Stress Reduction (MBSR) was effective in reducing perceived stress, negative affect, anxiety, and rumination among the graduate students who participated. Therefore, programs such as MBSR would be beneficial to graduate students, as this program teaches students to stay in the present moment in a nonjudgmental way (Myers et al., 2012). Other ways to cope may include structuring caseloads and work schedules in a way that minimizes stress and maximizes effectiveness. Involvement in nonclinical professional activities, such as part-time teaching or supervisory roles, may bring freshness to an otherwise stressful work-day (Sherman, 1996). Also, spirituality or holistic practices, such as yoga and meditation, may promote emotional wellness (Sherman, 1996). There is limited research examining

self-care practice and stress among various graduate programs, but the existing literature has noted a significant relationship between the two (Myers et al., 2011).

Social support. Graduate programs are urged to establish an environment that provides education and training on research-informed self-care methods and advocates for students to assess their level of burnout, when necessary (Goncher et al., 2013). The level and quality of support that students receive during major life changes may have a critical impact on their health and psychological status (Goplerud, 1980). For many, acceptance into a graduate program denotes the beginning of a period of major, uncertain life changes. Unsurprisingly, the first year of graduate school has been identified as the beginning of a period of high risk for physical and psychological problems. Support networks during this stressful time may be an excellent secondary prevention strategy to reduce stress. Peer support networks have been shown to be an integral factor in the emotional and academic development of graduate students. On average, graduate students experience 3.89 stressful life events during their first 6 months of school. Investigating peer interaction during the first few weeks of graduate school and how that affected perceived stressfulness of the first 6 months of graduate school produced significant results indicating that social support was a major mediating factor in students' assessments of the stressfulness of events (Goplerud, 1980).

Integrated Healthcare and Need for Mental Wellness

Since the release of the 1988 World Health Organization (WHO) report *Learning Together to Work Together for Health*, which focuses on the need for interprofessional education (IPE) programs, various forms of IPE curriculum have been implemented in higher education and healthcare (World Health Organization, 1988). An update from the

WHO outlines a new *Framework for Action on Interprofessional Education and Collaborative Practice,* which reviews current access to interprofessional collaboration around the world, identifies factors that shape successful integrated care, and enumerates a series of action plans for policy makers to implement at the local government level (World Health Organization, 2010). The framework acknowledges that many integrated healthcare systems are struggling to meet the needs of their patients. The goal of this framework is to provide strategies that will help policy makers implement interprofessional education programs and collaborative practices that will be most beneficial (World Health Organization, 2010). As healthcare becomes increasingly integrative, the demand for IPE programs becomes greater. One single discipline can not adequately address the multitude of health-related problems confronting patients (Hertweck et al., 2012).

Physician assistant (PA) education has been identified as a team-based approach to healthcare, focusing on the physician and PA as an integrative team (Hertweck et al., 2012). Results from a study evaluating the need for an IPE program showed a significantly negative relationship between students' age and the Teamwork and Collaboration subscale of the Readiness for Interprofessional Learning Scale (RIPLS) (Hertweck et al., 2012). Data was collected in the fall of 2010 from 158 health professions students, including graduate students in physician assistant studies, occupational therapy (OT), physical therapy (PT), and counseling psychology students. Those with exposure to the healthcare system had a more positive view of interprofessional collaboration than to those with limited exposure (Hertweck et al., 2012). Female students in all disciplines scored significantly higher on the Teamwork

and Collaboration subscale than male students. A significant difference between the programs was found when comparing the total scores from the RIPLS. Occupational therapy OT students differed significantly from PA students, with OT students scoring higher on the overall RIPLS. PA students had significantly lower scores on the Teamwork and Collaboration, Negative Professional Identity, and Roles and Responsibilities subscales, indicating less readiness for IPE programs than OT, PT, and counseling psychology students. Because PA students are educated in the medical model, their opinion on the value of working with other healthcare professionals might be influenced. It may be important to implement early interventions with PA students about attitudes toward and preconceived notions of other health professions (Hertweck et al., 2012).

Incorporating interprofessional learning into the curriculum has the potential to improve continuity and delivery of care (Pollard, Miers, & Gilchrist, 2005). Faculty in the Health and Social Care Department at the University of the West of England (UWE) explored effects of a predegree, or prelicensure, interprofessional curriculum incorporating interprofessional modules in each year of study. The study population was comprised of two cohorts, the first with 538 students and the second with 185 students, in their second year of one of 10 healthcare programs, including social work, occupational therapy, mental health nursing, child and adult nursing, midwifery, and diagnostic imaging. The study design involved collecting data at entry to the program, after completion of the second interprofessional module, upon degree qualification, and then follow-up 9 months after qualified practice (Pollard et al., 2005). The results showed that students with previous experience working in health or social care settings responded less

positively than they did at entry after the interprofessional module. Students with higher education experience at entry level were less positive in their views on interprofessional education, whereas students with no higher education experience responded more positively. There were no differences between students in terms of self-assessment of communication and teamwork skills or attitudes towards interprofessional learning on the basis of either demographic factors or choice of profession. Social work and occupational therapy students were relatively negative about interprofessional interaction, even after adjustment for confounding variables. Although the results differed, it is important to acknowledge that learning environments within professional groups may vary significantly, as may the amount of coursework, differing schedules, and emphasis on skills development (Pollard et al., 2005).

Overall, the rate of burnout among those in the healthcare profession tends to be reported at moderate to high levels. In fact, it is believed that burnout risk is higher for those in the healthcare field than those in the general working population (Maslach & Leiter, 2016). Therefore, the goal of this study was to gain a deeper understanding of burnout symptoms and self-care practices to decrease burnout in a population of medical and other graduate students, who are at high risk of experiencing significant burnout.

Chapter 3: Hypotheses

H_1: Effectiveness of Modules in Decreasing Burnout

It was hypothesized that participation in graduate school modules on self-care and professional impairment (IV) would predict decreased symptoms of burnout (DV), indicated by lower scores on the Maslach Burnout Inventory (MBI), among participants at a 1-month follow-up, compared to a control group that did not view the modules. These modules were viewed as part of the Interprofessional Education Course at the Philadelphia College of Osteopathic Medicine. It was predicted that there would be a difference in MBI and SCAW scores between graduate students who participated in the self-care and professional impairment IPE modules and graduate students who did not, i.e., the control group.

H_2: Academic Program and Hours Spent Studying and/or Working and Burnout

It was hypothesized that academic program affiliation and hours spent studying, on practicum, and/or working (IV) would be directly related to burnout (DV) and the use of self-care (DV), as those with effective self-care strategies would be less likely to experience burnout. Academic program affiliation and hours spent studying, on practicum, and/or hours spent working, obtained from the Personal Information Questionnaire given to all participants prior to the self-care and burnout measures, would predict burnout, as defined by student's scores on the MBI scales (Emotional Exhaustion, Depersonalization, Personal Accomplishment).

