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New Perspectives On Faculty Stress: Its Relationship With Work Engagement, Teaching Effectiveness, And Program Preferences To Manage Stress

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NEW PERSPECTIVES ON FACULTY STRESS: ITS RELATIONSHIP WITH WORK ENGAGEMENT, TEACHING EFFECTIVENESS, AND PROGRAM PREFERENCES TO MANAGE STRESS

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Dedication

The decision to pursue a doctoral degree is a personal and private journey and no one can truly understand what you will experience when you embark on such an adventure. Once you have sailed such a ship, you empathize and understand others who have been there before, but only you know the turbulence and color of your doctoral sea. I recognize that although it is an individual experience, it is a walk that I could not have accomplished well without support. I dedicate this ship to my lord and the people who did not waiver in their support as I sailed up and down, forward and back, and many times stranded in the eye of a hurricane…that seemed to never end. To my loving mother, Victoria, my patient husband, Jose Luis, and my energetic boys who often asked, "Are you done, yet?" and counted down the days I would defend, Jupiter and Mercurio. The journeys of my life are possible because you are at my side. This accomplishment is OUR accomplishment, our ship…*Gracias will never be enough*...*I love you so much*!

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Abstract

The purpose of the study was to analyze faculty stress with three interrelated parts. First, the study examined the relationship between work engagement, stress factors, stress outcomes, and faculty characteristics. Next, the study analyzed the relationship between students' perception of faculty stress, faculty teaching effectiveness, class size, and student classification. Finally, the study investigated faculty preferences for health and wellness programs in the workplace. The study used two anonymous online questionnaires to collect data from 45 faculty participants and 119 student participants from a U.S. public, four-year research university. For faculty, the results demonstrated statistically significant strong relationships between all the stress factors and outcomes indicating faculty who experience any of these stressors are more likely to disengage from work. Work disengagement, stress factors, and stress outcomes had statistically significant correlations with age, tenure status, and gender. Younger faculty are more likely to experience burnout, issues with cognitive concerns, and disengage from work tasks. Non-tenure-track faculty are more likely to disengage from work, experience higher levels of stress and burnout, and experience physical, cognitive, and mental health concerns. The results also indicated that female faculty are more likely to present with cognitive concerns. For students, the study found that students are more likely to perceive a faculty member is less effective when the faculty member is perceived as sad or tense. Students are also more likely to perceive faculty who display sadness as the class size increases or as students move up in classification. The study fills gaps that enhance the understanding of faculty stress and various dimensions that contribute to work disengagement, teaching effectiveness, and managing stress.

Keywords: work disengagement, faculty stress, faculty burnout, faculty mental health, faculty physical health, teaching effectiveness, college student perceptions, health and wellness

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Chapter 1: Introduction

The faculty-student relationship is essential to promote student growth and academic success in higher education (Hoffman, 2014). The problem is that higher education faculty are stressed, their needs are often overlooked, and there is no evidence on students' perceptions of faculty stress in the classroom (Barnes et al., 1998). Faculty have many roles to include transforming students in a positive way by providing knowledge, advising, and mentoring them, which increases student self-efficacy, self-confidence, motivation, and overall satisfaction (Dillon, 2018; Hoffman, 2014; Nevarez & Wood, 2010). Unfortunately, faculty may sometimes ignore that students are underperforming and may not model healthy ways of dealing with stress (Dillon, 2018). Conversely, time is required to fulfill all faculty work demands, which can affect stress levels that have the potential to impact academic work and may lead to faculty's intent to leave higher education (Austin & Pilat, 1990; Barnes et al., 1998; Darabi et al., 2017b).

The importance of addressing faculty stress has been evident in the literature since at least the mid-1980s, and in the 1990s systematic changes occurred in the higher education environment that affected faculty roles and contributed to increased levels of stress (Austin & Pilat, 1990; Darabi et al., 2017b). The concern for faculty is that "those outside the academy may think that professors have a lot of free time, those inside the ivy-covered walls often feel like jugglers…too many responsibilities and deadlines [are] exacerbated by uncertainty about how best to allocate [a faculty member's] time" (Austin & Pilat, 1990, p. 39). It is imperative that higher education leaders focus on combatting faculty stress to maintain vitality and retain competent faculty. This aspect is especially true during the time of the study. Approximately two weeks prior to data collection, the research university that was studied closed due to the COVID-19 pandemic. Although the study was not designed to consider the impact the pandemic would

have on the study, it could not be negated as a contributing factor on faculty stress. The study consists of three interrelated parts: (1) Understanding faculty stress and its relationship to levels of work disengagement, (2) How students perceive faculty stress and teaching effectiveness in the classroom, and (3) An understanding of what faculty prefer to combat faculty stress in the workplace. I will begin by expanding on the problem and purpose of the study. Then, the terms that were used in the study will be defined followed by the delimitations of the study and research questions. First, the problem needs to be understood to enhance the clarity of the purpose of the study.

Problem Statement

For faculty, stress has become normalized and is now seemingly an intrinsic element of a faculty member's life; however, the relationship between faculty stress, work engagement, and students' perceptions of teaching effectiveness is unclear (Darabi et al., 2017a). Stress can have psychological effects such as creating anxiousness, promoting a loss of interest in meaningful activities, and perpetuating a bad temper (Colacion-Quiros & Gemora, 2016). Faculty stress can also develop emotional effects such as apprehension, diminished tolerance, anger, depression, and irritability. Additionally, stress is predictive of changes in affect, which is the subjective experiences of a person's feelings or emotions that are often conveyed in a person's face or body (Jacobs & Jacobs, 2001). Stress can lower positive affect or increase negative affect and contribute to poor mental health (Darabi et al., 2017b). Mental health concerns are linked to stress and burnout. Burnout is a form of stress that is perpetuated by a long-term response to work overload with possible outcomes of physical, emotional, and/or mental exhaustion (Lackritz, 2014; Padilla & Thompson, 2015). Burnout is a national concern in the workplace because workplace stress accounts for $190 billion in overall health care costs (Lynch, 2015).

According to The American Institute of Stress (AIS, n.d.), stress is costly and accounts for $300 billion in costs associated with accidents, absenteeism, employee turnover, diminished productivity, worker's compensation, and direct medical, legal, or insurance costs. Both stress and burnout contribute to physical health problems. Health concerns are related to high blood pressure, fatigue, headaches, and poor eating and sleeping habits (Colacion-Quiros & Gemora, 2016). Evidence indicates that faculty experience stress and burnout, which impacts job performance and overall job satisfaction; however, the evidence in higher education does not provide statistics associated with absenteeism, employee turnover, and diminished productivity (Darabi et al., 2017b; Gillespie et al., 2001; Maslach, Schaufeli, & Leiter, 2001).

Research universities now reflect an organizational expectation to produce high quality work in the areas of research, teaching, and service, but the high workload demands may require faculty to work up to 50-70 hours per week, perpetuating inefficacy as professors lose control over their day (Colacion-Quiros & Gemora, 2016; Gornall & Salisbury, 2012; Jacobs & Winslow, 2004). Working 70 hours a week has become typical, especially for tenure track faculty because they lack time to meet all the demands and then work spills over into personal time (Gornall & Salisbury, 2012; Sorcinelli & Near, 1989; Tenuto & Gardiner, 2013). The work environment is both seen directly and is unseen when work is completed outside the institutional environment. Lack of time in turn places strain on faculty overall well-being, adversely effects family life, lowers job satisfaction, and decreases the ability to fulfill roles adequately especially when providing students quality time because teaching responsibilities compete with other work demands (Darabi et al., 2017b; Gillespie et al., 2001; Maslach et al., 2001). Current literature demonstrates a relationship between faculty well-being, specifically stress and burnout, and consequences towards work performance. The concern is a lack of evidence has been reported on

how faculty stress is related to work disengagement and how it is perceived by students making the importance of the study timely and relevant (Darabi et al., 2017a; Darabi et al., 2017b; Gillespie et al., 2001; Lackritz, 2014; Maslach et al., 2001; Padilla & Thompson, 2015).

Several factors can influence students' perceptions of the classroom environment. The physical space of a classroom, the size of the class, peer interactions, teaching loads, and pedagogical teaching styles can play a role in student outcomes (Bettinger & Long, 2017; Hirschy & Wilson, 2002; McArthur, 2015). Additionally, the classroom climate mirrors the learning environment and students' negative perceptions of the environment can affect academic success and perpetuate student stress (Hirschy & Wilson, 2002; Johnson et al., 2014). For students, academic concerns are the largest source of student stress next to financial strains, personal aspects such as relationships and mental health, lack of social support, fear of failure, and environmental barriers (Pitt et al., 2018; Reddy et al., 2018). The learning environment is also influenced by the student's academic level, curriculum content, and the teaching style of the faculty member (Ahmed et al., 2018). Moreover, academic relationships are important, so the faculty-student relationship can also affect learning (Hirschy & Wilson, 2002). When faculty treat students with respect and compassion, faculty promote enthusiasm for learning and increase student self-efficacy and satisfaction (Hoffman, 2017). The concern is the lack of understanding between faculty stress and how it is perceived by students, so it is unclear how higher education leadership can best support faculty to mitigate stress.

To support faculty, it is important that university leaders promote the development of stress management programs that are both effective and preferred by faculty. Programs should be implemented based on the faculty's needs because their well-being may impact job satisfaction and work performance to include teaching (Darabi et al., 2017b; Gillespie et al., 2001; Maslach

et al., 2001). The National Center for Chronic Disease Prevention and Health Promotion (NCCPHP, 2016) states that workplace health promotion and wellness programs benefit not only the employee, but employers as well. Work-related stress is the leading workplace health problem ranking above physical inactivity and obesity. Work-related stress contributes to productivity loss from missed work, which costs $225.8 billion or $1,685 per employee. Workplace programs protect health and prevent disease, but the NCCPHP indicates that very few employers are using science-based health programs (NCCPHP, 2016). Furthermore, the American College Health Association conducted a survey with universities that provide health and wellness programs and found that the largest barriers these institutions faced were faculty lacking time or interest (Wagner et al., 2012). MacRae and Strout (2014) conducted a self-care education program with 16 participants, but only 53% were faculty. Haines et al. (2007) only had three faculty participants in a computer-based education program that included 125 participants. The lack of evidence requires promoting programs that faculty will use to combat stress in the workplace. It is important to address the three aspects of the study because they interrelate and can influence higher education practices.

Purpose of Study

The single institution study used a quantitative approach to examine interrelated parts that provide additional insight into faculty stress and guide the development of faculty health and wellness programs that mitigate stress in a U.S. public, four-year research university. The first part examined faculty stress and its relationship with work engagement. The second part of the study explored how students perceived faculty stress and the relationship it had with how students perceived faculty teaching effectiveness in the classroom. Finally, the last part was used to consider health and wellness program recommendations to address stress in the academic

workplace. The three parts of the study are interrelated but required different frameworks to analyze the data. The focus for faculty was to analyze program preferences and work disengagement as it relates to stress factors and outcomes, which may influence how they teach in the classroom. The focus for students was to understand their perceptions of faculty teaching effectiveness as it relates to how faculty reflect different stress characteristics. For faculty, the study used the Job Demands-Resources (JDR) framework and mindfulness-based principles.

The JDR model is an organizational behavior model that considers the relationship between job demands, job resources, job satisfaction, stress, and work engagement (Bakker, 2011; Bakker & Demerouti, 2014). For the study, faculty variables included work disengagement, stress factors of general stress and burnout, stress outcomes of general health, cognitive stress, somatic stress, depressive symptoms, and sleep concerns, and faculty characteristics of gender, age, tenure status, work position, number of hours worked per week, number of classes taught, and the time of day faculty taught. The study assumed that each faculty member was candid in their response because stress presents itself differently depending on rank and experience (Carr, 2014). In some cases, stress levels increase as faculty rank goes up and in other cases, strain from stress is significantly higher for tenure track faculty versus those already tenured (Carr, 2014; Colacion-Quiros & Gemora, 2016). On the other hand, non-tenure-track faculty are usually not included in faculty stress literature because they are viewed from a deficit model, which means they are viewed as less valuable than tenured and tenure track faculty and are overlooked especially in the literature (Eagan et al., 2015). Conversely, Darabi et al. (2017b) found no significant difference in stress levels between full-time and part-time faculty in institutions of the United Kingdom (UK). However, since 1970, the percentage of full-time faculty in U.S. institutions has decreased from 77.8% to 52.7% indicating there are now more part-time faculty in higher education

institutions (National Center for Education Statistics [NCES], 2018). Stress impacts most faculty, so all tenure statuses and position levels were included in the study (Kezar & Sam, 2011). Additionally, mindfulness-based literature guided the questions that provided insight into faculty preferences of health and wellness programs. Faculty require health and wellness programs that are not only based on evidence but are provided in a manner that will be useful to faculty. The insight of the study assisted in providing recommendations for higher education leaders.

Student perceptions were analyzed using the Campus Ecology Theory (Evans et al., 2010). Campus ecology assumes that students are influenced by the environment, which includes the faculty and other professionals at the institution (Evans et al., 2010). The Personality-Contagion Theory assumes that a faculty's emotions, stress, or behaviors from burnout can be transmitted to students, which can then influence how they learn (Oberle & Schonert-Reichl, 2016). Oberle and Schonert-Reichl (2016) conducted a study of 406 students during eight weeks with 4th to 7th graders. Cortisol levels were collected three times a day to determine students' biological stress levels and teachers were assessed for burnout levels. The researchers found that higher levels of teacher burnout significantly predicted higher levels of students' morning cortisol level. Although the study was not predictive of causal effects, it reflected the possibility that high levels of faculty occupational stress can transfer to students. Additionally, a study conducted on mice indicated that stress could trigger neurological changes that can be transmitted to others and have lasting effects (Sterley et al., 2018). Sterley et al. found that behavioral and hormonal consequences of stress can be transmitted to others. The study states that when a person is around another person who is highly stressed, that person can begin to feel the other person's stress levels at a neurological, hormonal, and behavioral way as though the stress was their own. These two studies have implications for the study as it is unclear if faculty

levels of stress can influence student perceptions of faculty teaching effectiveness, so it is important to include the analysis of student perceptions. The two theories assist in explaining how the classroom environment and faculty behaviors have the potential to influence students' behaviors and perceptions; however, only the campus ecology theory was used to analyze the data as student behaviors were not analyzed.

The results of the study guide higher education leaders, including directors of health and wellness programs, on how to best support the overall well-being of faculty members and contribute to student success by addressing faculty stress. The study provided important information on the relationship between faculty stress and work disengagement, student perceptions of faculty reflecting stress factors and faculty teaching effectiveness, and faculty preferences for health and wellness program characteristics and implementation.

Discussion of Important Terms

The following important terms are clarified to promote understanding of the terminology used in the study:

Stress: For the purposes of the study, stress factors consisted of general stress and burnout. Stress occurs when the body and brain react to adverse life situations (Centers for Disease Control & Prevention [CDC], n.d.; National Institute of Mental Health [NIMH], n.d.). When stress is prolonged, it can have physical and psychological outcomes especially if the stressors are perceived as overwhelming and the person believes the current resources are inadequate to meet life demands (Alberts & Hulsheger, 2015). Stress is multifaceted and has a linear relationship with work performance because cognitive stress increases cognitive demands, which reduces focus and concentration (Eagan & Garvey, 2015). The consequences of general stress can present as irritability, tension, anxiety, and depressive symptoms such as sadness

(Colacion-Quiros & Gemora, 2016; Darabi et al., 2017b; Gillespie et al., 2001). General health is also affected producing poor sleep and somatic stress, which is a physical stressor that can present as stomach aches, headaches, and muscle tension (Colacion-Quiros & Gemora, 2016). Burnout is a type of stress that develops after a prolonged response to chronic emotional and interpersonal job stressors (Maslach et al., 2001; Padilla & Thompson, 2015).

Burnout presents itself in three dimensions. The first dimension is emotional exhaustion, which is a feeling of being overexerted and lacking emotional and physical resources. Cynicism is the second dimension and can also be referred to as depersonalization, which presents as indifference, disengagement, and workplace negativity that can dehumanize others. The last dimension is inefficacy or a reduction in personal accomplishments. These three dimensions can relate to disengagement at work, which are defined later in this section (Padilla & Thompson, 2015).

Somatic stress is a type of stress that is associated with a physical health response and can be associated with high blood pressure, headaches, being tired, and digestive problems (Colacion-Quiros & Gemora, 2016). The study considered stomach aches, headaches, and muscle tension as items that indicate somatic stress and were associated with physical health outcomes.

General physical health: Stress can impact a person's physical health with outcomes of headaches, tiredness or fatigue, poor sleep quality, diminished sleep, poor eating habits, and increased blood pressure (Colacion-Quiros & Gemora, 2016;). General health included the faculty's perception of their overall physical health as well as how they perceived their physical health in relation to the quality of sleep obtained. Poor sleep quality may impact a person's mental and physical health with stress outcomes of irritability and fatigue (Colacion-Quiros &

Gemora, 2016; Darabi et al., 2017b). The study considered somatic stress as an aspect that represents a faculty member's physical health.

Work Disengagement: Disengagement is the act of distancing oneself or presenting with withdrawn behaviors that can create tension with others and general work responsibilities (Demerouti et al., 2010; Toppin & Pullens, 2015). Disengagement can be influenced by overwork, excessive expectations, financial concerns, family commitment, and other life demands (Toppin & Pullens, 2015). The study analyzed work disengagement as it related to the relationship between faculty and work responsibilities and the willingness to continue completing work tasks. Depersonalization is one aspect of disengagement, which can present itself as cynicism or an uncaring or indifferent attitude towards others such as students or one's work (Demerouti et al., 2015; Lackritz, 2004; Sabagh et al., 2018).