H_3: Relationship Between Self-Care Practices and Burnout

It was hypothesized that there would be an inverse relationship between self-care practices and burnout, as indicated by higher scores on the six SCAW subscales

(Psychological, Physical, Emotional, Spiritual, Workplace, and Balance) and lower scores on the three MBI subscales (Emotional Exhaustion, Depersonalization, and Personal Accomplishment). Whereas higher scores on the SCAW would be associated with improved self-care practices over time, higher scores on the MBI would indicate less burnout over time. Lower scores on the SCAW would be associated with decreased self-care practices over time, whereas lower scores on the MBI would indicate more burnout over time.

H_4: Effectiveness of Modules in Increasing Self-Care Practices

Lastly, it was hypothesized that following the self-care and professional impairment modules (IV), scores for the experimental group on the six subcategories of the Self-Care Assessment Worksheet would change to reflect increased self-care practices (DV).

Chapter 4: Method

Design and Design Justification

To assess the impact that educational modules have on medical and other graduate students' burnout and use of self-care practices, a quantitative design was utilized. Two primary survey instruments were used to obtain information from master's and doctoral level students at the Philadelphia College of Osteopathic Medicine. The data were compared between two groups of participants labeled experimental and control. This study used three statistical methods to examine the effects of viewing self-care and professional impairment modules on motivation to change, future self-care practices, and views on burnout. The study was reviewed and approved by the Institutional Review Board.

Participants

The experimental group consisted of 266 students: fourth-year Osteopathic medical students, first-year physician assistant students, second-year mental health counseling students, and second-year clinical psychology PsyD students. The experimental group was involved in two class sessions for the IPE course, which consisted of 1 hour of didactics, 40 minutes of a small group interprofessional activity, and a 20 minute debriefing. The didactic portion included modules on professional impairment, burnout, and self-care for the purposes of this study. Additionally, they practiced mindful walking and other self-care techniques led by the course instructors to give tangible examples of self-care.

The control group consisted of first-year mental health counseling master's students, third- and fourth-year clinical and school psychology doctoral students, second- and third-year osteopathic medical students, and second-year physician assistant students. The control group did not have exposure to the self-care and professional impairment modules that were presented in the IPE seminar. This convenience sample of students was selected because of accessibility and because they were at risk for burnout and impaired professionalism at their level of education (Dunn et al., 2008).

Participant demographics. Participants were asked to provide demographic information on age, ethnicity, gender, program at PCOM, and year in program. The population consisted of 144 osteopathic medical (DO) students, 50 physician assistant (PA) students, 23 mental health counseling students, 43 clinical psychology PsyD students, and 6 school psychology PsyD students. Participants were asked to provide a specific number, rather than a range, for age. For gender, there were four options: *Male, Female, Transgender*, and *Prefer not to specify*. Regarding ethnicity, participants selected from a list of eight options: *African American, Asian American/Pacific Islander, Hispanic/Latino, Native American/Indian American, Caucasian, Not listed,* or *Prefer not to specify*. Demographics information is provided in Table 1.

Inclusion criteria. Students who were enrolled full-time in the above-mentioned programs at the Philadelphia College of Osteopathic Medicine were included in the study. Students who were enrolled in the IPE course were the experimental group and received the self-care and professional impairment lectures. Students who were in these programs but not enrolled in the IPE course were the control group.

Exclusion criteria. Students at PCOM that were not enrolled full-time or were enrolled in other programs (forensic medicine, organizational development and leadership, and biomedical sciences) were excluded from the study. These exclusions were necessary in order to maintain a level of validity and reliability, and students in these programs were not required to attend the IPE course. This is not intended to suggest that students enrolled in other programs are not experiencing burnout or practicing self-care practices; future investigators may wish to consider including this population in future research on self-care and burnout in graduate students.

Table 1

Demographic Characteristics of the Sample

Characteristic	Frequency ($N = 266$)	Percent
Age		
0-24	110	41.4
25-29	128	48.1
30 years and older	28	10.5
Sex		
Female	198	74.4
Male	64	24.1
Prefer not to specify	1	0.4
Missing	3	1.1
Race/Ethnicity		
African American	17	6.4
Asian/Pacific Islander	32	12.0
Hispanic/Latino	15	5.6
Native American/Indian American	1	0.4
Caucasian	186	69.9
Not Listed	8	3.1
Prefer not to specify	7	2.6

(continued)

Characteristic	Frequency ($N = 266$)	Percent
Program		
Doctor of Osteopathic Medicine	144	54.1
Mental Health Counseling	23	8.6
Physician Assistant	50	18.8
PsyD Clinical Psychology	43	16.2
PsyD School Psychology	6	2.3
Program Year		
First Year	101	38.0
Second Year	84	31.6
Third Year	27	10.2
Fourth Year	49	18.4
Fifth Year	5	1.9

Recruitment. The experimental group was recruited through an announcement posted to the IPE course page in Blackboard and an e-mail sent to the master list for each cohort by the PCOM Information Technology Department. The control group was recruited via an e-mail sent to the master list for each cohort. The solicitation e-mail and announcements included a brief description of the survey and informed recipients that this survey was anonymous and voluntary and that they could withdraw from the study at any time without consequence. Additionally, potential participants were informed that

participation may help the investigators to more fully understand burnout symptoms and use of self-care in medical and other graduate students.

Measures

Personal Information Questionnaire. A Personal Information Questionnaire (Appendix A) was created for the purposes of this study. The 19-item questionnaire was used to obtain the participant's personal, academic, and lifestyle information. It was tailored to ask participants about their age, sex, gender, program affiliation, and year in program. In addition, the questionnaire asked if they had children, and if so, how many; if they were married; and if they were currently employed, on practicum, or in clinical rotations, and if so, how many hours per week. The academic and lifestyle portion of the questionnaire asked students how many hours they slept, how many hours they studied, and how many hours they spent time doing school work or viewing recorded lectures per week. Additionally, participants were asked if they had previous exposure to self-care modules or education on self-care in the past, if they found the modules/education helpful, and to rate their experience of stress and burnout in the past week on a Likert scale.

Maslach Burnout Inventory (MBI). The Maslach Burnout Inventory (MBI) is the gold standard for determining burnout (West, Dyrbye, Satele, Sloan, & Shanafelt, 2012). The MBI Human Services Survey is a 22-item test with a multipoint rating format that is empirically derived to be utilized for individuals in human services or helping professions (Maslach & Jackson, 1996). The inventory takes approximately 10 to 15 minutes to complete, with clear instructions on a web-based form for the respondent. It

measures three components of burnout, emotional exhaustion, depersonalization, and personal accomplishment, along the dimensions of frequency and intensity of feelings. The MBI has been shown to have good reliability and validity, with a Cronbach's coefficient alpha used to estimate internal consistency of the measure and its subscales. The reliability coefficients for the subscales in a sample with a variety of occupations are: 0.89 (frequency) and 0.86 (intensity) for Emotional Exhaustion, 0.77 (frequency) and 0.72 (intensity) for Depersonalization, and 0.74 (frequency) and 0.74 (intensity) for Personal Accomplishment (Maslach & Jackson, 1981). The test-retest reliability data for the MBI were obtained from a sample of graduate students in social welfare and administrators in a health agency (n = 53) who were given the measure 2 to 4 weeks apart. The test-retest reliability coefficients for the subscales were 0.82 (frequency and 0.53 (intensity) for Emotional Exhaustion, 0.80 (frequency) and 0.68 (intensity) for Personal Accomplishment, and 0.60 (frequency) and 0.69 (intensity) for Depersonalization in this particular sample. A score is calculated for each subscale, Emotional Exhaustion, Depersonalization, and Personal Accomplishment, resulting in three scores; a lower score on the subscales is indicative of overall burnout (Maslach & Jackson, 1981).

Self-Care Assessment Worksheet (SCAW). The Self-Care Assessment Worksheet (SCAW) developed by Saakvitne and Pearlman (1996) measures frequency of self-care activities in six categories: physical, psychological, emotional, spiritual, professional workplace, and balance. This instrument was originally developed to assist individuals struggling with issues related to vicarious traumatization (Saakvitne, Pearlman, & Abrahamson, 1996). The emphasis is on 75 statements identifying self-care

strategies that individuals may use in daily life. Respondents are asked to rate self-care activities on a Likert scale ranging from 1 (*never occurs*) to 5 (*frequently occurs*). Each of the subscales represents a different number of items that assess a variety of self-care strategies engaged in by the respondent. Sample items from the SCAW include getting enough sleep (Physical), going to personal psychotherapy (Psychological), finding things that make you laugh (Emotional), making time for reflection (Spiritual), setting limits with clients and colleagues (Workplace), and striving for balance among work, family, relationships, play and rest (Balance). High scores in each subscale indicate increased frequency of self-care activities in each of the six domains, whereas low scores subscale indicate that the respondent either did not consider that option for self-care, never engaged in that type of self-care activity, or does not currently engage in that activity.

The SCAW is not meant to be an indicator of wellness, but rather a description of the ways, if any, in which the respondent engaged in self-care practices. Psychometric properties have not been established for the SCAW (Alkema, Linton, & Davies, 2008); therefore, the present study included a test-retest component to help establish reliability.

Procedures.

The experimental and control groups were asked to complete the Personal Information Questionnaire, the SCAW (Saakvitne, Pearlman, & Abrahamson, 1996), to gauge current self-care utilization, and the MBI (Maslach, 1981), to assess current experiences with feelings of burnout measures, via a link to Survey Monkey. The control group received an e-mail from PCOM Groups (Appendix B) asking them to participate in the study prior to when the modules were presented in the IPE course, then a follow-up email (Appendix C) 1 month after the modules were presented in the IPE course. The

experimental group received a pretest Blackboard announcement (Appendix D) on the IPE course page that included the purpose of the study and the link to the survey, then a follow-up announcement (Appendix E) 1 month after the modules were presented.

Those who clicked on the link were informed about the terms and conditions of participation and purpose of the study. The experimental group completed these surveys before and after viewing the professional impairment and self-care modules during the IPE course. Personal Information Questionnaire, SCAW and MBI to examine if their self-care practices had improved and if their experience with burnout decreased over time.

At the end of each survey, participants were provided with information on mental health services provided at PCOM, such as the Center for Brief Therapy and the Center for Academic Resources and Educational Services program, as well as links to the National Alliance on Mental Illness, but that there were no known risks to participating.

No informed consent was necessary, as participants created a self-generated identification code to match their pretest and posttest surveys without identifiers. The identification code consisted of the first two letters of the street name of their childhood home, for example CE for Cedar Ave., and the number obtained by multiplying their day of birth and birth month to obtain a number, e.g., CE45.

At the end of each survey, participants were given the option to enter a raffle for the chance to win one of ten Visa gift cards by sending an e-mail to *pcomresearch.edu* notifying the researchers of their completion of the survey and requesting to enter the raffle. This separate e-mailing process was utilized to ensure anonymity, so that any identifying e-mail information from those participating in the raffle was kept separate

from the data and was not accessible by the primary investigator. The pretest raffle winners received one of five $30 Visa gift cards, whereas the posttest raffle winners received one of five $20 Visa gift cards; this discrepancy was the principal investigator's error and was reported via a study amendment approved by the IRB.

Chapter 5: Results

A repeated measures analysis of variance (ANOVA) and multiple regressions were utilized to examine the relationship between self-care and burnout, as well as correlations between group membership, symptoms of burnout, and use of self-care over time, among medical and other graduate students at PCOM,. A repeated measures ANOVA was utilized to determine if burnout symptoms decreased over time and self-care practices improved over time for all participants, regardless of group membership (i.e., control and experimental groups). Linear regression analyses were utilized to determine if academic program affiliation and hours spent studying, on practicum, and/or hours spent working were directly correlated with burnout and the use of self-care, as well as whether the experimental group's scores on the six subcategories of the SCAW changed after the modules to reflect better self-care practices. Independent variables were modules on self-care and professional impairment/burnout and responses on the Personal Information Questionnaire. Dependent variables were burnout symptoms for each of the three components (emotional exhaustion, depersonalization, and personal accomplishment) and the use of self-care in six categories (physical, psychological, emotional, spiritual, workplace, and balance). Burnout scores were the sum of the scores for each of the three components on a 7-point Likert-type scale, with response options for experiences of burnout ranging from *Never* to *Everyday*. Self-care was assessed using the sum of scores on each of the six categories on a 5-point Likert-type scale, with response options ranging from *Frequently* to *It Never Occurred to Me*. Descriptive statistics for these measures are presented in Tables 2 through 5.

To further explore results that approached statistical significance, exploratory analysis was conducted using several *t*-tests to determine which differences existed among the variables. A subsequent Mauchly's test of sphericity was conducted when addressing the first and fourth hypotheses to determine if the assumption of sphericity was violated and if it was necessary to evaluate within tests, change the degrees of freedom, or use multivariate tests. Further mining of the data within the correlational analyses was completed to highlight other noteworthy findings.

Overall, 266 students participated in the study, encompassing both the experimental and control groups. DO (n = 144), PA (n = 50), mental health counseling (n = 23), clinical psychology PsyD (n = 43), and school psychology PsyD students (n = 6) participated in the study at either the pretest, posttest, or both time points. A total of 38 participants completed the survey at both pretest and posttest time points. Combined data from the pretest and posttest were utilized to test H_2 and H_4. Additionally, it is important to note that the Workplace and Professional Self-Care subscale of the SCAW was left open to interpretation by respondents, as some students were not working, but on rotation or practicum. It was assumed that students answered these questions as if they pertained to their rotation or practicum experiences.

H_1: Effectiveness of Modules in Decreasing Burnout

The first hypothesis proposed that participation in graduate school modules on self-care and professional impairment (IV) would decrease symptoms of burnout (DV) on the Maslach Burnout Inventory and increase self-care practices (DV) at a 1-month follow-up, compared to the control group that did not view the modules. To test this hypothesis, participants who did not complete both the pretest and posttest were excluded

from the sample, resulting in 22 participants in the experimental group and 16 participants in the control group (n = 38). A repeated measures ANOVA revealed significant differences between the experimental group and the control group from pretest to posttest on the Emotional Exhaustion subscale of the Maslach Burnout Inventory (MBI), thus indicating that group membership was significantly related to emotional exhaustion (p = .002, F = 5.87). Additionally, t-tests were utilized to improve understanding of the repeated measures ANOVA analysis indicating that the change from pretest to posttest in the experimental was significantly different from the change from pretest to posttest in the control group regarding emotional exhaustion. Mean scores showed that the experimental group had lower scores posttest than pretest. Overall, the experimental group (Figure 1) had lower scores on the Emotional Exhaustion subscale at both pretest and posttest than the control group (Figure 2). Although not significant, personal accomplishment increased (p = .593) and depersonalization decreased (p = .092) among the experimental group compared to the control group over time, indicating an improvement in the experimental group's self-care as a potential result of the educational modules.