Mindfulness: Mindfulness is the act of being aware of the present moment in a purposeful way without judging one's thoughts or actions, which allows a person to consider the consequences of one's actions before speaking or acting (Brems, 2015). Due to the extensive research and benefits of mindfulness, specific therapeutic strategies were developed known as mindfulness-based interventions (MBIs) that have been used with a variety of populations (Alberts & Hulsheger, 2015; Franco et al., 2010; Krusche, Cyhlarova, & Williams, 2013; Morledge et al., 2013; Reiser et al., 2016).

Learning Environment: The learning environment consist of four elements: course context, teaching and assessment of the content, the student and faculty relationship, and the student's culture (Evans et al., 2010). Evidence indicates that students' perception of the learning environment differed depending on the academic level, so the study analyzed the differences between undergraduate, masters, and doctoral students (Ahmed et al., 2018). The study was

analyzed using the campus ecology framework and only focused on the course context and the student and faculty relationship because the perspective of the framework assumes that students are influenced by the environment and the people. Faculty were the primary focus in the case of the study.

Faculty demographic characteristics used in the study: Aside from work disengagement and stress factors and outcomes, it is important to clarify the purpose of the faculty demographic characteristics that were analyzed. The characteristics that were studied included *tenure status* that consisted of tenured, tenure track, and non-tenure-track faculty, *work position* such as full-time or part-time, *time of day faculty taught*, *number of hours worked per week*, *number of classes taught*, *gender*, and *age*.

Tenure status and *work position*: Carr (2014) demonstrated differences in strain related to stress between tenured faculty and tenure track faculty. However, the stress was dependent on the experience of faculty. Stress levels among the three tenure statuses of tenured, tenure track, and non-tenure-track have not been compared together. For the study, it was important to analyze the *tenure status* and *work position* differences to further understand how faculty stress is related to work disengagement.

Work position: In 1970, part-time faculty consisted of 21.9% of all faculty while in 2016, 47.3% represented part-time faculty indicating an increase in the percent of part-time faculty in degree-granting post-secondary institutions (National Center for Education Statistics [NCES], 2018). The increase in part-time faculty indicates they should be considered in the study. Furthermore, there is a false assumption that non-tenure-track faculty have less commitment and engagement and are often overlooked and viewed through a deficit model (Kezar & Sam, 2011).

However, their level of well-being can influence the engagement in the classroom and was included in the study.

Time of day: Cladellas and Castello (2011) found a difference between faculty and the time of day faculty taught: faculty who taught during regular work hours between 8:00 a.m. and 5:00 p.m. and faculty who taught outside of these hours. They indicated higher levels of stress for faculty who taught outside the work hours. It is the only study of its kind, so it was important to analyze the same relationship in the current study.

Number of hours worked per week: Workload is a concern that impacts faculty stress, but has not been clearly quantified (Carr, 2014). The number of hours worked per week may provide insight on how to quantify workload. The U.S. Department of Labor, under the Fair labor Standards Act (FLSA), does not define the number of hours per week that are required to be considered a full-time or part-time employee, but it states that employees who work over 40 hours in a week should receive at least one and one-half times the regular rate (2008); however, university professors are exempt employees and are not eligible for additional pay for long work weeks. For this reason, employers tend to acknowledge that 40 hours per week is the standard full-time status, but full-time status can range between 30 and 50 hours per week (Upcounsel, 2019). The 50-hour work week usually applies to salary-based employees. With these hours in mind, Tight (2010) analyzed surveys conducted between 1998-2004 in the United Kingdom (UK). The results indicated that 64% of academic faculty averaged more than 48 hours per week while 22% worked more than 55 hours per week. Melin et al. (2014) found that faculty averaged between 38.9 to 49.3 hours per week and that work dissatisfaction increased as the number of hours worked per week increased. Faculty who reported being *very dissatisfied* ranged between 5.2% for faculty who worked less than 50 hours per week to 10.1% for faculty who work more

than 50 hours per week to 12.5% for faculty who worked over 60 hours per week. For the study, it was important to analyze the range of hours worked per week as it could impact stress levels.

Number of classes taught: The number of classes taught has not been analyzed in the current literature. However, the number of classes taught may provide additional insight on how to quantify workload and the stress that impacts performance.

G*ender*: Gender plays an important role in academic life. According to one study, women tend to be less satisfied compared to men and are often under-represented as they lack adequate mentorship and demonstrate poor work balance (Waljee et al., 2015). Gender has the potential to impact turnover intentions especially among female faculty that is strongly correlated with a lack of satisfaction with research support, lack of advancement opportunities, and inability to express their ideas (Xu, 2008). Although research outlines disparities for women, research is unclear when related to faculty stress. Lackritz (2004) indicated that females experience more exhaustion compared to males; however other researchers did not find a significant difference in stress levels between males and females (Colacion-Quiros & Gemora, 2016). Faculty stress has been compared between men and women, but the research has not factored faculty who identify as transgender, which should be considered. In the study, cisgender is an identity label of individuals who identify with the gender they were born with and identify with the behavioral, cultural, and psychological traits associated with that sex (Seelman, 2014). Transgender is an umbrella term used to identify individuals that incorporate other gender-different identities such as cross-dresser, female-to-male, male-to-female, two-spirit, third sex, and genderqueer. The terms are important for the term cisgender is meant to assist in understanding the oppressions of individuals who identify as transgender. The literature related to higher education and faculty has only included cisgender identities and lacks the comparison of all possible gender identities.

Although the research in these areas is limited, the results suggest that faculty who identify as lesbian, gay, bisexual, and transgender (LGBT) experience negative work climates that have direct negative consequences in their careers (Bilimoria & Stewart, 2007). LaSala et al. (2008) described the risks and rewards of faculty who identify as LGBT that can include being hired specifically to fill a minority gap in an institution, but inclusion is not provided leaving faculty feeling isolated. Faculty may also experience stereotypes that discriminate against their capacity. For example, faculty may be viewed as the expert on LGBT versus an expert of teaching or research making faculty feeling vulnerable. A qualitative study of 17 social work faculty found that faculty who identified as LGBT tended be open despite negative consequences because they felt a responsibility to themselves as well as others (Prock et al., 2019). The acceptance of identifying as LGBT has become more acceptable; however, marginalization and discrimination continue for these individuals, which may impact the stress levels experienced in the workplace (Prock et al., 2019). For this reason, it was important to consider all gender identities in the study.

Age: Carr (2014) stated that the youngest (20-29) and oldest faculty (70-89) felt less strain compared to those aged between 30-69 and the oldest group had the lowest coping levels. However, Colacion-Quiros & Gemorea (2016) stated faculty in the Philippines who are over 58 tended to have higher levels of stress. Conversely, age is negatively correlated with burnout, which means younger faculty are at higher risks of burnout (Lackritz, 2004). The literature is contradictory requiring further analysis of this demographic characteristic and was analyzed in the study.

Delimitations

The campus climate embodies all physical and non-physical aspects of the campus environment and can promote growth and democracy when a culture of respect, inclusion, and appreciation for all differences is present (Griffin, 2017; Harbour & Greenberg, 2017). Problems occur when the campus attitude, behavior, and standards do not respect the needs, abilities, and potential of its community members (Harbour & Greenberg, 2017). Research related to campus climate primarily addresses issues with diversity and mental health. Although these factors are important, campus climate is broad, but it can contribute to the perceptions faculty and students have about the classroom environment (Harbour & Greenberg, 2017). The faculty-student relationship primarily occurs in the classroom, which is why the campus ecology framework was used to understand students perceptions of faculty because the framework assumes that students can be affected by the classroom environment that includes the people in it (Evans et al., 2010; Hoffman, 2017).

The study did not assume that the learning environment is only influenced by faculty stress and acknowledges that several factors may influence how students perceive the classroom environment. Although many student outcomes could be studied related to the classroom environment, the purpose of the study was to understand how faculty stress was perceived by students and the relationship it had on how student's perceived faculty teaching effectiveness. For this reason, the demographic information requested by the students is meant to provide a profile of the participants. Except for the student's class size and classification, the demographic information was not analyzed. Using the campus ecology framework, the study invited student participants who were enrolled in a course that had physically began in a classroom and faculty who began teaching in a physical classroom, which excluded students who were only enrolled in

online courses and faculty who only taught online courses during the semester of the study. It is important to report that the closure of the university, due to the COVID-19 pandemic, required that the study announcement and consent letters be clear. The two forms indicated that the study sought participants who had *begun* the semester in a physical classroom even though data was collected while faculty and students were completing the semester online. The assumption of the study was that student participants would be candid in their responses in order to examine students' perceptions of faculty teaching effectiveness and how faculty reflected stress characteristics. The study also assumed students would understand the terms related to stress that are indicated in the questionnaire. Stress appears in various forms, so students were provided different terms such as tension, anxiousness, annoyance, anger, sadness, being tired, or often forgetful to describe their perceptions of the faculty member's stress (Colacion-Quiros & Gemora, 2016; Gillespie et al., 2001). The study only examined one U.S. public, four-year research university because using the campus ecology framework assumed the institution that was studied could not be compared to other institutions.

The study focused on a public institution rather than a private institution because the overall literature provides evidence of faculty stress in public universities (Ablandedo-Rosas et al., 2011; Barnes et al., 1998; Cladellas & Castello, 2011; Colacion-Quiros & Gemora, 2016; Darabi et al., 2017a; Darabi et al., 2017b; Eagan & Garvey, 2015; Gillespie et al., 2001; Lackritz, 2004; Mudrak et al., 2018; Padilla & Thompson, 2015). The National Center for Education Statistics (2019) reported that 14.7 million students would attend a public institution, which is more than the 5.2 million students that were anticipated to attend a private institution (National Center for Education Statistics, 2019). Furthermore, there is inadequate evidence in U.S. literature on faculty stress and none that identify the student perceptions of faculty stress in the

classroom. For example, five U.S. studies were reviewed since 1998 and only three reflected studies in public institutions: one West coast university, one unknown U.S. university, and one doctoral-granting university (Ablandedo-Rosas et al., 2011; Lackritz, 2004; Padilla & Thompson, 2015). The other two studies reviewed secondary data. Additionally, only one study analyzed faculty stress in an international private university and did not add to the literature review of the study because the primary focus of the institution was teaching and all the instructors were male, which does not reflect the institution that the study analyzed (Iqbal & Kokas, 2011). To understand faculty stress and students' perceptions of faculty teaching effectiveness and how they reflect stress characteristics, it was important to begin with public universities because they have been identified in the literature related to faculty stress.

Many aspects of faculty stress, as it relates to work responsibilities, could have been analyzed, but the focus of the study was to understand what faculty stress factors were related to work disengagement and teaching effectiveness with an intent to understand ways to promote programs that may mitigate faculty stress. Colacion-Quiros and Gemora (2016) found a few aspects that caused stress such as heavy workloads with high demands and long working hours. Stress affects physical and mental health aspects such as feeling tired, poor eating habits, headaches, and feeling anxious, angry, depressed, or intolerant towards others (Colacion-Quiros & Gemora, 2016). Drawing from Colacion-Quiros and Gemora (2016), faculty with high workloads indicated frustration with people and the environment resulting in decreased job satisfaction. The current study sought to understand how faculty stress contributed to work disengagement especially in the classroom. Stress factors that were used in the study were stress and burnout. Stress outcomes included general health, cognitive stress, somatic stress, depressive symptoms, and quality of sleep. Furthermore, faculty demographics of gender, age, tenure status,

work position, number of hours worked per week, number of classes taught, and time of day faculty taught were asked to develop a profile of the participants. The information was also used to compare the differences among faculty and their relationship to work disengagement, stress factors, and stress outcomes.

Faculty stress was analyzed based on faculty's perceptions of their stress, burnout, and general physical and mental health levels. It is important to state that although research and grant writing contribute to faculty stress, they were not analyzed in the study because not all faculty that will be studied, which includes full-time and part-time faculty, will have research responsibilities (Gallup & Svare, 2016). Likewise, race and ethnicity were not acknowledged aside from reporting frequency distributions to establish the participant's profile and to enhance further understanding of other faculty characteristics that were studied because the concerns related to race and ethnicity are vast and beyond the scope of the study. Therefore, the study did not account for all the possible sources of faculty stressors. The study assumes and sought to understand how general faculty stress, regardless of the source, influences faculty's perception of their stress as well as student's perception of the learning environment, which includes students' perceptions of faculty teaching effectiveness and how faculty reflect stress characteristics.

Research Questions and Hypotheses

The study investigated the relationship between work disengagement and faculty stress that included factors of stress such as general stress and burnout and outcomes of stress such as concerns with physical and mental health. To understand students' perceptions, the study analyzed the students' perception of faculty teaching effectiveness in the classroom and how students perceived faculty displayed characteristics of stress. Given the analytical strategy that was used, the study's research questions, and the hypotheses related to each are as follows:

Research Question 1: How are faculty stress factors related to work disengagement?

Research Hypothesis 1: Faculty burnout, general stress, cognitive stress, depressive symptoms, poor general health, poor sleep, and somatic stress are positively related to work disengagement.

Research Question 2: Are stress factors and work disengagement related to faculty of different characteristics?

Research Hypothesis 2: Different levels of stress factors and work disengagement are related to tenure status, work position, time of day faculty taught, number of hours worked per week, number of classes taught, gender, and age.

Research Question 3: Are stress outcomes and work disengagement related to faculty of different characteristics?

Research Hypothesis 3: Different levels of stress outcomes and work disengagement are related to tenure status, work position, time of day faculty taught, number of hours worked per week, number of classes taught, gender, and age.

Research Question 4: Are students' perceptions of faculty teaching effectiveness related to student's perceptions of faculty stress characteristics in the classroom?

Research Hypothesis 4: Students' perceptions of faculty teaching effectiveness are related to students' perceptions of the different levels of faculty stress characteristics (stressed, tense, anxious, annoyed, angry, sad, tired, often forgetful).

Research Question 5: Are different class sizes related to students' perceptions of faculty teaching effectiveness and students' perceptions of different faculty stress characteristics in the classroom?

Research Hypothesis 5: Different class sizes are related to students' perceptions of faculty teaching effectiveness and students' perceptions of the different levels of faculty stress characteristics (stressed, tense, anxious, annoyed, angry, sad, tired, often forgetful).

Research Question 6: Are different college student classifications related to students' perceptions of faculty teaching effectiveness and students' perceptions of different faculty stress characteristics in the classroom?

Research Hypothesis 6: Different college student classifications are related to student's perceptions of faculty teaching effectiveness and students' perceptions of the different levels of faculty stress characteristics (stressed, tense, anxious, annoyed, angry, sad, tired, often forgetful).

Research Question 7: What strategies and delivery methods of health and wellness strategies do faculty prefer?

Based on these results, the research question did not have a hypothesis as it served to understand faculty preferences that may influence future programing and research. The study examined the type of mindfulness-based strategies faculty preferred and how they prefer programs are implemented. Based on the findings by Wagner et al. (2012), an institution's largest barrier in implementing health and wellness programs for faculty is their lack of time and overall interest in the programs. Drawing on these findings, the questionnaire considered faculty's interest by first asking a question that allows faculty to rank areas of interest with terms related to the effects of practicing mindfulness based techniques such as, but not limited to: lowering stress, increasing awareness, learning to relax, living more in the present, and increasing overall health. Time is considered during the second question and considers the factors that may increase participation in programs. The question asked faculty to consider various ways that programming could be implemented such as providing a stress relaxation

training for 5-10 minutes before a departmental meeting, participating in an on campus program via an online system that can be accessed from a personal office, or getting training via videos or phone applications. Current literature does not reference these preferences or the usefulness of using these types of techniques. Mindfulness courses offered online are provided, but they are not programs implemented based on faculty preferences (Krusche et al., 2013; Morledge et al., 2013). It is important to consider faculty time and interest when developing programs that mitigate stress and the study sought to understand these aspects.

Summary

Chapter one briefly outlined the literature explaining the context and problem the study sought to examine. The purpose of the study was to analyze three interrelated parts with the intent to recommend how mitigate stress that faculty experience in higher education institutions. The first part examined the relationship between faculty stress factors and work disengagement. The literature demonstrates a relationship between faculty work demands and stress, burnout, and health. However, how work disengagement is related to all aspects of faculty stress is vaguely understood. The second part of the study sought to examine students' perceptions of faculty teaching effectiveness as it related to students' perceptions of faculty reflecting stress characteristics. The third part of the study assisted in understanding the types of health and wellness programs preferred by faculty. The third part was accomplished by asking faculty what mindfulness-based characteristics faculty would prefer in a program and how they prefer they are implemented in the workplace. Asking faculty for input is necessary because the National Center for Chronic Disease Prevention and Health Promotion (NCCPHP, 2016) states very few employers use science-based health programs. Additionally, the American College Health Association explains that the largest barrier institutions face when implementing health and

wellness programs is that faculty lack time or interest (Wagner et al., 2012). The study analyzed these three phenomena at a U.S. public, four-year research university. The next chapter, the literature review, will take an in depth look at the literature on faculty stress, which consists of the causes and outcomes of stress in the workplace as well as student perceptions, which analyzes the classroom/learning environment and the faculty-student relationship.

Chapter 2: Literature Review

It is essential to review the literature related to faculty stress and how stress factors and outcomes relate to work disengagement. As indicated earlier, faculty stress has been examined in the literature since the mid-1980s. Gmelch et al. (1984) reported on the sources of stress for faculty from 80 doctoral granting U.S. institutions. They identified 10 top stressors: (a) self-imposed high expectations; (b) securing financial support for research; (c) insufficient time; (d) inadequate salaries; (e) writing for publication; (f) heavy workloads that cannot be finished in a normal work day; (g) job demands that interfere with personal activities; (h) inadequate progress; (i) frequent interruptions; and (j) attending meetings. The study found that 60% of faculty stress was related to work demands. Specifically, the highest sources of stress were time constraints, lack of resources, and high self-imposed demands that faculty place on themselves. The same authors used the study's results to then analyze five distinct dimensions: reward and recognition, time constraints, departmental influence, professional identity, and student interactions (Gmelch, Wilke, & Lovrich, 1986). In the second analysis, the authors found that tenure track faculty tended to perceive higher levels of stress compared to tenured faculty. Higher ranking faculty tended to perceive lower levels of stress. Other studies that examined stress in higher education institutions during the 1990s included Sorcinelli and Near (1998), Austin and Pilat (1990), Baldwin (1990), Leiter (1991), Olsen (1993), Sorcinelli and Billings (1993), and Lacy and Sheehan (1997). For the study, literature since 1998 was reviewed, which coincidently is 10 years before the Great Recession of 2008 that impacted the economic climate that surrounded higher education institutions during the time of the study (Mitchell et al., 2017).