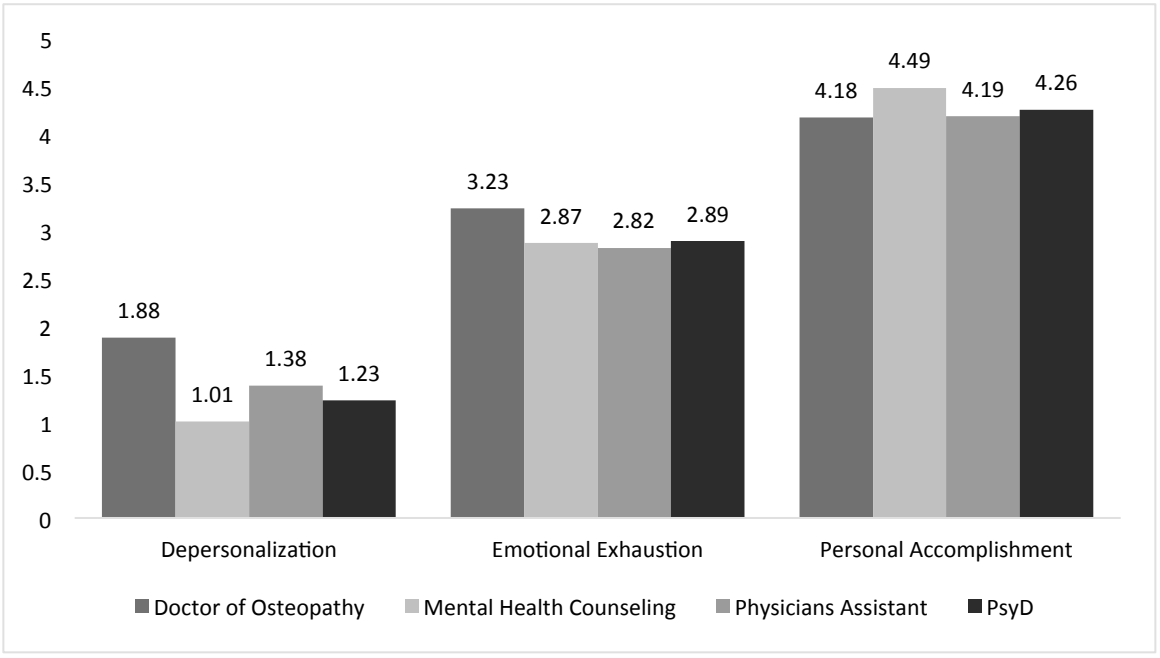

Figure 1. Descriptive statistics by participant group on MBI at pretest.

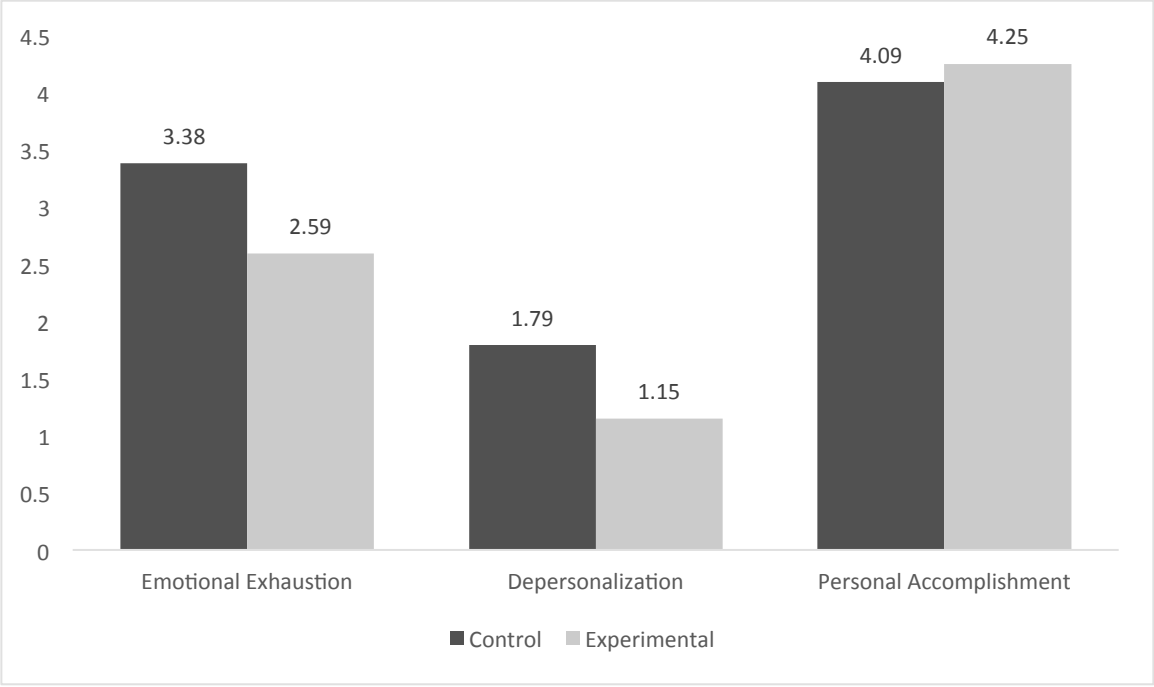

Figure 2. Descriptive statistics of MBI domains at posttest.

H_2: Academic Program and Hours Spent Studying and/or Working and Burnout

The second hypothesis proposed that academic program affiliation and hours spent studying, on practicum, and/or working (IV) would be directly related to burnout (DV) and the use of self-care (DV), as it was predicted that those with effective self-care strategies would be less likely to experience burnout. To test this hypothesis, data from participants in the pretest-only set were used, as the posttest data set was underpowered (pretest, $n = 266$; posttest, $n = 50$). A multiple regression analysis was used to test each of the three MBI domains of emotional exhaustion, depersonalization, and personal accomplishment as they related to academic program affiliation and hours spent studying, on practicum, and/or working. The first regression concluded that emotional exhaustion was significantly predicted by program at PCOM ($p = .017$; $n = 222$). In reviewing the scores on the MBI at pretest, osteopathic medical students indicated the highest rates of emotional exhaustion ($M = 1.88$), compared to students in other programs. The second regression concluded that depersonalization was significantly predicted by the amount of hours participants spent at their practicum, rotation, or internship sites per week ($p = .002$; $n = 235$). In reviewing the scores on the MBI at pretest, osteopathic medical students indicated the highest rates of depersonalization ($M = 3.23$). Thus, it could be predicted that osteopathic medical students were spending more time at their respective sites than their peers. The third regression concluded that personal accomplishment was significantly predicted by hours participants spent studying or viewing course material online ($p = .000$; $n = 224$). In reviewing the scores on the MBI at pretest, mental health counseling students indicated experiencing the highest rates of personal accomplishment

($M = 4.49$). Thus, it could be predicted that these students spent more time studying and/or reviewing course material than their peers.