Although Gmelch et al. (1984) addressed the economic, political, and fiscal concerns higher education institutions were facing before 1998, it is important to note more recent changes to higher education due to the Great Recession of 2008. State spending in higher education

decreased during the recession and has remained historically low (Mitchell et al., 2017). Compared to 2008, in 2017, public two and four-year institutions received $9 billion less in state funding that impacted budgets reducing the number of courses offered and faculty hired. These changes have affected higher education institutions who base success in part on the amount of financial support that is gained in addition to effective teaching, scholarship, and overall academic excellence (Gallup & Svare, 2016). The need for financial support has then perpetuated pressure for faculty to secure grants. The intense pressure and competitive nature of obtaining grants results in faculty spending large amounts of time revising and resubmitting grants "that suppresses the creativity, cooperation, risk taking and the original thinking that is so important for new discoveries. It breeds conservative short-term thinking that produce results measured in terms of dollars rather than sense" (Gallup & Svare, 2016, para. 10).

Faculty stress and burnout and its impact on work and health have been examined in the following countries: Spain, Sweden, Australia, South Africa, the Netherlands, the United Kingdom, and the United States (Cladellas & Castello, 2011; Colacion-Quiros & Gemora, 2016; Darabi et al., 2017a; Darabi et al., 2017b; Gillespie et al., 2001; Mudrak et al., 2018). Other countries have also examined faculty stress, but the stress factors and outcomes do not provide relevant information for the study because their outcomes are specific to those country's culture and were not included in the literature review. For example, Iqbal and Kokash (2011) conducted a study in a private Saudi Arabia university that included 68 male participants. Although the results indicated faculty stress in relation to student interactions and professional identity, the study represents a private institution and only had male participants, which biases the study towards one gender.

The international studies that were considered provided knowledge of faculty and stress in higher education institutions and have influenced the research design and frameworks considered for the study. Therefore, international research will be grouped separately from U.S. research to demonstrate the gap that exists within U.S. higher education institutions during the past 20 years regarding faculty stress, the relationship with work disengagement, and the relationship it may have in the classroom.

Faculty Stress

Faculty Mental Health and General Physical Health

Many health outcomes are related to stress or burnout associated with faculty work. Poalses and Bezuidenhout (2018) state that "occupational stress among university [faculty and staff] members deserve dedicated research attention, especially given the fact that it is a global phenomenon" (p. 185). The physical effects related to stress include high blood pressure, headaches, migraines, physical fatigue, poor sleep or sleep disorders, and poor eating habits that affect weight (Colacion-Quiros & Gemora, 2016; Gillespie et al., 2001). Other outcomes of stress that affect a person's physical health include back and neck pain, constant muscle tension, weight loss or gain, hypertension, and a lowered immune system (Gillespie et al., 2001). Furthermore, many of these general health concerns are related to mental health issues in the workplace.

Mental health is a state of well-being that is integral to overall health and is characterized by being productive and resilient, presenting with positive psychological and social functioning, and the ability to cope with life stressors (Bazyk, 2011; World Health Organization [WHO], 2018). Chronic stress can contribute to stress-related disorders such as muscle tension around the neck, shoulders, and head or migraine headaches that can drain the body and promote

hyperventilation that is associated with panic attacks, strokes, cardiovascular illness, and hypertension (Alberts & Hulsheger, 2015; Tovian et al., n.d.). Furthermore, sustained levels of stress have been associated with sleep concerns and depression (Alberts & Hulsheger, 2015; Morledge et al., 2013). Additionally, burnout is another concern associated with mental health.

Burnout is a form of stress that is caused by a long-term situation that is considered an interpersonal or emotionally demanding job stressor (Lackritz, 2004; Padilla & Thompson, 2015). It is a response to work overload that produces a state of physical, emotional, and mental exhaustion where work becomes unpleasant, meaningless, and unpleasant (Lackritz, 2004; Maslach et al., 2001). Antecedents to burnout are excessive workload, lack of control, low levels of rewards, a low sense of community, and decreased levels of fairness, which have negative consequences in the workplace (Maslach et al., 2001). These consequences result in exhaustion, cynicism, or depersonalization. Burnout is also related to reduced professional efficacy that can produce low productivity, dissatisfaction, withdrawal, absenteeism, intent to leave, and turnover (Lackritz, 2004; Maslach et al., 2001; Padilla & Thompson, 2015). Energy turns into exhaustion, which presents itself as being tired, fatigued, and feeling drained. Involvement turns into cynicism, or depersonalization, which presents itself as indifference and negative attitudes that dehumanize others. Efficacy turns into low effectiveness or a reduction in personal accomplishments. It is important to understand these levels because burnout is associated with poor physical health, promotes stress-related health outcomes such as anxiety and depression, and affects work outcomes in higher education by increasing turnover, work disengagement, and dissatisfaction (Lackritz, 2004; Sabagh et al., 2018). In higher education, burnout is correlated with perceived high workloads, which can lead to exhaustion and impact research productivity. The concern with burnout is that it may be cyclical versus a gradual event, which means a person

may experience outcomes of burnout without consistently feeling the consequences of exhaustion, cynicism, or depersonalization (Lackritz, 2004). However, compared to stress alone, less research exists on faculty burnout, which is influenced by several factors and has a relationship with work disengagement (Lackritz, 2004; Padilla & Thompson, 2015; Sabagh et al., 2018).

Faculty Work Engagement

The campus climate and work expectations imposed by a department and college can influence faculty work engagement. Faculty perceptions of the work environment and culture of the institution can vary (Griffin, 2017; Harbour & Greenberg, 2017). Although campus climate factors are important, the purpose of the study was to examine how faculty engaged at work and its relationship to their perceived levels of well-being associated with stress, burnout, and general physical and mental health. It is important to review the literature together as they influence each other. However, to understand the gaps within U.S. institutions, the literature from international studies was analyzed separately from U.S. studies.

International Studies

International studies vary in providing sources of stress that influence health and the consequences they have on work productivity and satisfaction. The first studies only reflected the relationship between stress and work factors. The first article used a cross-sectional design, which collected data at one point in time to examine work practices of 595 faculty and staff from 23 South African institutions (Creswell, 2012). The study emphasized the use of the Job Demands-Resource (JDR) theoretical model that examined the relationship between job demands and resources but extended the two constructs by including work engagement and burnout (Barkhuizen et al., 2014). The researchers found strong effects of dispositional optimism, which

had a strong indirect effect on burnout. Basically, job demands were linked to health problems by means of burnout while job resources were linked to organizational outcomes through work engagement. The next study also used the JDR model to investigate how the job demands and resources of the academic environment influenced the multiple dimensions of well-being (Mudrak et al., 2018). The quantitative study examined 1,389 research faculty from Czech Republic universities and found that the strongest predictor of work engagement was faculty receiving supervisory support and having an influence over the work completed. Strong predictors of stress included work-family conflicts and job insecurity with the strongest predictor being the amount of work demands. The work by Mudrak et al. (2018) emphasized that the work environment can influence different aspects of occupational well-being. Similarly, another study of 16 medical school faculty from two Netherland university hospitals used the Work Engagement Model to explore how the job demands and resources of different tasks affected work engagement (Van den Berg et al., 2015). The researchers found work engagement was associated with positive well-being. The work demands were related to the institution's culture, systems, policies, and support systems. However, faculty perceived rewards as empty gestures while student interaction was viewed as energizing. Overall, the work environment influenced faculty well-being and the job resources were viewed as more beneficial than reducing job demands.

The next articles include mental health outcomes based on the relationship between faculty stress and work. Two studies from the United Kingdom add insight to the sources of stress that affect faculty in their institutions. The first study was a qualitative study of 31 professors in a primarily teaching university with minimal focus on research (Darabi et al., 2017a). It sought to understand the positive and negative stressors associated with work factors.

The results indicated several sources of stress related to the work environment. The main source was the heavy workload, which did not allow enough time to prepare lectures. The lack of time is noted because teaching responsibilities competed for time to complete research requirements. Another source was faculty perceiving they taught a high number of students, which was identified as more stressful when students were disrespectful. The study did not quantify what a 'high number' meant and was only a descriptive term selected by faculty of the study. Decreased administrative support with budget cuts and job insecurity also perpetuated stress. Although the results provide insight to sources of stress, the study was conducted as an online interview of 12 open ended questions limiting the richness of the qualitative approach. Qualitative inquiry should provide an in-depth exploration of a phenomenon, which cannot be completed with one interview and much less online (Creswell, 2012). From this group of research studies, the last one was a quantitative study that included 216 faculty and staff (Darabi et al., 2017b). The study found that irritability increased as stress increased. Stress was also predictive of poorer mental health and higher negative affect; however, the specific factors related to faculty were unclear. The last study of this group was conducted in Australia.

Gillespie et al. (2001) conducted 23 focus groups at 15 Australian institutions with 178 participants to understand faculty's and staff's perceptions of the causes and consequences of workplace stress. The research suggested that the causes of stress were lack of funding, task overload, poor management practices, insufficient recognition, and job insecurity. The study also discovered several consequences of work-related stress such as the inability to complete work efficiently, which lowered the quality of education provided and research productivity. Stress also affected time, so faculty felt a lack of time to be innovative. Faculty also experienced diminished support and collegiality. Psychologically, two-thirds of the participants felt

overwhelmed with symptoms of anxiety, depression, burnout, anger, irritability, helplessness, forgetfulness, and frustration with themselves. Of these participants, 50% felt stress impacted their quality of life. The study reports on the first phase of a longitudinal study of five years that involved investigating occupational stress across several Australian universities. The results provide additional insight to the relationship between faculty well-being and the work environment.

The final articles focus on physical health outcomes related to stress and work factors. The first study is from Catalonia, Spain, and is the only study to this date that analyzed stress and the time of day faculty taught (Cladellas & Castello, 2011). The quantitative study included 172 engineering professors. The study used the Copenhagen psychosocial risk questionnaire to analyze stress, burnout, and health. The results suggested that 55% of the faculty taught courses during hours outside the regular shift hours of 8:00 a.m. to 5:00 p.m. For example, they taught classes before 8:00 a.m. or after 5:00 p.m. These faculty presented with higher levels of stress and perceived higher health risks compared to faculty who worked a regular shift. A regular shift contributed to the ability to balance work and family life. Drawing from the study, the time of day faculty taught can influence faculty levels of stress and was considered for the study. The next study was a quantitative study of 55 randomly selected faculty from a campus in Janiuay, Philippines (Colacion-Quiros & Gemora, 2016). The study sought to ascertain the level of stress experienced by faculty and compared the levels by gender (male or female), age, civil status (single, married, widow), rank (instructor, assistant professor, associate professor), and workload (number of units taught). The results indicated that few work-related characteristics caused stress. The primary stressor was the heavy workload that included the paperwork involved with research and meetings. The lack of control over any given day, taking on other people's duties,

and feeling undervalued were other causes of stress. The study indicated faculty frustration with the people they worked with and the environment, which affected job satisfaction. Physical effects associated with stress were high blood pressure, feelings of being tired all the time, headaches, poor eating habits, and trouble sleeping. Emotional effects associated with stress included irritability, apprehension, diminished tolerance, anger, and depression. The results also indicated concerns with what the study referenced as spiritual effects, which included anxiousness, a loss of interest, and increased bad temper. However, the overall results indicated general low levels of stress for everyone regardless of traits except for those aged 58 and above. The researchers suggested that the results may be due to the aging process that includes unpredictability with physical and mental health or the fact that individuals over the age of 58, in the Philippines, was considered nearing a forced retirement age from government service. Finally, Melin et al. (2014) conducted a study to understand the relationship between workload, coping strategies, and health outcomes of 639 academic faculty and staff from Swedish universities. They found that professionals and senior management tended to work longer hours and had their work responsibilities extend into personal time. Higher levels of stress were associated with complex work and higher work intensity. The coping strategies used were clustered into three groups: compensatory, restrictive, and self-supporting. The strategies used in the study affected faculty health and work-life balance because they were based on how faculty compensated to get work done, but the compensation technique used did not necessarily alleviate stress or burnout. International studies demonstrate trends of causes and outcomes of stress in the workplace for faculty in academia. U.S. studies will now be examined to compare them with international results.

U.S. Studies

The first set of U.S. studies will reflect the relationship between burnout and work. A quantitative study of 265 West Coast university faculty wanted to understand the relationship between burnout and faculty demographics, working conditions, and work accomplishments (Lackritz, 2004). Based on the Maslach Burnout Inventory, burnout scores of emotional exhaustion, depersonalization, and personal accomplishment levels were categorized as low, medium, and high. The results of this study suggested that approximately 20% of faculty experienced the highest levels of burnout. As indicated before, burnout presents as either exhaustion, cynicism, or depersonalization, and lowers efficiency. Females experienced more exhaustion while males reflected more depersonalization. Tenured and tenure track faculty tended to experience higher levels of burnout. Age was negatively correlated with burnout indicating that younger faculty have a higher risk for burnout. Additionally, faculty teaching loads along with the number of students taught correlated with burnout and low student evaluations significantly correlated with high levels of depersonalization. Both results can affect teaching and that is a concern when addressing student perceptions. Another major concern with burnout is that faculty become dissatisfied with their accomplishments. Padilla and Thompson (2015) conducted a study of 1,439 faculty from 42 randomly selected doctoral universities using the JDR model. The intent of the study was to examine the work factors of task demands, pressure, and social supports that contributed to faculty burnout. The results indicated that 27% of faculty reported feelings of burnout often to very often. The increased pressure and the time demands were positively correlated with burnout. The study described the pressures for faculty with the idioms of "publish or perish" and "no grants, no chance" because the pressure to obtain grants was the strongest risk factor for burnout as promotion required that faculty produce grant-

supported research (Padilla & Thompson, 2015, p. 556). Consequently, the task demands associated with burnout were teaching, writing grants, and completing service. Tenured faculty tended to experience more burnout compared to tenure track, but the study indicated they both were at risk. Finally, support from supervisors decreased levels of burnout, but it was noted that an increase in support did not counterbalance the burnout levels that were associated with task demands. This aspect indicates that providing support is not enough if other stress factors are not also addressed.

The next set of studies reflect the relationship between stress and work factors in U.S. institutions. The first study was a quantitative study that sought to analyze the relationship between stress factors, organizational demands, health issues, and stress management abilities of 272 faculty, staff, and students (Ablandedo-Rosas et al., 2011). For faculty, stress was significantly related to work overload and work demand performance. It was an extensive study that included questionnaires, interviews, case studies, and open-ended questions. The stress between faculty, staff, and students was evident. In general, across all participants, stress was strongly correlated with work overload quantified as subjective feedback based on the amount of work a person had to complete. The study emphasized the need to understand faculty stress separate from student stress; however, it did not provide insight as to whether faculty stress affected students. The next study sought to determine the differences in stress, strain, and coping levels between faculty in different demographic groups to include gender, age, rank, tenure status, and disciplines (Carr, 2014). The quantitative study included 39 tenured faculty and 53 tenure track faculty from four public and private institutions. The results indicated that stress presents itself differently based on the faculty experience related to each demographic group. For example, a significant difference was found according to age with the youngest (20-29) and

oldest faculty (70-89) members feeling less strain and the oldest group had the lowest coping levels indicating that age affects strain and capacity to cope. The researchers found no significant difference among rank; however, strain associated with stress was significantly higher for faculty up for tenure versus those already tenured indicating that faculty up for tenure reported more concerns about their physical health, tended to report weight gain, sleep concerns, overuse of alcohol, decreased time in leisure activities, and feelings of apathy.

The final articles are based on reviews of secondary sources, which is their limitation even though they provided insight for the study. The first study reviewed data to examine the different types of stressors that correlate with faculty productivity (Eagan & Garvey, 2015). The 2010-2011 Higher Education Research Institute faculty survey was used to gather information from 21,840 undergraduate faculty from 411 four-year institutions. The researchers found that stress is multifaceted and different types of stressors contribute to work performance. Stress associated with a threat or hindrance was significantly negatively correlated with work performance because cognition was reduced affecting focus and concentration. The increase in stress was then correlated with a decrease in research productivity. Stress was also positively correlated with faculty who indicated they used student-centered teaching techniques. The finding suggested that student-centered techniques required extra time and possibly were the reason stress levels increased. The next study reviewed 306 schools that participated in the 1984 Carnegie Foundation for Advancement of Teaching National Faculty Survey and was conducted to understand the effects of stress on faculty's intent to leave (Barnes et al., 1998). The most important predictor of intent to leave was faculty frustration due to the lack of time needed to adequately complete each responsibility. Time commitment had the strongest relationship to intent to leave regardless if the faculty member felt the institution was a good fit or they felt a

sense of community. The results of these reviews are important as they reflect the need to implement programs that address faculty well-being and mitigate stress to promote retention and quality of work.

Health and Wellness Programming

Pronk (2014) conducted a review of the literature on integrated worker health protection and promotion (IWHPP) programs providing evidence that productivity increases when employers consider health outcomes of employees. The result is that work-related health injuries and illnesses decrease as overall well-being is enhanced. The problem is that the literature on these types of programs are based on organizations that do not include higher education (Pronk, 2014). In higher education, limited evidence exists on the type of health and wellness programs implemented for faculty (MacRae & Strout, 2014; Haines et al., 2007; Wagner et al., 2012). Many university websites have links to health and wellness programs for faculty, but research-based evidence was difficult to find. When "health and wellness programs for faculty" was Googled, university websites were listed such as Northwestern, University of California in Santa Cruz, Western Washington University, and Vanderbilt University, but these programs were specific to each school. The literature through scholarly databases and Google scholar produced three studies.

The most recent study did not provide evidence on an actual program, but focused on the format, content, and effectiveness for an orientation provided to new faculty members about the programs implemented at the institution (Brown et al., 2016). The study supports that faculty are open to having wellness workshops included as part of their development as faculty members. MacRae and Strout (2014) used evidence from a student program to develop a wellness self-care educational program for faculty and staff. The program was developed and implemented with 16

staff and faculty who taught, worked with, and modeled professional behaviors to students working on becoming a health care professional. It was conducted at a private U.S. Northeast university and 53% of the participants were faculty. The program lasted five months and was based on six domains: emotional, spiritual, physical, social, intellectual, and occupational. Physical exercise and spiritual domains had the most improvement. The study provides insight to a useful program, but it acknowledged that more research is required to understand the most effective programs for faculty. Additionally, the program was developed based on data used for students, which is problematic because responsibility levels between students and faculty differ. A pilot study developed a 12-week virtual walking program with 122 staff participants and only three faculty participants from a large mid-western college (Haines et al., 2007). The virtual aspect of the program consisted of a computer based educational program that provided information on the importance of physical activity and how to use a pedometer to measure the daily steps completed. Each week, faculty and staff were instructed to increase their daily steps by 10% until 10,000 steps a day were met. Pre and post tests were taken with results that indicated changes in the body mass index, blood glucose levels, and total cholesterol levels. The study's results demonstrated overall moderate effects on fitness, mood, nutrition, and health and health awareness. The study demonstrated that health and wellness programs can be implemented in other ways besides face-to-face programs. Aside from the research-based literature, a national survey provided insight to health and wellness programs for faculty.

The American College Health Association [ACHA] (2019) developed a National College Health Assessment for institutions based on the 2012 National Survey on College Health Facilities (Wagner et al., 2012). The survey provided information regarding the institutions that support college health services for faculty and staff. Members of the association, 182 institutions,

were invited and 15.14% responded to the survey. From the response, 61.5% of the institution's health centers provided services to faculty and staff and reflected a variety of programs offered. A needs assessment of faculty and staff was conducted every year by 15.9% of the institutions while 46.7% never conducted an assessment, so it is unclear how and why programs were being chosen. From the services, 30.8% of the institutions included prevention and wellness programs with over 50% providing mental health and stress related programs, which included programs that addressed sleep, smoking cessation, and massage therapy. Institutions indicated barriers and 54.4% of the institutions stated that faculty and staff lacked time and 26.4% reported that faculty and staff lacked interest. In general, many institutions reported they would like to increase faculty and staff participation in these programs. The survey provided insight into the health and wellness programs that are provided to faculty, but it did not provide guidance into the programs that faculty want and how to implement them to increase participation. The current study asked a question about health and wellness programs characteristics based on mindfulness-based evidence.

Since 2005, evidence has increased demonstrating the benefits of mindfulness-based interventions (MBI) to address physical, psychological, and social concerns for individuals in various populations ranging from students and teachers in the K-12 school system to individuals with mental illnesses (Alberts & Hulsheger, 2015). Mindfulness is a state of being and not necessarily a technique, so it is much more than meditation, breathing exercises, or relaxation techniques (Mani et al., 2015). However, contemplative practices such as silent sitting meditation, compassion practices, breathing meditation, walking meditation, guided meditation, observing nature or one's breath, deep listening, self-inquiry, calligraphy, chanting, or yoga can be used alone or together in a habitual way to promote a state of mindfulness (Bright & Pokorny,

2013; Grace, 2011; Mani et al., 2015). Compassion practices consist of practices that train people to view relationships with optimized compassion and connection whether the relationship is with a friend, family member, stranger, or enemy (Grace, 2011). These techniques can then promote a state of relaxation and enhance overall well-being because the physical benefits include boosting the immune system (Alberts & Hulsheger, 2015). Gray matter in the brain can also increase, which is associated with memory, stress, and empathy. Additionally, mindfulness practices can also improve attention, decrease negative emotions and stress, alleviate depression, foster compassion, altruism, and enhance relationships (Alberts & Hulsheger, 2015). Mindfulness programs have been recognized by several studies as being a cost-effective approach to reach large groups of people to combat stress and burnout (Alberts & Hulsheger, 2015; Reiser et al., 2016). The duration of programs has varied and traditionally programs last eight weeks while research has demonstrated that shorter versions are as effective (Carmody & Baer, 2009). However, the simple awareness of stress-reduction interventions has demonstrated positive outcomes such as improving job satisfaction and lowering psychological strain (Pignata et al., 2014).

For faculty, providing health and wellness programs that enhance mindfulness can be beneficial for their overall well-being, which can influence their productivity and relationships at work (Alberts & Hulsheger, 2015). However, only one study was found that analyzed faculty. The study had faculty participate in a yoga-mindfulness based program, which demonstrated a positive effect on faculty who perceived they could cope better after participating in the program (Kelly, 2017). The study indicated that institutionally structured prevention is necessary, but individual strategies to manage stress are also needed. The limited research with faculty in mindfulness studies can be supported with literature on mindfulness for K-12 teachers, work

settings, and online programs (Alberts & Hulsheger, 2015; Franco et al., 2010; Krusche et al., 2013; Morledge et al., 2013; Reiser et al., 2016).

Research of K-12 teachers demonstrated positive outcomes when MBIs were used. One study provided a psychoeducational approach to educate teachers about stress using an MBI, which increased the teacher's ability to manage stress and positively impacted interactions with students (Reiser et al., 2016). Another study demonstrated a decrease in psychological distress that was maintained four months after the end of the program (Franco et al., 2010). In relation to work outcomes, mindfulness assists in focusing people's attention, which improves various work performance areas (Alberts & Hulsheger, 2015). The outcome is important because multitasking has been associated with depression and social anxiety. Social anxiety symptoms consist of displaying fear or anxiety in social situations that are out of proportion to the situation (Bonder, 2015). Online mindfulness programs have demonstrated usefulness and reflect other ways health and wellness programs can be implemented. One study provided an online mindfulness program to over 500 participants for eight weeks with a four week follow up demonstrating the potential to substantially reduce the effects of stress (Morledge et al., 2013). Another similar study provided 10 online sessions with a month follow up to over 250 participants and the study reflected significant decreases in stress, anxiety, and depression (Krusche et al., 2013). Understanding the significance of using mindfulness-based approaches when implemented with well-being programs for faculty is the first step. It is also important to gather faculty feedback so these programs are utilized as faculty well-being may contribute to the faculty-student relationship that contributes to student learning.

Student Learning

Student learning is impacted by various factors, but the study reflected on the classroom environment and the faculty-student relationship (Hirschy & Wilson, 2002). These factors are interrelated and can influence how students perceive how faculty reflect stress characteristics and the relationship it has with how students perceive faculty teaching effectiveness. The first broad factor is the classroom environment and will be discussed in general terms as it relates to the learning environment before analyzing the faculty-student relationship.

Classroom Environment

The classroom environment consists of the classroom climate and social interactions that are influenced by the faculty's teaching style, which can influence a student's perception of the learning experience (Hirschy & Wilson, 2002). The Psychological Model of College Students Retention (MCSR) explains that a student's perception of the campus environment can affect a student's academic achievement as well as how they socially integrate into campus life (Johnson et al., 2014). The perception is important because it affects how students perceive if they fit in at a campus and whether they should persist with their education. Additionally, student experiences must be viewed through the lens of a major higher education concern, the struggles students face with mental health.

Horne (2018) explains that "there is a mental health crisis taking place on [the] college campus" (p. 3) because campus services cannot assist the large number of students enrolling in higher education who have mental illness symptoms. Four thousand community college students were surveyed in one study and approximately 50% of them had a current or recent mental health problem (Fain, 2016). Of those students, 36% had depression and 29% struggled with anxiety. In general, stress for college students is significantly related to sleep problems, depression,

irritability, and feelings of being overwhelmed (Ablandedo-Rosas et al., 2011). Since 2011, a few studies have examined the sources of student stress. Most of the literature on student stress is based on international studies, which states student stressors are related to academic, interpersonal, financial, family-related, and environmental factors (Bulo & Sanchez, 2014; Pitt et al., 2018). The most prominent academic sources of student stress include managing the workload, assessments, completing examinations, personal inadequacies, fear of failure, and interpersonal difficulties with faculty (Bulo & Sanchez, 2014; Pitt et al., 2018; Reddy et al., 2018). Lack of social support also increased stress for students as well as figuring out how to balance academic demands with other life demands such as working, exercising, eating well, and socializing with family and friends (Pitt et al., 2018). Unclear assignment tasks and the second part of the semester were also associated with higher stress levels. Pedagogical practices can also impact the classroom climate.

The classroom climate reflects the learning environment in the classroom, which is influenced by the classroom context and teaching style practices (Hirschy & Wilson, 2002). A study of 216 students in a Sudanese institution found that students' perception of the learning environment differed depending on the academic level, which includes undergraduate, master's, and doctoral students (Ahmed et al., 2018). The main factors that influenced a student's perception of the learning environment included the curriculum content, teaching style, and how the atmosphere was handled. The results indicated that students tended to be more critical of the learning environment as they progressed through their program. Other studies found that the physical space of the classroom as well as the class size mattered and affected student outcomes (Bettinger & Long, 2017; McArthur, 2015). Additionally, they found that the overall climate was affected when peers were disruptive, which had a significant impact on the classroom norms

(Bettinger & Long, 2017; Hirschy & Wilson, 2002). The work by Bettinger and Long (2017) included full-time students under 21 years old during three fall semesters in 1998, 1999, and 2001 from 11 Ohio four-year public colleges. The study considered the effects of the class size and analyzed classrooms that ranged in size from 18 to 760 students. Class size averages ranged between 49 and 192. The researchers found that large class sizes matter because the number of students can impact the behaviors of both the students and faculty. Large classes tend to increase the likelihood of students dropping out especially if they were at risk of dropping out at some point. Finally, pedagogical practices influence the classroom climate.

Faculty who have clear expectations, treat students in an equitable manner, provide feedback, and interact with students while providing active learning strategies can influence the classroom climate and how peers interact (Hirschy & Wilson, 2002). Active learning strategies are student centered learning approaches that include collaborative and cooperative learning. Collaborative learning promotes the student and faculty member working together to increase the understanding of the knowledge provided. This learning approach increases student's self-perception on their ability to learn. Cooperative learning emphasizes students working together in a noncompetitive manner within groups to achieve the educational goals of the course. The active learning strategies of cooperative learning increases student active engagement that leads to deeper learning (Lumpkin et al., 2015). Deep learning displays a student's ability to demonstrate high order, integrative, and reflective learning (Ho, 2017). The work by Lumpkin et al. (2015) demonstrated these practices by provided writing assignments to 208 students. Group discussions across five courses were included. The study found that students perceived their learning was overwhelming and was impacted by working in pairs or small groups. Another study of 2,340 students in multiple Taiwanese universities explored student learning outcomes

by analyzing the relationship between learning motivation and engagement (Ho, 2017). The researcher used a scale that measured the student's academic identity or a student's academic interests and competencies, learning engagement, cognitive and non-cognitive gains, and other traits such as teacher traits and the quality of teaching. The study found that using deep approach learning was positively related to cognitive and non-cognitive gains. Although teaching style practices impact student learning, the faculty-student relationship must be analyzed separately. Madzhie (2015) conducted a qualitative study focused on student's perception of the causes of stress in higher education. Although the article did not provide an in-depth analysis of the results, it indicated that one challenge students face is problems with the instructor, which suggests that a poor faculty-student relationship can impact learning with a rippling effect on how students perceive faculty teaching effectiveness in the classroom.

Faculty-Student Relationship and Learning

Academic relationships are important for student positive outcomes and the faculty-student relationship primarily occurs in the classroom (Hoffman, 2017). Positive achievements include increased self-efficacy and satisfaction. Students demonstrate enthusiasm for the learning process and their field of study when faculty treat them with respect and compassion. Faculty availability, even during informal discussions, can contribute to the relationship because students can obtain clarification that is associated with increased motivation and academic self-confidence. Trolian and Parker (2017) used a college impact framework to review data from the Wabash National Study of Liberal Arts Education longitudinal study. Several institutions that focused on college change were examined to understand if faculty-student interactions influenced a student's aspiration to complete a graduate or professional degree. The researchers found that three out of five measures impacted a student's aspiration to earn a graduate or

professional degree. The three measures were the frequency of interaction, the quality of the interaction, and engaging in research. The results indicate that interactions with faculty can benefit student outcomes, especially when interactions are frequent and of quality. The interaction with faculty is especially important for nontraditional students.

Nontraditional students are defined as students who are usually 25 years of age and older and have background characteristics that have made degree completion difficult such as having family and employment obligations (Goncalves & Trunk, 2014). These students have difficulty immersing themselves into the college experience and connecting with faculty. The concern is that one third of undergraduate students have little to no contact with faculty outside the classroom and that is a problem because connecting with faculty cultivates the learning process (Goncalves & Trunk, 2014; Hoffman, 2017). Therefore, most faculty-student relationships are based on the classroom experience, which can be affected by student disputes.

The faculty-student relationship can be influenced by classroom disagreements (Toppin & Pullens, 2015). Several academic and non-academic reasons play a part in classroom disputes. Students may argue about their grades or academic performance, demonstrate academic dishonesty, or be disruptive. Students may also lack motivation or be disengaged. Disengagement presents as withdrawn behaviors that create tension for faculty, particularly if the student only cares about degree attainment or is influenced by financial concerns, family commitment, or other life demands. Health challenges and stress also contribute to student disputes with faculty. Students often feel overwhelmed by the increased responsibility of college, which is increased if they need to juggle other obligations related to family or employment. Furthermore, the faculty-student relationship dynamic can change when faculty are working with students dealing with physical or mental health concerns because faculty often lack experience

on how to handle mental health concerns (Toppin & Pullens, 2015). Faculty can also influence a student's beliefs, values, and attitudes in the classroom.

Emmanuel and Delaney (2014) reviewed the literature on the nature and relationship between beliefs, values, and attitudes. They stated the relevance to the academic environment and how faculty may influence student learning by understanding the role of each of these factors. Faculty tend to exhibit different types of power in the classroom that influence student engagement and overall development. The five types of power are coercive, reward, legitimate, referent, and expert. Coercive power uses punishment for not conforming while a reward type uses rewards for conforming. A legitimate style is based on a student's view that the professor has the power to make certain demands in the classroom while the referent style appeals to a student's desire to identify with the faculty member. Finally, the expert style reflects a professor who expects to be recognized as the expert and students should regard their statements as accurate. The concern is that faculty often are unaware of the type of power style they use in the classroom and the behavior associated with that style can impact a student's perception of the knowledge they are gaining. It can also influence how students frame their own beliefs, values, and attitudes towards any given subject. Although the study did not analyze the different types of power used in the classroom, the power type used may be influenced by faculty stress and its influence on work disengagement or, specifically, disengagement with teaching responsibilities.

Summary

The purpose of the literature review was to examine the research history that supports the need to simultaneously examine three interrelated parts. In reference to faculty stress and work, the literature demonstrates a few trends. The tables in Appendix A and B reflect the causes and outcomes of stress and burnout in the workplace and the studies related to each factor. In general,

nine international studies and six U.S. studies were analyzed to discuss the relationship between the sources of stress for faculty caused by several work outcomes. The results suggest that lack of support and high workload demands influence the time allotted to fulfill tasks adequately affecting stress levels, burnout levels, and health concerns (Colacion-Quiros & Gemora, 2016; Darabi et al., 2017a; Gillespie et al., 2001; Mudrak et al., 2018; Padilla & Thompson, 2015). Stress and burnout perpetuate issues with mental health such as feelings of anxiousness, loss of interest, anger, and depression (Colacion-Quiros & Gemora, 2016). The physical health concerns associated with stress are high blood pressure, fatigue, headaches, poor eating habits, and trouble sleeping. Of the six faculty stress studies analyzed in U.S. institutions, two articles were specific to only burnout and two were studies that gathered secondary data from surveys. Although the articles are informative, they do not clearly outline how all stress factors and stress outcomes are related to work disengagement and the literature does not indicate how faculty stress is perceived by students in the classroom.

From the literature, faculty have an important role to influence positive student outcomes (Hoffman, 2017). Learning is influenced by the classroom environment and the faculty-student relationship, but faculty stress is perpetuated by academic demands (Bulo & Sanchez, 2014; Pitt et al., 2018; Reddy et al., 2018). The study focused on analyzing the relationships between faculty stress and student perceptions of faculty stress and considered faculty preferences on health and wellness programs that can serve to mitigate stress. It is important to examine the types of mindfulness-based characteristics faculty would prefer in health and wellness programs and how faculty prefer programs are implemented in the workplace. Institutions tend to have health and wellness programs for faculty, but it is unclear which programs are being used and, much less clear if they are implemented effectively to address faculty stress. In the next chapter,

I will go into depth on the methodology for the study by explaining the research design, theoretical frameworks, samples, and instruments for faculty and students, and how the data was collected and analyzed.

Chapter 3: Methodology

The single institution study used two online questionnaires to examine three interrelated parts. The intent of the research was to contribute to the literature by analyzing how faculty stress relates to work disengagement and faculty characteristics, by understanding student perceptions of faculty stress in the classroom, and by understanding health and wellness preferences that can mitigate stress in the workplace. Using the Job Demands-Resource (JDR) model, the first part examined the relationship between work disengagement and faculty stress factors and outcomes. Faculty stress was analyzed by using questions that examined stress factors of general stress, burnout, and outcomes that included general health, cognitive stress, somatic stress, depressive symptoms, and sleep concerns. The second part used the campus ecology framework to understand how students perceive faculty stress in the class by comparing it to how students perceive faculty teaching effectiveness. The third part examined the types of health and wellness program characteristics that faculty prefer and how faculty prefer these programs are implemented in the workplace.