H_3: Relationship Between Self-Care Practices and Burnout

The third hypothesis proposed that there would be an inverse relationship between self-care and burnout, as measured by the SCAW subscales and MBI subscales. A Pearson correlation was used to assess the relationship between the MBI and the SCAW, which found that there was an inverse correlation between the three MBI domains and the six SCAW domains. Physical self-care (SCAW 1) is negatively correlated with emotional exhaustion on the MBI ($r = -.368$, $p < .001$), negatively correlated with depersonalization on the MBI ($r = -.257$, $p < .001$), and positively correlated with personal accomplishment on the MBI ($r = .238$, $p < .001$). Psychological self-care (SCAW 2) is negatively correlated with emotional exhaustion on the MBI ($r = -.170$, $p = .011$), negatively correlated with depersonalization on the MBI ($r = -.157$, $p = .018$), and positively correlated with personal accomplishment on the MBI ($r = .388$, $p < .001$). Emotional self-care (SCAW 3) is negatively correlated with emotional exhaustion on the MBI ($r = -.278$, $p < .001$), negatively correlated with depersonalization on the MBI ($r = -.291$, $p < .001$), and positively correlated with personal accomplishment on the MBI ($r = .303$, $p < .001$). Spiritual self-care (SCAW 4) is negatively correlated with emotional exhaustion on the MBI ($r = -.282$, $p < .001$), negatively correlated with depersonalization on the MBI ($r = -.224$, $p < .001$), and positively correlated with personal accomplishment on the MBI ($r = .372$, $p < .001$). Workplace self-care (SCAW 5) is negatively correlated with emotional exhaustion on the MBI ($r = -.271$, $p < .001$), negatively correlated with depersonalization on the MBI ($r = -.241$, $p < .001$), and positively correlated with

personal accomplishment on the MBI (r = .378, p < .001). Balance self-care (SCAW 6) is negatively correlated with emotional exhaustion on the MBI (r = -.249, p < .001) , negatively correlated with depersonalization on the MBI (r = -.180, p = .006), and positively correlated with personal accomplishment on the MBI (r = .266, p < .001). Overall, as self-care practices improve, the experiences of emotional exhaustion and depersonalization symptoms decrease, whereas feelings of personal accomplishment increase as burnout decrease.

H_4: Effectiveness of Modules in Increasing Self-Care Practices

The fourth hypothesis proposed that participants' scores on the six subcategories of the self-care assessment would change posttest (IV) to reflect better self-care practices (DV). Utilizing only those participants who completed the pretest and posttest (n = 34), a regression analysis was conducted and found that participants' scores on the individual subcategories of the self-care assessment did not significantly change over time (Table 2). In regards to the spiritual domain, the control group's scores increased at posttest, whereas the experimental group had a decrease at posttest. This change is evidenced by the difference in mean scores between the control and experimental groups from pretest to posttest. Balance self-care, which includes striving for balance in personal and professional settings, improved in the experimental group and decreased in the control from pretest to posttest, as evidenced by the change in mean scores over time. It was considered that the educational modules on self-care did not directly target the six domains as specifically as they are outlined in the SCAW or that participants were already practicing many of the specific self-care practices outlined in the SCAW. The

Table 2

Descriptive Statistics of the SCAW Domains at Pretest and Posttest

	Group	*M*	*SD*	*n*
SCAW1 Physical SC	Experimental	52.70	5.59	20
Pretest	Control	51.57	6.01	14
	Total	52.24	5.71	34
SCAW1	Experimental	52.45	5.88	20
Posttest	Control	51.93	8.14	14
	Total	52.24	6.79	34
SCAW2 Psych	Experimental	40.10	6.04	21
Pretest	Control	41.36	8.03	14
	Total	40.60	6.82	35
SCAW2	Experimental	41.00	6.26	21
Posttest	Control	41.36	10.17	14
	Total	41.14	7.92	35
SCAW3 Emotional	Experimental	37.43	4.79	21
Pretest	Control	38.14	6.50	14
	Total	37.71	5.46	35
SCAW3	Experimental	37.71	3.58	21
Posttest	Control	40.64	4.81	14
	Total	38.89	4.30	35

(continued)

	Group	*M*	*SD*	*n*
SCAW4 Spiritual	Experimental	55.60	7.49	20
Pretest	Control	54.23	16.04	13
	Total	55.06	11.41	33
SCAW4	Experimental	54.35	6.38	20
Posttest	Control	56.92	16.66	13
	Total	55.36	11.39	33
SCAW5 Workplace	Experimental	38.55	5.54	20
Pretest	Control	41.00	5.90	14
	Total	39.56	5.73	34
SCAW5	Experimental	38.90	5.30	20
Posttest	Control	40.29	6.18	14
	Total	39.47	5.63	34
SCAW6 Balance	Experimental	8.14	1.53	21
Pretest	Control	8.64	1.01	14
	Total	8.34	1.35	35
SCAW6	Experimental	8.57	1.36	21
Posttest	Control	8.36	1.95	14
	Total	8.49	1.60	35

Personal Accomplishment subscale of the SCAW increased among the experimental group and decreased among the control group, suggesting that the self-care modules may

have influenced students' self-care practices. Therefore, students may have believed that they were positively influencing their patients and that their potential for burnout was not interfering with building rapport.

Additional Findings

Prior to the presentation of the education modules, participants were asked to rate how burned out they had felt in the past week on a 10-point Likert scale, using the Personal Information Questionnaire. Examples of burnout symptoms were listed, including lack of sleep, changes in eating, lack of exercise/self-care, and/or increased physical symptoms. Of the 266 students who participated in the survey, the mean score for burnout indicated that students across programs were experiencing a mild to moderate level of burnout in the week prior to the completion of the survey ($M = 5.93$). Additionally, students were asked to identify if they were previously exposed to self-care modules. Results indicated that 45.8% of DO students ($n = 144$), 72.0% of physician assistant students ($n = 50$), 95.7% of mental health counseling students ($n = 23$), and 81.4% of clinical psychology PsyD students ($n = 43$) were exposed to self-care modules prior to the IPE course. Future self-care modules may impact students' previous knowledge and use of self-care practices and increase the use of these practices by viewing modules over time.

Chapter 6: Discussion

The purpose of this study was to identify the relationships between medical and other graduate students' self-care practices and burnout symptoms and the effectiveness of educational modules on self-care practices and burnout. Additionally, this study intended to examine the efficacy of presenting self-care and impairment modules to medical and other graduate students in increasing students' practice of self-care activities and decrease burnout. It was the intention of this study to gain a deeper understanding of burnout symptoms and self-care practices to decrease burnout among a population of medical and other graduate students, who have the potential to experience significant burnout, as well as bring awareness to the necessity of educating students on these constructs in higher education settings. The surveys were made available for students to complete during midterm and finals weeks, which included the week prior to Thanksgiving break. Thus, the results appear to be an accurate representation of students' levels of burnout during stressful periods.