Research Design

The research used a quantitative approach, which assisted in assessing the relationship between faculty disengagement and stress factors and outcomes, in understanding how students perceived faculty stress in the classroom, and in describing faculty preferences for health and wellness programming (Creswell, 2012). More specifically, the study used a cross sectional survey design guided by the Job Demands-Resource (JDR) model, the Campus Ecology Theory, and mindfulness-based principles. A cross sectional design can compare various variables at the same time from different population groups (Creswell, 2012; Institute for Work and Health, 2015). Survey design is used to describe trends, determine opinions, and identify important

beliefs and attitudes about a population (Creswell, 2012). So, a cross sectional survey design was useful and the best approach for the study because the attitudes, beliefs, and opinions of faculty and students could be examined during one point in time.

Frameworks of the Study

Faculty Focus

Several studies have demonstrated faculty job-related stress and the impact it has related to work responsibilities (Gillespie et al., 2001; Eagan & Garvey, 2015; Lackritz, 2004; Padilla & Thompson, 2015). The literature lacks a thorough comparison between work disengagement and stress factors and outcomes and an understanding of faculty preferences for health and wellness program characteristics and implementation in the workplace. The Job Demands-Resource (JDR) model was used to understand faculty stress and mindfulness-based principles was used to develop the questions on health and wellness programs.

The JDR model is a theoretical model that was developed in 2001 and was influenced by burnout models, stress models, demands-control-support model, job characteristics model, and conservation of resource theory (Bakker & Demerouti, 2017). Demands-control-support model indicates that the relationship between work demands and the control employees feel over their work will determine their work-life balance (Navajas-Romero et al., 2020). Abdel-Ghany (2013) explained that the job characteristics model explains that a job's characteristics can determine the extent employees perceive their job as motivating and satisfying. Finally, conservation of resource theory explains that employees tend to display poor job performance and alienate themselves to regain resources that were lost due to stressful work situations (Fatima et al., 2018). The JDR model has been used by several organizations and is referenced in many research articles (Barkhuizen et al., 2014; Demerouti et al., 2001; Mudrak et al., 2018; Padilla &

Thompson, 2016; Poalses & Bezuidenhout, 2018; Sabagh et al., 2018). The JDR was initially developed to explain job burnout and demonstrated a relationship with work overload, emotional and physical job demands, and work-home conflicts (Bakker & Demerouti, 2017). These demands are buffered with job resources such as social support, quality relationships especially with supervisors, autonomy, and performance feedback. Since its development, the JDR has expanded by explaining various aspects of employee well-being because it has demonstrated causal and reversed causal effects between job demands, resources, and well-being, which means these aspects influence each other. For example, factor A can affect factor B, which then influences factor B to affect factor A in the future. Bakker and Demerouti (2017) provide an example of the causal and reversal effects. They described a study that demonstrated that job resources (factor A) predicted work engagement (factor B) and then work engagement (factor B) had a positive influence on obtaining future job resources (factor A). The JDR suggests people who are engaged in their work are motivated to remain engaged by conserving, developing, or expanding their job resources. Job resources include pride in the profession and positive feedback while personal resources include self-efficacy, optimism, and self-esteem.

Student Focus

The student part of the study used the Campus Ecology Theory to understand how students perceived faculty stress and teaching effectiveness in the classroom. Campus ecology describes the students' development as they interact with the campus environment, which includes the people, places, and policies (Evans et al., 2010). The assumption is that students can be influenced based on how they perceive the classroom environment. In higher education, research on this relationship has not been conducted, but it has in K-12 schools. Studies in K-12 schools have demonstrated that teacher stress has the potential to affect student learning, but

research is lacking that explains how the faculty-student relationship in higher education can influence students and much less how students perceive faculty stress (Oberle & Schonert-Reichl, 2016). Although K-12 research is relevant in increasing awareness that faculty stress can influence students, the K-12 and higher education classroom environments are different. For example, K-12 students tend to have the same teacher every day, all day of the week during a given school year, while higher education students may have a faculty member as an instructor for one semester and only a few hours per week. Therefore, the study considers the way students perceive how faculty reflect characteristics of stress can influence how students perceive faculty teaching effectiveness in the classroom.

Sample

Purposive sampling was used to recruit faculty members and students from a U.S. four-year public, research university. The latest data available for the targeted populations is from the fall of 2019 (The University of Texas System [UTS], 2020c). The faculty population for the institution that was studied was 1,287 with 527 tenured or tenure track faculty and 760 non-tenure-track faculty. The total student population was 25,144 with 21,427 undergraduate students, 2,622 master's students, and 786 doctoral students. Overall, the demographic make-up of the institution consisted of 81.5% Hispanic, 3.0% African American, 6.6% White, 1.2% Asian-American, and 6.3% International students (UTS, 2020a). The institution that was studied has a Carnegie Classification of Doctoral and Research University with very high research activity that classifies it as a Research I institution (The Carnegie Classification of Institutions of Higher Education, 2017). All positions and statuses of either full-time or part-time faculty were invited to participate in the study. Students of all classification levels were invited to participate. All participants were required to be 18 years old or older and either be teaching a course or be a

student in a course that began in a classroom during the semester of the study. Being specific in indicating that participants had begun the semester in the classroom was important as the data collection period occurred approximately two weeks after the university had closed due to the COVID-19 pandemic and participants were no longer in the classroom. Faculty who only taught online and students who were only enrolled in online courses during the time of the study were excluded because the purpose of the study was to understand faculty stress and the perceptions of students while they were in the classroom environment. The questionnaires automatically redirected participants to begin the questionnaire if they met the criteria of beginning a course in the classroom. Participants who indicated they had not begun the semester in a classroom were thanked for their time and the questionnaire ended. None of the participants were anticipated to be vulnerable to coercion or undue influence.

Instruments

To gather quantitative data, two online questionnaires based on portions of pre-existing questionnaires were used: one for faculty and one for students. I will discuss each questionnaire in the following sections.

Faculty Questionnaire

The faculty questionnaire consisted of a demographic section and questions that are composed from portions of two different existing questionnaires: the Oldenburg Burnout Inventory (OLBI) and the Copenhagen Psychosocial Questionnaire II (COPSOQ II). The faculty questionnaire provided insight on the relationship between faculty stress and work disengagement. The faculty questionnaire also gathered data on faculty preferences on the characteristics that health and wellness programs could encompass and how programs could be implemented in the workplace. The questionnaire included demographic questions as well as

questions about work disengagement, faculty levels of burnout, stress, and physical and mental health experienced during the semester of the study. For faculty, the demographic section included age, gender identity, race, ethnicity, and employment variables that included number of years working in academia; tenure status: tenured; tenure track; non-tenure-track; work position: full-time, part-time; number of hours worked during a regular work week; number of classes taught; and the time of day faculty taught. The two existing questionnaires were used to gather data on work disengagement in relation to stress, burnout, and physical and mental health.

The Oldenburg Burnout Inventory (OLBI), described by Reis et al. (2015), was used to analyze the factors of work disengagement. The OLBI was originally developed by Demerouti et al. in 2003 and can be used in all work environments. The English version of the original OLBI is publicly available and can be found for free in the article by Demerouti et al. (2010). The OLBI uses 16 items that are formulated with positive and negative types of questions to evaluate the constructs of burnout: exhaustion (cognitive, physical, and affective) and work disengagement. The two dimensions are not evaluated simultaneously by other burnout questionnaires (Demerouti et al., 2010). The OLBI has demonstrated convergent validation with U.S. and Greek employees. Convergent validity is a subtype of construct validity and demonstrates that constructs that should be related to each other are related (Social Research Methods, 2006). For the study, it means that OLBI uses positive and negatively framed items to reflect a continuum from work disengagement to dedication and exhaustion to vigor (Reis et al., 2015). In the case of the study, only the questions for the construct of work disengagement were used. The instrument is considered reliable and valid by the developers with the disengagement subscale reliability alpha scores ranging from .74 to .85, which represents high reliability for the

instrument (Creswell, 2012). The study asked participants to click on a response indicating the degree of agreement they had towards work disengagement items:

1. I always find new and interesting aspects in my work.
2. It happens more and more often that I talk about my work in a negative way.
3. Lately, I tend to think less at work and do my job almost mechanically.
4. I find my work to be a positive challenge.
5. Over time, one can become disconnected from this type of work.
6. Sometimes I feel sickened by my work tasks.
7. This is the only type of work that I can imagine myself doing.
8. I feel more and more engaged in my work.

The questions are worded in either a positive or negative perspective requiring the response categories to be as follows: (1) “Strongly disagree”, (2) “Disagree”, (3) “Agree”, and (4) “Strongly agree”. According to the OLBI, a high number of 3.0 to 4.0 means that a person displays higher levels of work disengagement. For the statistical analysis, the average of all the questions within the work disengagement subscale was used to determine the level for that scale.

The Copenhagen Psychosocial Questionnaire II (COPSOQ II) uses a 5-point Likert-type scale. The health and well-being section of the questionnaire was used to assess faculty stress factors of general stress and burnout and stress outcomes of general health, cognitive stress, somatic stress, depressive symptoms, and quality of sleep, which were compared to work disengagement items of the OLBI (Pejtersen et al., 2010). The Copenhagen Psychosocial Questionnaire was originally developed in 1997 to standardize and validate a questionnaire that covered a broad range of psychosocial factors for Danish work environment professionals. The second version was developed in 2010 based on feedback for theoretical considerations using

standard approaches from occupational psychology and sociology. The COPSOQII has been translated into several languages and extensively used in several studies demonstrating its validity across several cultures and various populations. This aspect makes the tool applicable for U.S. professionals. The items of the questionnaire were analyzed for each major domain shortening the length (Pejtersen et al., 2010). Using psychometric analyses, the number of factors the developers chose for the second version resulted with most measures reflecting Cronbach alpha levels at a .70 or above, which indicates high reliability levels (Statistics Solutions, 2020). The Cronbach alpha reliability indicates internal consistency of the measures, which means that the questionnaire item domains measure the same constructs for that domain in a reliable and accurate way (Creswell, 2012). The English version of the COPSOQ II scale is publicly available and can be downloaded for free at http://nfa.dk/da/Vaerktoejer/Sporgeskemaer/Copenhagen-Psychosocial-Questionnaire-COPSOQ-II/Engelsk-udgave.

The study used the COPSOQ II Long Version scales from the *Health and Well-being* section to assess general burnout, general stress, general health, somatic stress, cognitive stress, depressive symptoms, and sleep concerns (Pejtersen et al., 2010). Stress factor subscales included general burnout and general stress items:

Burnout

1. How often have you felt worn out?
2. How often have you been physically exhausted?
3. How often have you been emotionally exhausted?
4. How often have you felt tired?

Stress

1. How often have you had problems relaxing?

2. How often have you been irritable?
3. How often have you been tense?
4. How often have you been stressed?

Stress outcomes subscales included one general health question, depressive symptom items, sleep concern items, cognitive stress items, and somatic stress items:

General Health

1. In general, would you say your health is:

Cognitive Stress

1. How often have you had problems concentrating?
2. How often have you found it difficult to think clearly?
3. How often have you had difficulty in taking decisions?
4. How often have you had difficulty with remembering?

Somatic Stress

1. How often have you had stomachache?
2. How often have you had a headache?
3. How often have you had tension in various muscles?

Depressive Symptoms

1. How often have you felt sad?
2. How often have you lacked self-confidence?
3. How often have you had a bad conscience or felt guilty?
4. How often have you lacked interest in everyday things?

Sleep Concerns

1. How often have you slept badly and restlessly?

2. How often have you found it hard to go to sleep?
3. How often have you woken up too early and not been able to get back to sleep?
4. How often have you woken up several times and found it difficult to get back to sleep?

The COPSOQ II uses only one global item to analyze general health because it has been used in numerous questionnaires that have demonstrated predictability of different health concern outcomes (Pejtersen el al., 2010). The response category for this question is "poor" to "excellent". The COPSOQ II divided the responses into 5 scores. For statistical reasons, the study was assigned numbers from 1.0 to 5.0 to each response category. For the general health question, the response categories were: (1) "Excellent", (2) "Very good", (3), "Good", (4) "Fair", and (5) "Poor". A higher score indicated poorer health outcomes. For the other questions, the developers of the instrument found the Cronbach alpha levels of each items to be as follows: general stress item is .81, burnout items are .83, sleep problem items are .86, depressive symptom items are .76, cognitive stress items are .83, and somatic stress items are a .68. Cronbach alpha levels at or above a .70 are considered high reliability levels (Creswell, 2012). The response categories for these scales are: (1) "Not at all", (2) "A small part of the time", (3) Part of the time", (4) A large part of the time, and (5) "All the time". A high score of 4.0 to 5.0 indicated that a person reflected higher levels of each variable, which indicates poor outcomes. For the analysis, the average of each stress factor and outcome subscales were used to determine the level for each scale. See Appendix C for the entire faculty questionnaire.

Student Questionnaire

The student questionnaire gathered information about student demographics, perceptions of faculty teaching effectiveness, and perceptions of how faculty reflected characteristics of

stress. The student demographic questions included age, gender, race, ethnicity, student classifications (undergraduate freshman/sophomore/junior/senior, graduate masters, graduate doctorate), the classroom variables (class size and faculty gender). The results provided a profile of the participating students. Class size, student classification, and faculty gender were analyzed next to students' perceptions of faculty teaching effectiveness and faculty reflecting stress characteristics. Faculty stress was analyzed using a portion of a preexisting questionnaire.

The Experiences of Teaching-Learning Questionnaire (ETLQ) was used to analyze faculty teaching effectiveness, which was developed by the Enhancing Teaching-Learning (ETL) Project (n.d.) and has been used by other studies (Parpala et al., 2013; Utriainen et al., 2018). The ETLQ was developed based on theories of effective teaching and learning and was used to create student centered environments in the United Kingdom (ETL Project, n.d.). Karagiannopoulou and Milienos (2018) examined the questionnaire's constructs and found the instrument to be valuable and useful across different cultures and contexts demonstrating the applicability for the ETLQ to be used with U.S. student populations. The developers specify that anyone may use the questionnaires and only ask that the project be acknowledged. The English version is publicly available and can be found for free in the ETL website at http://www.etl.tla.ed.ac.uk/publications.html#measurement.

The instrument contains five sections based on the aspects of the teaching-learning environment. Since the development of the questionnaire in 2002, the ETLQ has been modified into other languages and shortened. For the study, the student questionnaire used items from one section from the Shortened ETLQ (SETLQ) that was developed in 2005 by the ETL Project, as it aligns with the purpose of the study (n.d.). Questions from the *Experiences of the teaching and learning* scale were used to analyze faculty teaching effectiveness. The subscales that were used for the

faculty teaching effectiveness scale were: *teaching for understanding, set work and feedback,* and *staff enthusiasm and support*. One general faculty teaching effectiveness question was added to this section for a total of eight questions to determine overall faculty teaching effectiveness. The items used to measure teaching effectiveness are:

1. What the faculty member taught seemed to match what we were supposed to learn.
2. The faculty member encouraged me to rethink my understanding of some aspects of the subject.
3. It was clear to me what the faculty member expected in the assessed work for this course.
4. The feedback given on my work by the faculty member helped me to improve my ways of learning and studying.
5. The faculty member gave me the support I needed to help me complete the work for this course.
6. The faculty member tried to share their enthusiasm about the subject with us.
7. The faculty member was patient in explaining things which seemed difficult to grasp.
8. The faculty member was effective in teaching the course.

The Likert response categories used are: (1) “Disagree”, (2) “Somewhat disagree, (3) “Unsure”, (4) “Somewhat agree”, and (5) “Agree”. A lower number indicates students perceive decreased levels of faculty teaching effectiveness. For statistical analysis, the average of all the faculty teaching effectiveness subscale questions was used to determine the level for that scale. The wording of the questions was slightly modified for clarity to ensure students considered the faculty member teaching the course. For example, the original questionnaire used the terms “course unit” or only the term “unit” to indicate a course, which may be unclear to some students completing the questionnaire. These terms were replaced with the term “course”. The

questionnaire also asked questions using the term “staff” to indicate the person teaching the course and that term was changed to “faculty member” to ensure clarity. The term “faculty member” was also added to questions that did not have the term “staff” to ensure students analyzed faculty versus the course in general as many courses are often taught by a teaching or graduate assistant.

Additionally, eight questions were developed for students to indicate their perception on whether faculty reflected stress characteristics with the following items:

1. The faculty member appeared stressed.
2. The faculty member appeared tense.
3. The faculty member appeared anxious.
4. The faculty member appeared annoyed.
5. The faculty member appeared angry.
6. The faculty member appeared sad.
7. The faculty member appeared tired.
8. The faculty member appeared often forgetful.

The descriptive terms used are based on how stress may appear as it can present itself in various forms depending on the individual (Colacion-Quiros & Gemora, 2016; Gillespie et al., 2001). As indicated earlier, stress outcomes include several mental health outcomes that can present in various ways such as increased anxiety, irritability, anger, depression, frustration, low affect, and loss of interest or as somatic stress outcomes to include being tired as well as cognitive stress outcomes that includes forgetfulness. The Likert response categories used as students considered each stress characteristic were: (1) “Disagree”, (2) “Somewhat disagree, (3) “Unsure”, (4) “Somewhat agree”, and (5) “Agree”. Higher scores indicated that the students perceived faculty

expressed the indicated stress characteristic. The study is the first to use ETLQ questions to compare the relationship between students' perception of faculty reflecting stress characteristics to perceptions of faculty teaching effectiveness (see Appendix D for the entire student questionnaire).

Data Collection and Analysis

Data Collection

Quantitative data from two questionnaires was collected during a regular semester. Due to the nature of the populations being studied, internal review board (IRB) approval was obtained after the Office of the Provost and Vice President for Academic Affairs of the institution provided approval of the study in writing (see Appendix E to review the letter to the Provost). It is important to note that the IRB application was submitted on March 17, 2020, which was the same day that the University of Texas System Chancellor announced that all instruction would be provided online with "no on-campus classes or other academic gatherings" for the rest of the Spring 2020 semester due to the impact and spread of the coronavirus, COVID 19 (UTS, 2020b, para. 3). On March 19, 2020, COVID-19 was declared by the Texas Department of State Health Services an imminent public health disaster and all schools at all levels were ordered to close (Office of the Texas Governor, 2020). By the time the study was approved, university students who were taking courses in a classroom had transitioned to completing the course online. Based on the pandemic, the study proceeded with minor changes on how the data would be collected. Advertisements of the study were limited to being online and the wording of inclusion had to be slightly modified in the study announcement and consent letter to ensure faculty and students understood the study sought participants who had *begun* the semester in a classroom environment.

Participation was voluntary, and to promote anonymity, the questionnaires were approved to be sent via the university's weekly emailed bulletin that provided an announcement of the study with a web link to the faculty and student questionnaires. Additionally, the announcement was emailed through college listservs that had the College's Deans approval ensuring the researcher did not have access to email information.

The anonymity, privacy, and confidentiality of participants was protected with online questionnaires that were developed with the QuestionPro Survey Software (QuestionPro, June 2020), which allowed formatting that ensured participants' answers were anonymous and did not allow for the participants' emails to be linked with the response data. Additionally, the online questionnaires did not ask for identifying information. The informed consent letter was embedded at the beginning of the questionnaires that included an explanation of the study, and how their information would be protected and stored for confidentiality. The inclusion criteria of being 18 years old or older was indicated and faculty and students had to either be teaching a course or be a student in a course that *began* in a classroom (see Appendix F and G). Participants were informed that by clicking the "next" button, that was at the end of the letter, they provided consent to participate in the study and gave permission for their data to be used anonymously by the researcher. As the university was closed and the only way to advertise the study was via emails, participants had access to the questionnaires for seven weeks with weekly reminders.

Due to the confidential nature of the survey, there was little risk of participants being identified. If participants chose to participate in the online questionnaires, participation took approximately 10-15 minutes for faculty and 5-10 minutes for students. Only the researcher had access to the questionnaire responses, which are maintained in a password protected computer and a locked file drawer. Thus, the confidentiality and privacy of participants' identities and

survey responses were assured. Individual compensation was not provided for participation, but at the end of each survey, participants had the option to provide their name and email address to enter a drawing for a $75 gift card for faculty and a $50 gift card for students (see Appendix F and G). If participants chose to participate, they were directed to a separate questionnaire that was not linked to their response data. Once data collection ended, an online resource, Research randomizer at www.randomizer.org, was used to select a faculty and student winner. The gift cards were emailed to them and once that step was complete, the participant information for the drawings was discarded from QuestionPro and not saved.

Statistical Treatment

The statistical approaches used for the study to summarize and organize the collected data for both faculty and students were frequency distributions and correlational analysis. Frequency distributions are descriptive statistics that assist in reflecting the data patterns in a meaningful way (Laerd Statistics, 2018a). The study included descriptive statistics on the levels of faculty stress factors and outcomes and were described next to the number and percentage of faculty who experienced work disengagement as well as faculty characteristics of gender, age, tenure status, work position, number of hours worked per week, number of classes taught, and the time of day faculty taught. The preferences for health and wellness programs were also reported. For students, the class size, student classification, and number of students who perceived faculty teaching effectiveness and characteristics of stress were summarized. Correlation analysis was used to understand the data. The Spearman's rank order (rho) correlation approach measured the strength and directional relationship between two variables that are in ordinal, ratio, or interval scales (Laerd Statistics, 2018c). For faculty, the Spearman's rho correlation was used to understand the relationship between work disengagement, stress

factors, stress outcomes, and the faculty characteristics of age, tenure status, number of hours worked per week, and number of classes taught. The point-biserial correlation was used to measure the strength and direction between two variables where one variable is dichotomous and the other continuous. The point-biserial correlation was used to understand the relationship between work disengagement, stress factors, stress outcomes and faculty characteristics of gender and work position (Gravetter & Wallnau, 2013). Spearman's rho correlation statistics was used for student outcomes to understand the relationship between student perceptions of faculty teaching effectiveness, students' perceptions of different faculty stress characteristics, class size, and student classification.

The assumption for Spearman's rho is that the variables used are ordinal, demonstrate a paired observation for each of the variables, and have a monotonic relationship, which means the value of the variables increase together or one increases while the other decreases (Laerd Statistics, 2018c). The assumptions for point-biserial correlation are one variable is a continuous variable while the other is dichotomous, no outliers are present, and the categories being compared to the dichotomous variable are normally distributed and have equal variances (Laerd Statistics, 2018b). The level of significance for the study was set at $\alpha < .05$, a common level for educational and social science research. View Appendix H, which outlines the Statistics Matrix used for the study.

Research Questions and Hypotheses. Except for Research Question 7, the study used the Spearman's rho correlation statistic for all the questions and the point-biserial correlation was used for Research Questions 2 and 3. The following specifies the statistic used to address each hypothesis.

Research Question 1: How are faculty stress factors related to work disengagement?

Research Hypothesis 1: Faculty burnout, general stress, cognitive stress, depressive symptoms, poor general health, poor sleep, and somatic stress are positively related to work disengagement.

To test this hypothesis, the statistic used was the Spearman's rank-order correlation.

Research Question 2: Are stress factors and work disengagement related to faculty of different characteristics?

Research Hypothesis 2: Different levels of stress factors and work disengagement are related to tenure status, work position, time of day worked, number of hours worked, number of classes taught, gender, and age.

To test this hypothesis, the statistics used were the Spearman's rank-order and point-biserial correlations.

Research Question 3: Are stress outcomes and work disengagement related to faculty of different characteristics?

Research Hypothesis 3: Different levels of stress outcomes and work disengagement are related to tenure status, work position, time of day worked, number of hours worked, number of classes taught, gender, and age.

To test this hypothesis, the statistics used were the Spearman's rank-order and point-biserial correlations.

Research Question 4: Are students' perceptions of faculty teaching effectiveness related to students' perceptions of faculty stress characteristics in the classroom?

Research Hypothesis 4: Students' perceptions of faculty effectiveness are related to students' perceptions of the different levels of faculty stress characteristics (stressed, tense, anxious, annoyed, angry, sad, tired, often forgetful).

To test this hypothesis, the statistic used was the Spearman's rank-order correlation.

Research Question 5: Are different class sizes related to students' perceptions of faculty teaching effectiveness and students' perceptions of different faculty stress characteristics in the classroom?

Research Hypothesis 5: Different class sizes are related to students' perceptions of faculty effectiveness and students' perceptions of the different levels of faculty stress characteristics (stressed, tense, anxious, annoyed, angry, sad, tired, often forgetful).

To test this hypothesis, the statistic used was the Spearman's rank-order correlation.

Research Question 6: Are different college student classifications related to students' perceptions of faculty teaching effectiveness and students' perceptions of different faculty stress characteristics in the classroom?

Research Hypothesis 6: Different college student classifications are related to students' perceptions of faculty effectiveness and students' perceptions of the different levels of faculty stress characteristics (stressed, tense, anxious, annoyed, angry, sad, tired, often forgetful).

To test this hypothesis, the statistic used was the Spearman's rank-order correlation.

Research Questions 7: What strategies and delivery methods of health and wellness strategies do faculty prefer? Research question 7 was designed to gather information about faculty preferences of health and wellness programs that may mitigate stress and, therefore, did not have research hypothesis. Frequency distributions were used to report the number and percentages of the participants who indicated the type of wellness programs they preferred and the way they preferred they are implemented.

Treatment of Missing Data

The OLBI and SETLQ do not specify what to do with missing data while the COPSOQ II indicates that if less than half of the questions for one of the scales is missing, the entire scale is reported as missing for that participant and excluded (Demerouti et al., 2010; ETL Project, n.d.; Pejtersen el al., 2010). The standards set by the COPSOQ II were used for the study and the missing data was treated equally across all variables to ensure consistency during the analysis. When questions were answered, the average of all questions within that scale were used to determine the level for that scale (Pejtersen el al., 2010). If more than half of the questions were answered, then an average score of the responses was used to determine the score of that item. If more than half of the questions from the work disengagement, stress factors, stress outcome, or the faculty teaching effectiveness scales were missing, the data was not counted in the sample population. It is unclear if other studies that used the COPSOQ II in conjunction with other measurement tools addressed missing data in the same manner. However, it was important to treat the missing data the same across all variables and exclude it because missing data has the potential to bias and invalidate the results reducing the statistical power of the outcomes (Kang, 2013).

Summary

The chapter addressed the methodological approaches of the study. The study is quantitative using a cross-sectional survey design with online questionnaires to examine three interrelated parts (Creswell, 2012). The first part examined the relationship between faculty stress factors and outcomes and work disengagement in a U.S. public, four-year research university using the Job Demands-Resource Model as the theoretical framework (Bakker & Demerouti, 2017). The second part used the campus ecology perspective to analyze how students

perceived faculty teaching effectiveness in comparison to students' perceptions of faculty reflecting stress characteristics in the classroom (Evans et al., 2010; Oberle & Schonert-Reichl, 2016). Based on mindfulness principles, faculty completed two questions for the third part of the study to provide insight to faculty preferences for health and wellness programming. Purposive sampling was used to recruit faculty and students from a U.S. public, four-year research university. Only students who took a course that began in a classroom and faculty who began teaching in a physical classroom during the semester of the study were included. Students who only took online courses or faculty who only taught online were excluded because the ecological model requires the analysis of the physical classroom environment. Certain demographic data was analyzed to address certain research hypotheses. For faculty, gender, age, tenure status, faculty position, number of classes taught, number of hours worked per week, and the time of day faculty taught were used during the analysis. For students, the student classifications, number of students in the class, and the faculty gender were used during the analysis. The remaining demographic questions were only used to develop participant profiles.

For faculty, portions of the Oldenburg Burnout Inventory and the Copenhagen Psychosocial Questionnaire II were used to assess work disengagement and stress factors and outcomes (Demerouti et al., 2010; Pejtersen et al., 2010). The stress factors included general stress and general burnout while the stress outcomes included general health, cognitive stress, somatic stress, depressive symptoms, and sleep concerns. For the students, a portion of the Shortened Experience of Teaching-Learning Questionnaire was used to examine faculty teaching effectiveness along with one general faculty teaching effectiveness question that was added to this section (ETL Project, n.d.). Additionally, questions were developed for students to indicate their perception on whether faculty reflected stress characteristics to include if faculty appeared

stressed, tense, anxious, annoyed, angry, sad, tired, or often forgetful. These terms reflect the various ways stress can present itself depending on the individual (Colacion-Quiros & Gemora, 2016; Gillespie et al., 2001). Finally, data collection and analysis occurred. Data was collected during a regular semester via online questionnaires and were analyzed using descriptive statistics and Spearman's rho and point-biserial correlational statistics. Descriptive statistics helped summarize the patterns of the data collected while correlational analysis measured the relationships between the given variables (Laerd Statistics, 2018a; Laerd Statistics, 2018c). The next chapter outlines the results of the study.

Chapter 4: Results of the Study

The purpose of the study was to analyze three interrelated parts using a cross-sectional survey design to provide recommendations for the development of health and wellness programs that may mitigate faculty stress in the workplace. The first part of the study analyzed the relationship between work disengagement, faculty stress factors, faculty stress outcomes, and different faculty demographic characteristics. The second part of the study analyzed faculty stress by understanding students' perceptions of faculty in the classroom specifically how students perceived faculty displayed stress characteristics and how they relate to students' perceptions of faculty teaching effectiveness. The third part of the study analyzed faculty preferences of health and wellness program characteristics and how faculty prefer programs are implemented in the workplace.

Faculty and student participants of the study completed online questionnaires. Faculty completed a questionnaire developed from two pre-existing questionnaires along with demographic questions and questions that asked about their preferences in health and wellness programming. Portions of the pre-existing questionnaires, the Oldenburg Burnout Inventor (OBLI) and Copenhagen Psychosocial Questionnaire II (COPSOQ II), were used to measure work disengagement, stress factors of general burnout and general stress, and stress outcomes of general health, cognitive stress, somatic stress, depressive symptoms, and sleep concerns. Students completed a questionnaire that asked about faculty teaching effectiveness using questions from a portion of the Shortened Experiences of Teaching-Learning Questionnaire (SETLQ) plus one added question about overall teaching effectiveness. In addition, the student questionnaire asked students demographic questions and about their perceptions of faculty exhibiting stress characteristics. The chapter will describe the results outlining how the data was

screened to obtain the final profile of the participants, the statistical analysis process, and the specific results related to each research question and hypothesis.

Profile of Participants

The participants of the study were invited from a U.S. public, four-year research university and were at least 18 years of age and had either taught or were enrolled in a class that began in the classroom during the semester the study was conducted. Data screening was conducted first to determine the final profile of the participants.

Data Screening

Participants completed online questionnaires developed in QuestionPro Survey Software (QuestionPro, June 2020) that were collected for seven weeks between March 30, 2020 and May 15, 2020. The questionnaires automatically redirected participants to begin the questionnaire if they met the criteria of beginning a course in a classroom. Participants who indicated they had not begun the semester in a classroom were thanked for their time and the questionnaire ended. Participants had the option to skip any question; however, there was minimal missing data.

Using the data view of the IBM Statistical Package for Social Sciences (SPSS, Version 26), missing data and data anomalies were reviewed. In QuestionPro, the data initially revealed that 119 faculty members viewed the questionnaire and 80 started it. Once the data was transferred to SPSS, only 45 usable faculty questionnaires were used as some of the completed faculty questionnaires only had the demographic questions answered, and the rest of the questionnaires had missing data that could not be used. Of the student questionnaires, the initial data in QuestionPro revealed that 605 students viewed it and 158 started it. In SPSS, only 120 usable student questionnaires were reviewed as some of the completed student questionnaires had inordinate missing data and could not be used. Finally, using SPSS, a Mahalanobis distance

statistic was used to identify multivariate outliers across all faculty and student variables. Multivariate outliers consist of unusual scores across at least two variables and can influence the statistical outcomes, so questionnaires that demonstrated outliers were removed (Statistics Solutions, 2020). New probability variables were created and demonstrated values greater than .001 indicating that no outliers existed in the faculty data. The same Mahalanobis distance statistic was run with the student questionnaires identifying one outlier and that questionnaire was deleted ending with 119 student participants. The final sample size was 45 faculty participants and 119 student participants.

Faculty Participants

Table 4 demonstrates the demographic details of the faculty participants reflecting the general profile of the participants.

Table 4

Faculty Demographics

Characteristic	**n**	**%**	**Characteristic**	**n**	**%**
Age: 20-29	1	2.2	Tenured	16	35.6
Age: 30-39	10	22.2	Tenure Track	9	20
Age: 40-49	16	35.6	Non-Tenure	19	42.2
Age:50-59	10	22.2	Full-time position	40	88.9
Age: 60+	8	17.8	Part-time position	4	8.9
Male	17	37.8	Worked Less than 40 hours	4	8.9
Female	28	62.2	Worked 41-50 hours	21	46.7
Transgender	0	0	Worked 51-60 hours	15	33.3
Caucasian or White	33	73.3	Worked 61-70 hours	5	11.1
Asian or Asian American	2	4.4	Taught before 8a.m.	1	2.2
Multiracial	2	4.4	Taught after 5p.m.	24	53.3
Other	4	8.9	Taught 1 class	6	13.3
Mexican, Mexican American, or Chicano Origin	18	40	Taught 2 classes	24	53.3
			Taught 3 classes	7	15.6
Another Hispanic, Latino, or Spanish Origin	7	15.6	Taught 4 classes	7	15.6
Not of Hispanic, Latino, or Spanish Origin	20	44.4	Taught 5 classes	1	2.2

N=45

However, the following tables depict a better description of the faculty demographics considered in the study according to the variables of work disengagement, stress factors, and stress outcomes. Among the 45 faculty participants, average percentages and numbers of participants for each demographic are reported as the response numbers across the variables differed by one or two participant responses. Table 5 reflects the number and percentage of participants for each age range and the variables of work disengagement, general burnout, general stress, general health, cognitive stress, somatic stress, depressive symptoms, and sleep concerns. Participant age ranges varied with the highest percentage of 34% (n=15) falling within the 40-49 age range followed by 23% (n=10) of age range 30-39 and 21% (n=9) of age range 50-59.

Table 5

Age, Work Disengagement, and Stress Demographic Characteristics

	Work disengagement		General Burnout		General Stress		General health		Cognitive stress		Somatic stress		Depressive symptoms		Sleep concerns	
Faculty characteristic	N	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Age																
20-29	1	2.2	1	2.2	1	2.3	1	2.4	1	2.2	1	2.4	1	2.3	1	2.3
30-39	10	22.2	10	22.2	10	23.3	10	24.4	10	22.2	10	23.8	10	22.7	10	23.3
40-49	16	35.6	16	35.6	15	34.9	13	31.7	16	35.6	14	33.3	16	36.4	15	34.9
50-59	10	22.2	10	22.2	9	20.9	9	22	10	22.2	9	21.4	9	20.5	9	20.9
60+	8	17.8	8	17.8	8	18.6	8	19.5	8	17.8	8	19.0	8	18.2	8	18.6

Note: N=45

Table 6 reflects the number and percentage of participants for each gender and tenure status with variables of work disengagement, general burnout, general stress, general health, cognitive stress, somatic stress, depressive symptoms, and sleep concerns. Of the faculty participants, 62% (n=28) identified as female and 38% (n=17) identified as male. Tenure status was also reported by only 44 faculty and was more evenly distributed with the highest number of

faculty members reporting non-tenure status at 43% (n=19) followed by tenured faculty at 36% (n=16) and tenure-track faculty at 21% (n=9).