The results indicated that medical and other graduate students who were exposed to educational modules on impaired professionalism/burnout and self-care had some improvement in their self-care practices over time and a decrease in their burnout symptoms, compared to a control group that did not receive the modules. Responses on only two of the six SCAW subscales, spiritual and balance self-care, were significantly different, suggesting that the educational modules did not directly target physical, psychological, emotional, and workplace self-care. These findings suggest that future educational modules on self-care target specific self-care domains, rather than provide an overall discussion on self-care techniques. It is suggested that faculty gauge students'

interest in self-care topics prior to the initiation of the IPE course, as this would expand the topics discussed and may increase utilization of skills. Additionally, the findings indicate that PCOM should continue to present educational modules on self-care and burnout as part of the IPE course in order to improve long-term self-care practices and decrease the risk for burnout among future health professionals.

Although some of the null hypotheses were not reject, information on medical and other graduate students' experiences with burnout, depending on their program year, academic lifestyle, exposure to education on these constructs, and experiences with self-care, may be valuable information and could be useful for future research. The findings of this study support the view that self-care strategies should be fostered early in medical and other graduate school curricula to decrease the potential for professional impairment and burnout (Barnett et al., 2007). Additionally, the average hours spent studying and participating in extracurricular activities was strongly linked to overall burnout, consistent with previous research (Lapinski et al., 2016). Thus, integrating focus on awareness of burnout symptoms in the educational setting and the impact that burnout may have on patient care is imperative for all students and professionals in the healthcare field (Barnett et al., 2007).

Implications for Healthier Lifestyles

Much of what has been understood about stress in graduate school has been based on research with medical students (Myer et al., 2012). Additionally, the literature on stress and burnout among psychology students is limited, but does reveal significantly high levels of stress (Cushway, 1992). The findings of the present study are consistent with those of a previous survey study of 281 clinical psychology trainees, in which three

quarters reported being moderately or very stressed as a result of training (Cushway, 1992). Although that study does not generalize to the population studied in the current research, it is useful information to understand and normalize stress levels of psychology graduate students.

For decades, burnout has been recognized as a hazard to those in various people-oriented professionals. Therapeutic relationships, in which rapport building is crucial, require an ongoing and intense level of personal and emotional contact, which can be rewarding but also quite stressful (Maslach & Leiter, 2016). Developing a healthy lifestyle in order to better manage stress will contribute to decreasing attrition rates (Stark, Hoekstra, Hazel, & Barton, 2012). Productivity may increase among these professionals if they begin to live healthier lifestyles by utilizing effective self-care practices (Stark et al., 2012). Healthy behaviors are influenced by self-concept, the values individuals place on their health, and the perception of how their behaviors exacerbate stress. It is extremely important for students in the health professions to practice healthy behaviors because of the potential threats of burnout, increased stress, and decreased mental wellness.

Students must take care of themselves by living a healthy lifestyle to help alleviate the effects of stress (Stark et al., 2012). Additionally, learning how to effectively utilize self-care practices while in medical and other graduate school has implications in future care settings, as interdisciplinary teams would function best if self-care is being practiced by all members. Self-care practices would increase the ability to work well with others, due to decreased burnout and fewer emotional exhaustion symptoms of agitation and depersonalization. As medical and other graduate programs

are moving towards a more integrated model, students in integrative courses would benefit from a focus on collaborative educational experiences of self-care practices, specifically those practices that would be effective within and across disciplines. To facilitate the conversation on self-care, faculty could include a self-care tagline in their e-mail signatures asking students what they did for self-care that day. Clinical supervisors may want to consider embedding a self-care component into their supervision agenda with students to ensure that students are actively using self-care or to identify students' barriers to self-care use.

Theory of Burnout

According to Maslach, Jackson, and Leiter, (1997), burnout is a multidimensional theory across three core domains: emotional exhaustion, depersonalization, and personal accomplishment. Burnout is an individual stress experience involving complex social relationships and a person's perception of self and others. As relevant to this study, this three-dimensional theory places individual stress experience within a social context, i.e., "people work." In training, medical and other graduate students are developing the tools to create a relationship, or working alliance, with the people they are treating. According to this theory, centrality of social relationships with clients is the crux of many descriptions of burnout (Maslach et al., 1997). However, these relationships can be the source of emotional distress and can lead to emotions that have been described as burnout syndrome, which increases feelings of emotional exhaustion. The syndrome encompasses aspects of the three domains, specifically loss of energy and fatigue (Maslach & Leiter, 2016, p. 103), irritability, negative attitudes and feelings about one's clients, and reduced productivity or ability to cope with people work (Maslach & Leiter,

2016). For example, the experience of depersonalization can cause clinicians and practitioners to view their clients' problems as minimal and simplistic, thereby leading to a lack of empathy. As a result of reduced personal accomplishment, individuals may evaluate themselves negatively, i.e., have self-doubt, specifically with regard to their work with clients and patients (Maslach et al., 1997; Novack et al., 1999). However, medical and other graduate students in the present study reported high levels personal accomplishment, suggesting that this population was unaffected by self-doubt or did not internalize negative views of self. One question that has been discussed in the burnout literature (Maslach et al., 1997) remains: Does a third variable, such as type of graduate or medical program or hours spent on rotation or practicum, mediate the relationship between self-care and burnout, as seen in the results of this study?

Limitations

Although this study provides insight into the impact that educational modules on self-care and burnout can have on self-care practices and burnout symptoms, several limitations need to be addressed. Despite receiving 266 responses to the survey at pretest, a significant number of respondents did not complete the survey in its entirety. The small sample size at posttest resulted in lack of power in comparing pretest and posttest data. The sample size differences between pretest and posttest may not have yielded accurate results with regard to change, as sample sizes at the two times were not equivalent. However, the results that were significant despite the small sample size suggest that more significant findings may have been obtained with a larger sample. A larger sample would also have resulted in a more even distribution of graduate students, as the osteopathic medical students were the largest group in the sample. There is also a

possibility that cultural differences regarding work ethic, as well as developmental differences, could interfere with students' views of and use of self-care practices.

Another potential limitation involves the varying degrees of education in both the experimental and control groups, as the majority of the osteopathic medical students enter from undergraduate school, whereas PsyD are required to have a master's degree prior to admission. Personal exposure to burnout and self-care practices may affect students' views of these constructs, especially among students with previous graduate education. Students in later years of their respective programs, specifically third through fifth years, may have had more time to acclimate to program requirements and thus create and foster effective self-care habits to decrease risk of burnout. Additionally, age could be considered a covariate because students entering with graduate degrees may be older and have had more life experience, allowing them to foster effective coping skills. Furthermore, the duration of the programs varies from 2 years for the physician assistant and mental health counseling programs to 5 years for the psychology doctoral programs. Thus, the difference in overall time commitment between programs varies significantly. The amounts of coursework and time dedicated to clinical training and practice also vary widely between programs. These could represent limitations because the level of burnout may differ, depending on these factors.