Table 6
Gender, Tenure Status, Work Disengagement, and Stress Demographic Characteristics

	Work disengagement		General Burnout		General Stress		General health		Cognitive stress		Somatic stress		Depressive symptoms		Sleep concerns	
Faculty characteristic	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Gender																
Male	17	37.8	17	37.8	17	39.5	15	36.6	17	37.8	16	38.1	16	36.4	16	37.2
Female	28	62.2	28	62.2	26	60.5	26	63.4	28	62.2	26	61.9	28	63.6	27	62.8
Tenure Status																
Tenured	16	36.4	16	36.4	15	35.7	15	36.6	16	36.4	15	35.7	16	37.2	15	35.7
Tenure-Track	9	20.5	9	20.5	8	19	8	19.5	9	20.5	9	21.4	9	20.9	9	21.4
Non-Tenured	19	43.2	19	43.2	19	45.2	18	43.9	19	43.2	18	42.9	18	41.9	18	42.9

Note: N=45

Table 7 reflects the number and percentage of participants for each position and time of day worked with variables of work disengagement, general burnout, general stress, general health, cognitive stress, somatic stress, depressive symptoms, and sleep concerns. The position status, full-time or part-time positions, were reported by 44 faculty. Ninety percent (n=38) of faculty participants reported they were full-time faculty. Of the participants who indicated they taught courses outside the hours of 8:00 a.m. and 5:00 p.m., an average of 52% (n=24) of faculty taught after 5:00 p.m.

Table 7
Position, Time of Day Worked, Work Disengagement, and Stress Demographic Characteristics

	Work disengagement		General Burnout		General Stress		General health		Cognitive stress		Somatic stress		Depressive symptoms		Sleep concerns	
Faculty characteristic	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Position																
Full-Time	40	90.9	40	90.9	38	90.5	36	90	40	90.9	37	90.2	39	90.7	38	90.5
Part-Time	4	9.1	4	9.1	4	9.5	4	10	4	9.1	4	9.8	4	9.3	4	9.5
Time of Day Taught																
Before 8am	1	2.2	1	2.2	1	2.3	0	0	1	2.2	1	2.4	1	2.3	1	2.3
After 5 pm	24	53.3	24	53.3	22	51.2	21	51.2	24	53.3	21	50	24	54.5	24	55.8

Note: N=45

Table 8 reflects the number and percentage of participants for each number of classes taught and number of hours worked within an average week during the semester of the study with variables of work disengagement, general burnout, general stress, general health, cognitive stress, somatic stress, depressive symptoms, and sleep concerns. More than half of the faculty participants, 52% (n=23), taught two courses during the time of the study. Only one participant indicated teaching a course before 8 a.m. Slightly less than half of faculty participants, 46% (n=21), worked 41-50 hours per week. Faculty who worked 51-60 hours were another 33% (n=15) of the population studied reflecting approximately 79% of faculty worked between 41-60 hours per week while 11.4% (n=5) worked 61-70 hours.

Table 8

Number of Classes Taught, Number of Hours Worked, Work Disengagement, and Stress Demographic Characteristics

	Work disengagement		General Burnout		General Stress		General health		Cognitive stress		Somatic stress		Depressive symptoms		Sleep concerns	
Faculty characteristic	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Number of Classes Taught																
1	6	13.3	6	13.3	6	14	5	12.2	6	13.3	6	14.3	6	13.6	6	14
2	24	53.3	24	53.3	22	51.2	23	56.1	24	53.3	22	52.4	23	52.3	22	51.2
3	7	15.6	7	15.6	7	16.3	7	17.1	7	15.6	7	16.7	7	15.9	7	16.3
4	7	15.6	7	15.6	7	16.3	6	14.6	7	15.6	6	14.3	7	15.9	7	16.3
5+	1	2.2	1	2.2	1	2.3	0	0	1	2.2	1	2.4	1	2.3	1	2.3
Number of Hours Worked																
Less than 40	4	8.9	4	8.9	4	9.3	4	9.8	4	8.9	4	9.5	4	9.1	4	9.3
41-50	21	46.7	21	46.7	20	46.5	19	46.3	21	46.7	18	42.9	21	47.7	21	48.8
51-60	15	33.3	15	33.3	14	32.6	14	34.1	15	33.3	15	35.7	14	31.8	14	32.6
61-70	5	11.1	5	11.1	5	11.6	4	9.8	5	11.1	5	11.9	5	11.4	4	9.3

Note: N=45

To further understand the demographic profile of tenure status, the following three tables show the numbers and percentage for each tenure status in relation to the number of hours worked, age, and race/ethnicity. Table 9 provides a breakdown of hours worked based on tenure

status. More non-tenured faculty, 20.5% (n=9), reported working 41-50 hours closely followed by 18.2% (n=8) of tenured faculty. Of the faculty who reported working 51-60 hours, more tenured faculty, 13.6% (n=6), work this number of hours followed by non-tenured faculty at 11.4% (n=5). Faculty who worked 61-70 hours is even between tenured and tenure track faculty at 4.5% (n=2) each reporting these hours worked.

Table 9

Descriptive Statistics Comparing Tenure Status and Hours Worked per Week

	Less than 40 Hours		41-50 Hours		51-60 Hours		61-70 Hours	
Tenure Status	n	%	n	%	n	%	n	%
Tenured	0	0	8	18.2	6	13.6	2	4.5
Tenure-Track	0	0	3	6.8	4	9.1	2	4.5
Non-Tenure	4	9.1	9	20.5	5	11.4	1	2.3

N=44

Table 10 shows how age was compared across tenure status with the majority of young faculty falling in the non-tenure or tenure track category with 2.3% (n=1) of non-tenure and 2.3% (n=1) tenure-track was between 20-29 age range and 9.1% (n=4) of tenure track and 22.7% (n=10) of non-tenure track fell in the 30-39 age range. Thirty-four percent (n=15) of non-tenure track reflected the majority within the 40-49 age range.

Table 10

Descriptive Statistics Comparing Tenure Status and Age

	Age: 20-29		Age: 30-30		Age: 40-49		Age: 50-59		Age: 60+	
Tenure Status	n	%	n	%	n	%	n	%	n	%
Tenured	0	0	0	0	5	11.4	6	13.6	5	11.4
Tenure-Track	1	2.3	4	9.1	8	18.2	3	6.8	3	6.8
Non-Tenure	1	2.3	10	22.7	15	34.1	10	22.7	8	18.2

N=44

Table 11 and 12 indicate the relationship between race/ethnicity and tenure status. Overall, 80% of faculty reported being Caucasian or white. Specifically, for tenured faculty, the

majority at 25% (n=10) reported being Caucasian or white and 13.6% (n=6) reported they were not of a Hispanic, Latino, or other Spanish origin. The remaining tenured faculty, 22.8% (n=10), reported being of Mexican, Mexican American, Chicano, or another Hispanic, Latino, or Spanish origin. For tenure-track faculty, the majority at 20% (n=8) reported being Caucasian or white and 13.6% (n=6) reported they were not of a Hispanic, Latino, or other Spanish origin. For non-tenured faculty, the majority at 35% (n=14) reported being Caucasian or white and 20.5% (n=9) reported being of Mexican, Mexican American, or Chicano origin followed by 18.2% (n=8) of non-tenured faculty who reported they were not of a Hispanic, Latino, or other Spanish origin.

Table 11

Descriptive Statistics Comparing Tenure Status and Race

	Caucasian or White		**Asian or Asian American**		**Multiracial**		**Other**	
Tenure Status	n	%	n	%	n	%	n	%
Tenured	10	25	1	2.5	1	2.5	3	7.5
Tenure-Track	8	20	0	0	0	0	1	2.5
Non-Tenure	14	35	1	2.5	1	2.5	0	0

N=40

Table 12

Descriptive Statistics Comparing Tenure Status and Ethnicity

	Mexican, Mexican American, or Chicano Origin		**Another Hispanic, Latino, or Spanish Origin**		**Not of Hispanic, Latino, or Spanish Origin**	
Tenure Status	n	%	n	%	n	%
Tenured	5	11.4	5	11.4	6	13.6
Tenure-Track	3	6.8	0	0	6	13.6
Non-Tenure	9	20.5	2	4.5	8	18.2

N=44

Student Participants

Among the 119 student participants, 74.8% (n=89) reported being female with 22.7% (n=27) reported being male, and 1.7% (n=2) identified as being transgender. Table 13 outlines

the student participants' demographic information that includes age, gender, race, and ethnicity. Over 46% (n=55) indicated being within the 18-24 age range followed by 23.5% (n=28) of students who reported being within the 25-29 age range. Student participants primarily identified their race as Caucasian or White at 65.5% (n=78). In terms of ethnicity, 66.4% (n=79) of students reported being of Mexican, Mexican American, or Chicano origin.

Table 13
Student Demographics: Age, Gender, Race, Ethnicity

Characteristic	**n**	**%**
Age 18-24	55	46.2
Age 25-29	28	23.5
Age 30-39	20	16.8
Age 40-49	10	8.4
Age 50+	6	5.0
Male	27	22.7
Female	89	74.8
Prefer not to say or self-describe	2	1.6
Transgender	2	1.7
Caucasian or White	78	65.5
Black or African American	3	2.5
American Indian or Alaska Native	1	0.8
Biracial or Multiracial	11	9.2
Other Race	23	19.3
Mexican, Mexican American, Chicano Origin	79	66.4
Another Hispanic, Latino, or Spanish Origin	13	10.9
No, not Hispanic, Latino, or Spanish Origin	25	21.0

N=119

Table 14 outlines the number and percentage of student participants for each of the following student characteristics: student classification, class size, and faculty gender of course. Most student participants were graduate students with 35.3% (n=42) reporting being master's

students and 32.8% (n=39) reported being doctoral students. Undergraduate seniors followed at 14.3% (N=17) and then undergraduate juniors at 10.9% (n=13). Over 44% (n=53) of students reported being in a class size between 20-40 students and 43.7% (n=52) reported their class size to be less than 20 students. Student participants also reported the gender of the faculty member teaching the course with 56.3% (n=67) reporting male faculty and 43.7% (n=52) reported female faculty. Class size, student classification, and faculty gender were analyzed further.

Table 14

Student Demographics: Student Classification, Class Size, Faculty Gender

Characteristic	**n**	**%**
UG Freshman	3	2.5
UG Sophomore	5	4.2
UG Junior	13	10.9
UG Senior	17	14.3
Graduate Master Student	42	35.3
Graduate Doctoral Student	39	32.8
Class size Less than 20	52	43.7
Class size 20-40	53	44.5
Class size 41-60	6	5.0
Class size 61-80	3	2.5
Class size 81-100	2	1.7
Class size 101-200	3	2.5
Class size 201-300	0	0
Male Faculty Identified	67	56.3
Female Faculty Identified	52	43.7

N=119

Note: UG = Undergraduate

Among the 119 student participants, average percentages and numbers of participants for each demographic is reported as the response numbers across the variables differed by one or

two participant responses. The variables were faculty teaching effectiveness and faculty perceived as stressed, tense, anxious, annoyed, angry, sad, tired, or forgetful. Table 15 shows the numbers and percentages of class size as they were reported by students next to students' perceptions of faculty teaching effectiveness and the different stress characteristics faculty were perceived to display. Similar percentages across variables reflected class size with 44% (n=53) reflecting a class size of 20-40 and 43% (n=52) of the participants reported a class size of less than 20 students.

Table 15

Perceptions of Faculty Demographic Characteristics and Class Size

	Teaching Effectiveness		Faculty perceived as Stressed		Faculty perceived as Tense		Faculty perceived as Anxious		Faculty perceived as Annoyed		Faculty perceived as Angry		Faculty perceived as Sad		Faculty perceived as Tired		Faculty perceived as Forgetful	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Class Size																		
Less than 20	52	44.1	52	43.7	52	43.7	51	43.6	52	43.7	52	43.7	52	43.7	51	43.2	52	43.7
20-40	53	44.9	53	44.5	53	44.5	53	45.3	53	44.5	53	44.5	53	44.5	53	44.9	53	44.5
41-60	6	5.1	6	5.0	6	5.0	6	5.1	6	5.0	6	5.0	6	5.0	6	5.1	6	5.0
61-80	2	1.7	3	2.5	3	2.5	2	1.7	3	2.5	3	2.5	3	2.5	3	2.5	3	2.5
81-100	2	1.7	2	1.7	2	1.7	2	1.7	2	1.7	2	1.7	2	1.7	2	1.7	2	1.7
101-200	3	2.5	3	2.5	3	2.5	3	2.6	3	2.5	3	2.5	3	2.5	3	2.5	3	2.5

N=119

Table 16 shows the demographic numbers and percentages of student classification as they are reported next to faculty teaching effectiveness and the different stress characteristics faculty were perceived to display. Again, most students were graduate students across all variables with 39% (n=41) being master students and 32% (n=39) were doctoral students.

Table 16

Perceptions of Faculty Demographic Characteristics and Student Classification

	Teaching Effectiveness		Faculty perceived as Stressed		Faculty perceived as Tense		Faculty perceived as Anxious		Faculty perceived as Annoyed		Faculty perceived as Angry		Faculty perceived as Sad		Faculty perceived as Tired		Faculty perceived as Forgetful	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Student Classification																		
UG Freshmen	3	2.5	3	2.5	3	2.5	3	2.6	3	2.5	3	2.5	3	2.5	3	2.5	3	2.5
UG Sophomore	5	4.2	5	4.2	5	4.2	5	4.3	5	4.2	5	4.2	5	4.2	5	4.2	5	4.2
UG Junior	12	10.2	13	10.9	13	10.9	12	10.3	13	10.9	13	10.9	13	10.9	13	11.0	13	10.9
UG Senior	17	14.4	17	14.3	17	14.3	17	14.5	17	14.3	17	14.3	17	14.3	17	14.4	17	14.3
Graduate Master Student	42	35.6	42	35.3	42	35.3	41	35.0	42	35.3	42	35.3	42	35.3	41	34.7	42	35.3
Graduate Doctoral Student	39	33.1	39	32.8	39	32.8	39	33.3	39	32.8	39	32.8	39	32.8	39	33.1	39	32.8

N=119

Table 17 shows the demographic numbers and percentages of faculty gender as they are reported next to faculty teaching effectiveness and the different stress characteristics faculty were perceived to display. Across the variables, the gender of the faculty member teaching the course was reported by students as 56% (n=66) male faculty and 44% (n=53) female faculty.

Table 17

Perceptions of Faculty Demographic Characteristics and Faculty Gender

	Teaching Effectiveness		Faculty perceived as Stressed		Faculty perceived as Tense		Faculty perceived as Anxious		Faculty perceived as Annoyed		Faculty perceived as Angry		Faculty perceived as Sad		Faculty perceived as Tired		Faculty perceived as Forgetful	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Faculty Gender																		
Male	66	55.9	67	56.3	67	56.3	65	55.6	67	56.3	67	56.3	67	56.3	67	56.8	67	56.3
Female	52	44.1	52	43.7	52	43.7	52	44.4	52	43.7	52	43.7	52	43.7	51	43.2	52	43.7

N=119

Statistical Analyses

Descriptive Statistics

Using SPSS, crosstab descriptive statistics were first used to get an overview of the relationships between faculty variables and student variables. Crosstabs are contingency tables

that summarize the relationship between all the variables in a table format (Research Optimus, 2020). Crosstabs were used first because the descriptive information compared two variables at one point in time providing both frequencies and assisted in depicting the variables most appropriate for correlational analysis (Research Optimus, 2020). Crosstabs provided means and standard deviations for each variable along with the numbers and percentages of responses for each faculty demographic information as it was compared to work disengagement, stress factors, and stress outcomes. For students, numbers and percentages for class size, student classification, and faculty gender were provided to compare to student's perceptions of faculty teaching effectiveness and how each faculty member displayed stress characteristic. Preliminary correlation significance and histograms were plotted to provide a general overview of the relationship between the variables. The results guided the statistical analysis process. Several variables reflected small participant numbers that were not useful for analysis and were removed. The first was faculty work position of full-time or part-time status as only four participants indicated part-time status. Only one faculty participant taught before 8:00 a.m. and so the variable was removed. Several of the categories for the number of classes taught were also identified as having small participant numbers and the entire variable was removed and not considered in the following steps. Next, averages were obtained from all the subscales used and Cronbach's analyses were conducted to ensure alpha levels reflected reliable scale variables.

Cronbach's Alpha Analysis

A Cronbach's alpha analysis was conducted on the disengagement scale, general burnout subscale, general stress subscale, cognitive stress subscale, somatic stress subscale, depressive symptoms subscale, and sleep concern subscale of the faculty questionnaire. Cronbach's alpha provides a way to measure if the scales are reliable and generally a level of .70 or above is good

(Statistics Solutions, 2020). It was found that the Cronbach's alpha levels for faculty scales were as follows: disengagement scale's alpha level was .79, general burnout subscale alpha level was .91, general stress subscale alpha level was .87, cognitive stress subscale alpha level was .87, somatic stress subscale alpha level was .71, depressive symptoms subscale alpha level was .81, and sleep concerns subscale alpha level was .85, which all indicate that the scales have an adequate level of inter-item reliability. A Cronbach's alpha analysis was conducted on the faculty teaching effectiveness scale of the student questionnaire. It was found that the faculty teaching effectiveness scale's alpha level was a .89, which indicates the scale has an adequate level of inter-item reliability.