The Self-Care Assessment Worksheet (SCAW) measure used to measure awareness and use of self-care is not intended to be an indicator of wellness and is another limitation of this study. The SCAW is a description of the ways in which the respondents engage in self-care and does not have formal psychometric properties, which leaves the researcher with an ambiguous scoring system. This lack of psychometric data

prevents the ability to state whether the findings can be generalized across the study sample, as well as to the general population. Additionally, the self-care modules presented in the IPE course may not have targeted the specific subcategories on the SCAW, thus impacting future self-care practices. Furthermore, a limitation exists within the Balance domain on the SCAW, as it is comprised of two questions. Psychometric principles state any measure with three questions or fewer is unstable. Future research on self-care should consider using additional measures, such as the Insomnia Severity Index and the Perceived Stress Scale, to better quantify students' internal and external experiences of stress and factors contributing to their stress and feelings of burnout.

Future Directions

The aims of this research were to contribute to the existing literature on burnout and self-care practices among medical and other graduate students and to specifically explore the impact of educational modules on the use of self-care and burnout symptoms. The results of this study, considering professional development in graduate school, suggest that implementation of educational methods to enhance self-care practices would be beneficial in this population that is susceptible to stress and at risk for burnout. Educational modules highlighting specific constructs, such as compassion fatigue, vicarious traumatization, sleep hygiene. and the effects of alcohol consumption, that could impact the use of self-care and increase the risk for burnout, may be particularly relevant for medical and other graduate students. Mindfulness rooms and education on deep breathing and positive self-talk could be adopted by academic institutions. Future researchers may wish to analyze the differences between medical students' and psychology students' views of burnout and self-care practices and how these viewpoints

inform self-care activities throughout their education. Furthermore, future studies could explore the effect of modeling self-care practices, specifically by faculty members, which may reduce ambivalence around conversations about self-care, stress, and burnout.

It may be beneficial to replicate the study comparing students in allopathic (MD) and osteopathic (DO) medical schools, as much of the existing research was conducted in allopathic medical students. Ball and Bax's (2002) research on allopathic medical student self-care concluded that those who received feedback regarding their self-care habits had improvements at follow-up during their second semester, and students who participated in group discussions also had improvements during their second semester. Therefore, it may be beneficial to replicate this study with first- and second-year osteopathic medical students and implement a feedback component in which faculty have monthly meetings with students to discuss their progress. In tracking their self-care practices, students may be more inclined to participate due to accountability and increased motivation. Additionally, future curricula could focus on education about particular issues that can impede self-care practices or be incorrectly viewed as self-care, such as alcohol consumption and binge eating. It may also be beneficial for students, specifically those in IPE courses, to teach behavioral skills to each other in small groups and practice them. Self-care techniques could include mindful eating, square breathing, or use of mindfulness-based apps on their cellphones.

A longitudinal study exploring how medical and other graduate students' self-care practices change over time after viewing the educational modules would provide further information on the effectiveness of the modules and the Integrated Professional Education course overall. The IPE course could incorporate Dunn et al.'s (2008) coping

reservoir to help students conceptualize stress and how to use self-care effectively to reduce the risk of burnout. Furthermore, exploring the relationship between emotions associated with not utilizing self-care, such as guilt and shame, beliefs about perfectionism and work ethic, and how these may contribute to burnout may be aid in understanding how both external and internal factors can affect capacity to cope with stress. The results may heighten awareness of the need to review and update curricula to include more education about and implementation of self-care practices among students throughout the course of graduate education and professional training. Additionally, future researchers may wish to explore the effect of educational modules on perceived burnout and self-care practices in undergraduate institutions, although this would be complicated, due to the varying ages, maturity, and amounts of coursework among undergraduate programs and institutions. Lastly, future studies could be conducted in other universities cultivate an interdisciplinary graduate education environment.

The research by Myers et al. (2012) focused on five specific self-care practices: sleep patterns, exercise behaviors, perceived social support and use of emotion regulation strategies, trait mindfulness, and formal mindfulness practice. Their results indicated that healthy sleep practices and higher levels of social support were significantly related to lower levels of perceived stress. However, frequency of engagement in mindfulness practice did not significantly affect perceived stress, contrary to their hypothesis. Future research could expand to medical and other graduate students to identify if perceived levels of stress correlate with burnout and if cognitive behavioral techniques, such as progressive muscle relaxation, can increase adaptive stress reactions, self-care practices, and resiliency.

Conclusion

Healthcare providers who are perceived as taking care of themselves and utilizing self-care practices may be viewed more positively by clients than those who are perceived as unhealthy (Stark et al., 2012). Therefore, building healthy practices during medical and other graduate school education is essential to maintaining health-promoting behaviors when these students graduate and become providers. The present study identified significant interaction between self-care practices and fewer symptoms of burnout, as well as significant interaction between students' program affiliation, hours spent studying and/or viewing class material, and hours spent at their respective clinical sites. These results may assist educators and administrators in providing self-care resources at their institutions and exploring methods to increase awareness and use of these resources. There are two overall goals for promoting graduate students' self-awareness, personal growth, and well-being (Novack, Epstein, and Paulsen, 1999). The first is to ensure that students understand how their own personal history and current life in medical school and their values, attitudes, and biases affect their care of patients so they can use their own emotional responses to their patients' benefit. The second is to ensure that students care for themselves physically and emotionally and welcome and seek opportunities for enhancing self-awareness and personal growth (Novack et al., 1999). Therefore, in order to achieve these goals, educators can promote awareness of self-care practices through student support groups, literature discussions, and activities linking self-care to clinical simulations.

The results of this study may help to reinforce the importance of educating medical and other graduate students on recognizing burnout and impairment symptoms

and how to assess and treat them, e.g., effective self-care strategies geared to students who may have limited time for themselves. Having a better understanding of medical and other graduate students' burnout and facilitating student wellness initiatives may assist students in becoming more empathic and self-aware practitioners with a decreased risk for burnout as future clinicians. The pursuit of psychological wellness through continuous self-care efforts has been described as ethically imperative (Barnett et al., 2006). The awareness of emotional distress is an important first step, but self-care should be seen as an ongoing preventive activity (Barnett et al., 2007). Overall, the effectiveness of self-care education suggests that medical and other graduate schools should incorporate this into their regular curriculum.

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Appendix A

Personal Information Questionnaire

Sex/gender:
__ Female
__ Male
__ Transgender
__ Prefer not to specify

Race/ethnicity:
__ African American
__ Asian/Pacific Islander
__ Hispanic/Latino
__ Native American/Indian American
__ Caucasian
__ Not Listed
__ Prefer not to specify

Age:
___

Married?
__ Yes
__ No
Children?
__ Yes
__ No

Program at PCOM:
__ D.O.
__ P.A.
__ Mental Health Counseling
__ Psy.D. Clinical Psychology
__ Psy.D. School Psychology

Year in program:
__ First Year
__ Second Year
__ Third Year
__ Fourth Year
__ Fifth Year

Are you currently employed?
__ Yes
__ No
__ If so, how many hours a week are you working?

Are you currently on rotation or at practicum?
__ Yes
__ No
__ If so, how many hours a week are you at the site(s)?

On average, how many hours a week do you spend in class or viewing class material (i.e. via Tegrity)?

_____

On average, how many hours do you spend studying a week?

_____

On average, how many hours a week do you sleep a night- Sunday through Thursday?

_____

On average, how many hours do you sleep each night of the weekend- Friday and Saturday?

_____

Have you been exposed to previous self-care modules/education?
___ Yes
___ No

If so, was it helpful?
___ Yes
___ No

On a scale of 1-10, how stressed have you felt in the last week? _____
1- being no stress at all; 10- being extremely stressed, can't handle the pressure

On a scale of 1-10, how burned out have you felt in the last week? _____
1- being not burned out at all; 10- being extremely burned out (e.g. haven't slept, change in eating habits, lack of exercise/self-care, increased physical symptoms)

Did you participate in the Fall 2017 IPE course on impairment?
____ Yes
____ No

Did you participate in the Fall 2017 IPE course on self-care?
____ Yes
____ No

Appendix B

PCOM Groups e-mail pretest for control group sent on September 27, 2017

Dear graduate and medical students:

My name is Samantha Giangrande and I am a fourth year doctoral student in the Philadelphia College of Osteopathic Medicine Clinical Psychology Psy.D. program. I am conducting an online dissertation study to examine students' experience of burnout and knowledge of self-care practices.

Through this study, we hope to learn more about students' personalized knowledge of burnout and self-care. Overall, this study has the capacity to learn about students' level of burnout and begin a conversation within PCOM as a community on how to decrease burnout and increase self-care practices among students. To learn this important information, we are asking participants to complete three brief surveys to identify minimal personal information, self-care practices, and experience of burnout. Your responses in this study will be completely anonymous via a personalized code that you will create at the beginning of the survey and no individual results will be reported.

This survey should take approximately **15 minutes** to complete.

In order to participate in this study, you must be enrolled as a full-time student at the Philadelphia College of Osteopathic Medicine and in either the Clinical Psychology PsyD, School Psychology PsyD, Osteopathic Medicine, or Physician's Assistant programs. **(Those students registered for the 2017-2018 Interprofessional Education course will be invited as part of their course.).**

Your participation is completely voluntary and you have the right to discontinue participation at any time without penalty. However, **please note the survey will close on October 2, 2017 at 4:30pm, and you will not be able to participate after this time.** If you have any questions about this research, you may contact my dissertation chair, Dr. Stephanie Felgoise, Ph.D. ABPP, at stephanief@pcom.edu, or myself at samanthagi@pcom.edu.

If you are interested in participating in this study, please click on the link below: https://www.surveymonkey.com/r/VL8FYPP

At the end of the survey, you will be given instructions on how to register for a raffle for one of ten Visa gift cards valued at $30 each.
Thank you once again for your consideration!
Sincerely, Samantha Giangrande, M.A.

Appendix C

PCOM Groups e-mail posttest for control group sent on November 22, 2017

Dear graduate and medical students:

My name is Samantha Giangrande and I am a fourth-year doctoral student in the Philadelphia College of Osteopathic Medicine Clinical Psychology Psy.D. program. I am conducting an online dissertation study to examine students' experience of burnout and knowledge of self-care practices. The survey below serves as a **follow-up** from the survey graduate and medical students received on September 27, 2017. Your participation in this follow-up survey is greatly appreciated if you have previously participated.

Through this study, we hope to learn more about students' personalized knowledge of burnout and self-care. Overall, this study has the capacity to learn about students' level of burnout and begin a conversation within PCOM as a community on how to decrease burnout and increase self-care practices among students. To learn this important information, we are asking participants to complete three brief surveys to identify minimal personal information, self-care practices, and experience of burnout. Your responses in this study will be completely anonymous via a personalized code that you will create at the beginning of the survey and no individual results will be reported (please be reminded it should be the same as you created before, according to the instructions given).

This survey should take approximately 15 minutes to complete.

In order to participate in this study, you must be enrolled as a full-time student at the Philadelphia College of Osteopathic Medicine and in either the Clinical Psychology PsyD, School Psychology PsyD, Osteopathic Medicine, or Physician's Assistant programs. (Those students registered for the 2017-2018 Interprofessional Education course will be invited as part of their course.).

Your participation is completely voluntary and you have the right to discontinue participation at any time without penalty. However, please note the survey will close on Monday November 27, 2017, at 4:00 p.m., and you will not be able to participate after this time. If you have any questions about this research, you may contact my dissertation chair, Dr. Stephanie Felgoise, Ph.D. ABPP, at stephanief@pcom.edu, or myself at samanthagi@pcom.edu.

If you are interested in participating in this study, please click on the link below:
https://www.surveymonkey.com/r/BrnOutSelfCare2

At the end of the survey, you will be given instructions on how to register for a raffle for one of ten Visa gift cards valued at $20 each. This is a second drawing, and students are eligible to win in both the first and second drawing, if their names are chosen twice.

Thank you once again for your consideration!
Sincerely,
Samantha Giangrande, M.A.

Appendix D

Pretest Blackboard announcement for experimental group (IPE course)

September 25, 2017

IPE: Self-Care and Burnout Assessment Survey

Dear students, please find a link for a survey regarding student self-care and burnout below and at the bottom of this email.

https://www.surveymonkey.com/r/BurnoutSelfCare

Through this study, we hope to learn more about students' personalized knowledge of burnout and self-care and begin a conversation within the PCOM community on how to decrease burnout and increase self-care practices among students. This survey/study is closely tied to the IPE classes you will have in October, and will also help us improve these offerings. The data will also be used for the purpose of a doctoral dissertation study, though there will be no way to identify participants.

Participation in this survey will be voluntary, anonymous, and you have the right to discontinue the survey or not participate without penalty. **If you wish to participate, you can only do so until Monday, October 2, and then the first phase of the study will be closed.**

If you choose to participate, there will be a link at the end of the survey with instructions for you to enter into a raffle for one of ten Visa gift cards valued at $30 each. The IPE

course faculty and Sam Giangrande greatly appreciate your participation.

If you have any questions about this research, you may contact Dr. Stephanie Felgoise at stephanief@pcom.edu or samanthagi@pcom.edu.

https://www.surveymonkey.com/r/BurnoutSelfCare

Appendix E

Posttest Blackboard announcement for experiment group (IPE course)

November 20, 2017

Burnout and Self-care Study Posttest (Post-module assessment): Reminder

Dear students, please find a link for a survey regarding student self-care and burnout below and at the bottom of this email.

https://www.surveymonkey.com/r/BrnOutSelfCare2

Through this study, we hope to learn more about students' personalized knowledge of burnout and self-care and begin a conversation within the PCOM community on how to decrease burnout and increase self-care practices among students. This survey/study is closely tied to the IPE classes you had in October, and will also help us improve these offerings. The data will also be used for the purpose of a doctoral dissertation study, though there will be no way to identify participants.

Participation in this survey will be voluntary, anonymous, and you have the right to discontinue the survey or not participate without penalty. **If you wish to participate, you can only do so until Monday, December 1, and then the second and final phase of the study will be closed.**

If you choose to participate, there will be a link at the end of the survey with instructions for you to enter into a raffle for one of ten Visa gift cards valued at $20 each. The IPE course faculty and Sam Giangrande greatly appreciate your participation.

If you have any questions about this research, you may contact Dr. Stephanie Felgoise at stephanief@pcom.edu or samanthagi@pcom.edu.

https://www.surveymonkey.com/r/BrnOutSelfCare2