Statistical Assumptions

Assumptions tests were conducted for both Spearman's rank order (rho) and point-biserial correlation. Spearman's rho was conducted first. Spearman's rho correlation assumes three factors to conduct this type of analysis. The first assumption required the variables to be on an ordinal, interval, or ratio scale and was met by the type of measurements that were used. Tenure status is a nominal scale but was included as it was compared to ordinal variables. Questionnaires with Likert scales were used for each of the variables being analyzed, which can be viewed in both the faculty and student questionnaires in Appendix C and D. The second assumption was that variables are observed as pairs. A review of the descriptive data reflected that participants had paired observations of each of the variables meeting the second assumption. For example, faculty members who responded to questions about work disengagement had scores that reflected their stress levels as well as responses for the faculty characteristics. Scatterplots of the variables were then created to reflect the monotonic relationship between variables to address the third assumption. A monotonic relationship means the value of the

variables increases together or one increases while the other decreases (Laerd Statistics, 2018c). The faculty variables that did not meet the third assumption were time of day faculty taught, number of hours worked per week, and number of classes taught. The variables that demonstrated a monotonic relationship were used for the Spearman's rho correlational analysis.

For students, all the variables in the matrix demonstrated at least one monotonic relationship except faculty gender. Based on the scatterplots, faculty teaching effectiveness only demonstrated a monotonic relationship with faculty perceived as sad and tense. Class size reflected a monotonic relationship with faculty teaching effectiveness and faculty perceived as angry, sad, and forgetful. Student classification demonstrated a monotonic relationship with faculty teaching effectiveness and faculty perceived as sad. Based on the matrix, the Spearman's rho correlational analysis was conducted only with the variables that demonstrated a monotonic relationship. Next, assumption tests for point-biserial were completed between work disengagement, stress factors, stress outcomes, faculty gender, and faculty who taught after 5:00 p.m.

Point-biserial correlation assumes five factors to conduct this type of analysis. The first assumption was to have one variable be continuous, which was met by using the scales of work disengagement, all the stress factors, and all the stress outcomes as continuous scales. The second assumption was to have the second variable be dichotomous or a variable with only two responses, which was met as faculty gender only had two groups selected by participants (male or female) and faculty who taught after 5:00 p.m. had two responses (yes or no). The third assumption was to ensure the continuous variable had no outliers. Somatic stress and general health had outliers and were excluded from this analysis. The fourth assumption required normal distribution of each of the continuous category. A Shapiro-Wilk test was conducted, and only

work disengagement, burnout, stress, and cognitive stress demonstrated normality. General health, somatic stress, depressive symptoms, and sleep concerns were removed. Finally, the fifth assumption required equal variance of the continuous categories. A Levene's test of equality of variances was conducted demonstrating all variables meet this assumption.

Power Analysis

A statistical power analysis was performed to determine adequate sample size needed for correlational analysis. GPower software (G*Power 3.1.9.4) was used to perform the power analysis. The calculations used a power of .80, which is recommended because a lower power level would increase the risk for errors while a higher power level requires a larger sample size that can often exceed the existing resources (Cohen, 1992). Based on this power level, a medium effect size of p = .03 required a minimum of 67 student participants and a large effect size of p = .05 required a minimum of 23 faculty participants. The effect size determines the probability that a null hypothesis is false, which indicates that a significant difference exists between the populations studied (Gravetter, & Wallnau, 2013). If the null hypothesis is not rejected or is true, then the results indicate that no difference exists between the variables being studied for the population. So, it is important to have an effect size with a minimum power level of .80, which indicates there is an 80% probability that the null hypothesis will not be true. Note that the word "medium effect" and "large effect" does not mean that one is greater in outcomes results than the other when considering the size needed for the sample size. With a medium effect size of p = .03, the probability of rejecting the null hypothesis is .03 of the population studied while a p = .05 indicates a large effect size which means the probability of rejecting the null hypothesis is .05 of the population studied. The study had 45 faculty participants indicating a large effect size will be

demonstrated in the results while student data will demonstrate a medium effect size with 119 student participants.

Results of Research Questions and Hypotheses

The results include summary tables and figures that assist in explaining the results. The results enhance the existing body of knowledge on faculty stress and provide preliminary insight into faculty preferences for health and wellness programming. The results also add to the faculty stress literature by examining students' perceptions of faculty as it relates to teaching effectiveness and faculty stress in the classroom.

Faculty Stress

Research Question 1: How are faculty stress factors related to work disengagement?

Research Hypothesis 1: Faculty burnout, general stress, cognitive stress, depressive symptoms, poor general health, poor sleep, and somatic stress are positively related to work disengagement.

The Spearman's rank order correlation with a two-tailed test was conducted to examine the relationships between work disengagement and stress factors and outcomes. Table 18 provides the descriptive statistics and correlation outcomes of the variable comparisons. Responses were scored on a four-point scale with score ranges between a 1 and 4 for work disengagement and a five-point scale with score ranges between a 1 and 5 for stress factors and outcomes. The table indicates the mean (*M*) of these scores and standard deviation (SD) for each scale and faculty characteristic. Confirming the hypothesis, it was found that the "Work Disengagement" scale demonstrated a statistically significant strong positive correlation with the following: "Burnout" subscale, r (44) = .52, $p < .01$; the "Stress" subscale, r (42) = .55, $p < .01$; the "Cognitive Stress" subscale, r (44) = .42, $p < .01$; the "Somatic Stress" subscale, r (44) = .41,

$p < .01$; the "Depressive Symptoms" subscale, r (43) = .47, $p < .01$; and the "General Health" subscale, r (40) = .47, $p < .01$. Work disengagement also demonstrated a statistically significant positive correlation with the "Sleep Concerns" subscale, r (42) = .31, $p < .05$. The "Stress" subscale demonstrated the largest effect size indicating that the general stress that faculty members experience accounts for a larger portion of the variability in work disengagement; however, all the stress factors and outcomes demonstrate significant positive correlations indicating that faculty demonstrated work disengagement as levels of burnout, general stress, cognitive stress, somatic stress, depressive symptoms, and sleep concerns increased.

Table 18
Descriptive Statistics and Correlations for Work Disengagement and Stress Factor/Outcomes

	N	***M***	***SD***	**1.**
1.Work Disengagement	45	2.23	.51	---
Burnout	45	3.21	.94	.52**
Stress	43	3.16	.96	.55**
Cognitive Stress	45	2.63	.86	.42**
Somatic Stress	45	2.31	.88	.41**
Depressive Symptoms	44	2.21	.96	.47**
Sleep Concern	43	2.50	.98	.31*
General Health	41	2.51	1.09	.47**

Note: **Correlation is statistically significant at the .01 level (2-tailed)
*Correlation is statistically significant at the .05 level (2-tailed)

Figure 1 provides a graphic representation of the relationship work disengagement has with all the stress factors and outcomes.

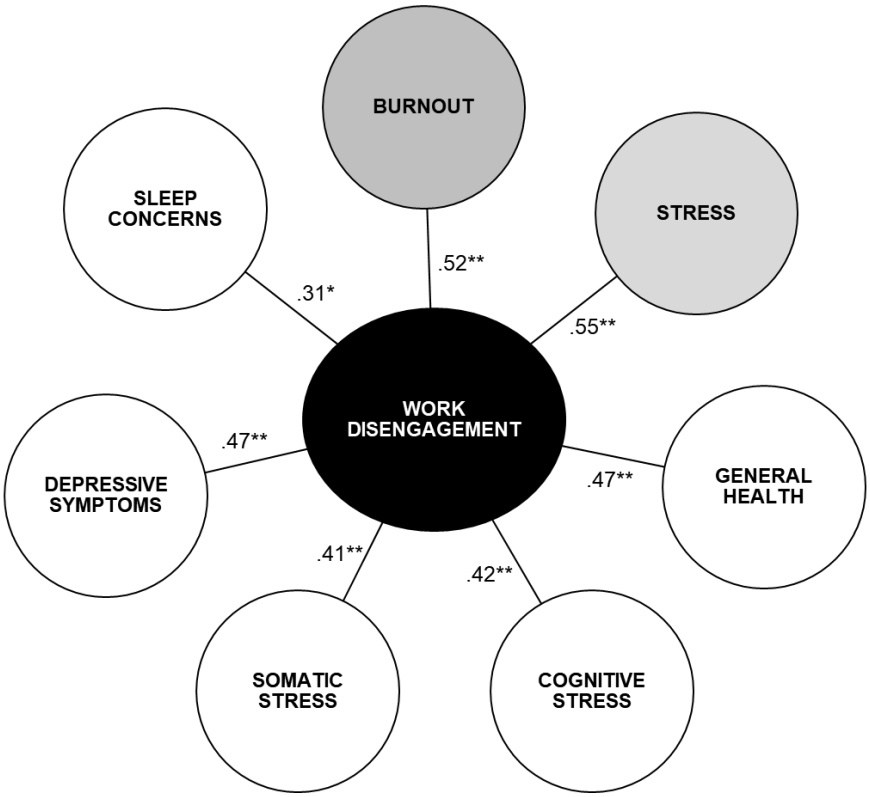


Figure 1. Correlations for Work Disengagement and Stress Factor/Outcomes
Note: **Correlation is statistically significant at the .01 level (2-tailed)
*Correlation is significant at the .05 level (2-tailed

Table 19 adds the correlational results between the stress factors and outcomes even though the question did not ask for this analysis as it is relevant to further understand faculty stress. The "Burnout" scale demonstrated a statistically significant strong positive correlation with the following: "Stress" subscale, r (42) = .81, $p < .01$; "Cognitive stress" subscale, r (44) = .75, $p < .01$; "Somatic stress" subscale, r (44) = .61, $p < .01$; "Depressive symptoms" subscale, r (43) = .69, $p < .01$; and " General health" subscale, r (40) = .65, $p < .01$. "Burnout" also had a statistically significant correlation with "Sleep concern" subscale, r (42) = .32, $p < .05$. The "Stress" scale further demonstrated statistically significant strong correlations with the following: "Cognitive stress" subscale, r (44) = .84, $p < .01$; "Somatic stress" subscale, r (44) = .61, $p < .01$; "Depressive symptoms" subscale, r (43) = .79, $p < .01$; "Sleep concern" subscale, r (42) = .47, $p < .01$; and "General health" subscale, r (40) = .66, $p < .01$. The stress outcome

subscale of "Cognitive stress" demonstrated a statistically significant strong correlation with the following: "Somatic stress" subscale, r (44) = .51, $p < .01$; "Depressive symptoms" subscale, r (43) = .78, $p < .01$; and "General health" subscale, r (40) = .65, $p < .01$. "Cognitive stress" also had a statistically significant correlation with "Sleep concern" subscale, r (42) = .36, $p < .05$. The stress outcome subscale of "Somatic stress" demonstrated a statistically significant strong correlation with the following: "Depressive symptoms" subscale, r (43) = .62, $p < .01$; "Sleep concern" subscale, r (42) = .46, $p < .01$; and "General health" subscale, r (40) = .43, $p < .01$. Finally, the stress outcome subscale of "Depressive symptoms" demonstrated a statistically significant strong correlation with the following: "Sleep concern" subscale, r (42) = .55, $p < .01$; and "General health" subscale, r (40) = .62, $p < .01$.

Table 19
Descriptive Statistics and Correlations for Stress Factor and Outcomes

	N	*M*	*SD*	1.	2.	3.	4.	5.	6.	7.
1. Burnout	45	3.21	.94	---	---	---	---	---	---	---
2. Stress	43	3.16	.96	.81**	---	---	---	---	---	---
3. Cognitive Stress	45	2.63	.86	.75**	.84**	---	---	---	---	---
4. Somatic Stress	45	2.32	.88	.61**	.61**	.51**	---	---	---	---
5. Depressive Symptoms	44	2.22	.96	.69**	.79**	.78**	.62**	---	---	---
6. Sleep Concern	43	2.50	.98	.32*	.47**	.36*	.46**	.55**	---	---
7. General Health	41	2.51	1.1	.65**	.66**	.65**	.43**	.62**	.27	---

Note: **Correlation is statistically significant at the .01 level (2-tailed)
*Correlation is statistically significant at the .05 level (2-tailed)

Figure 2 provides a graphic representation of the relationship between stress and burnout and all the stress outcomes.

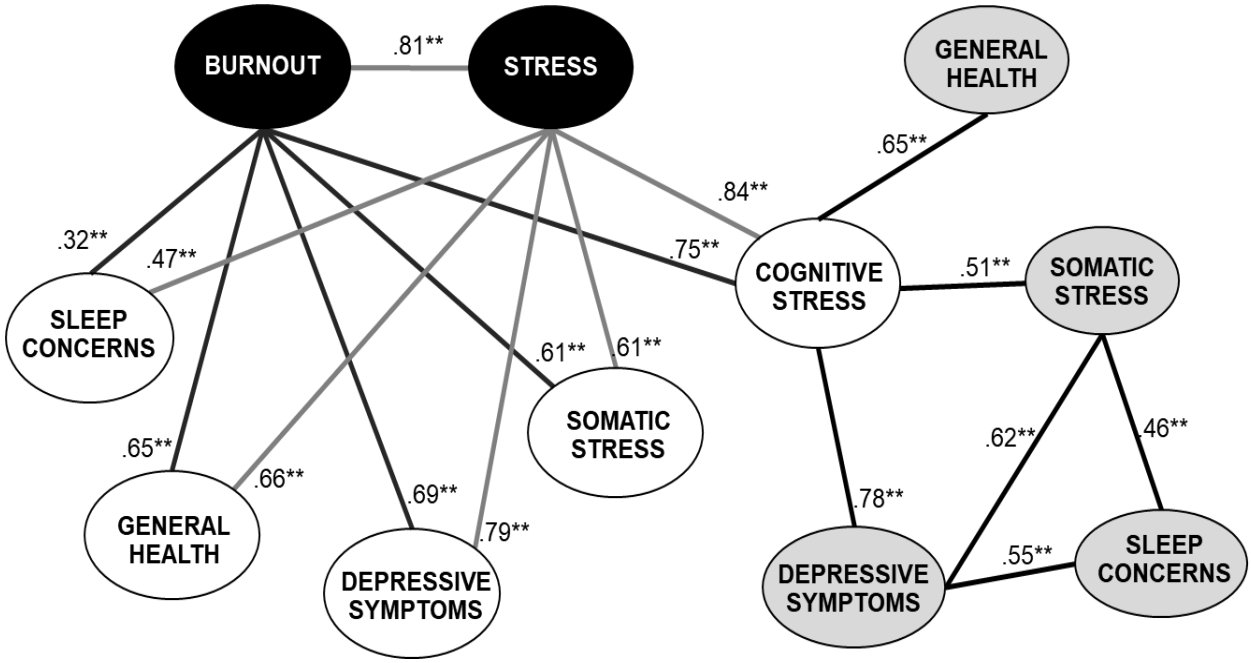


Figure 2. Correlations Between Stress Factors and Stress Outcomes
Note: **Correlation is statistically significant at the .01 level (2-tailed)
*Correlation is statistically significant at the .05 level (2-tailed)

Research Question 2: Are stress factors and work disengagement related to faculty of different characteristics?

Research Hypothesis 2: Different levels of stress factors and work disengagement are related to tenure status, work position, time of day worked, number of hours worked, number of classes taught, gender, and age.

The Spearman's rank order correlation with a two-tailed test was conducted to examine work disengagement and stress factors of general burnout and stress as they relate to faculty characteristics that include age, number of hours worked per week, and tenure status. Based on the Spearman's rho assumptions, only age and tenure status meet the assumptions required for a correlational analysis. Table 20 provides the overall descriptive statistics and correlations for age, tenure status, work disengagement, and stress factors. Responses were scored on a four-point scale with score ranges between a 1 and 4 for work disengagement and a five-point scale

with score ranges between a 1 and 5 for stress factors and outcomes. The table indicates the mean (*M*) of these scores and standard deviation (SD) for each scale and faculty characteristic. It was found that "Age" demonstrated a statistically significant strong negative correlation with the scale "Burnout", r (44) = -.42, $p < .01$ and a statistically significant negative correlation with the scale "Work disengagement", r (44) = -.31, $p < .05$. These results indicate that younger faculty are more likely to report higher levels of burnout and disengage from work. Burnout levels demonstrated a stronger relationship with age than work disengagement. The coding for faculty age in SPSS was so that the age group of 20-29 received a score of 1, a score of 2 was used for age group 30-39, a score of 3 was used for age group 40-49, a score of 4 was used for age group 50-59, and a 5 was used for the age group of 60 years of age or more, which means that a negative correlation indicates that younger faculty are more likely to experience the relationships indicated. The mode for age ranges was a 3, which is the 40-49 age group. "Tenure status" demonstrated a statistically significant strong positive correlation with the scale "Work disengagement", r (43) = .42, $p < .01$; the scale "Burnout", r (43) = .48, $p < .01$; and the scale "Stress", r (43) = .42, $p < .01$. The results indicate that non-tenured faculty are more likely to disengage from work and experience higher levels of stress and burnout followed by tenure track faculty and then tenured faculty. The coding for tenure status in SPSS was so that tenured faculty received a score of 1, a score of 2 was used for tenure track faculty, and a 3 for non-tenured faculty, which means that a positive correlation indicates that non-tenured faculty are more likely to experience the relationships indicated. The mode for tenure status was a 3, which indicates non-tenured faculty.

Table 20
Descriptive Statistics and Correlations for Work Disengagement, Stress Factors, Age, and Tenure Status

	N	*M*	*SD*	*Mode*	1.	2.	3.
1. Work Disengagement	45	2.23	.51	2ª	---	---	---
2. Burnout	45	3.21	.94	3	---	---	---
3. Stress	43	3.16	.96	4ª	---	---	---
Age	45	--	--	3	-.31*	-.42**	°
Tenure Status	44	--	--	3	.42**	.48**	.42**

Note: **Correlation is statistically significant at the .01 level (2-tailed)
*Correlation is statistically significant at the .05 level (2-tailed)
° Indicates a monotonic relationship did not exist to warrant correlational outcome
ª Multiple modes exist. The smallest value is shown

Figure 3 provides a graphic representation of the relationship between work disengagement, stress, burnout, age, and tenure status.

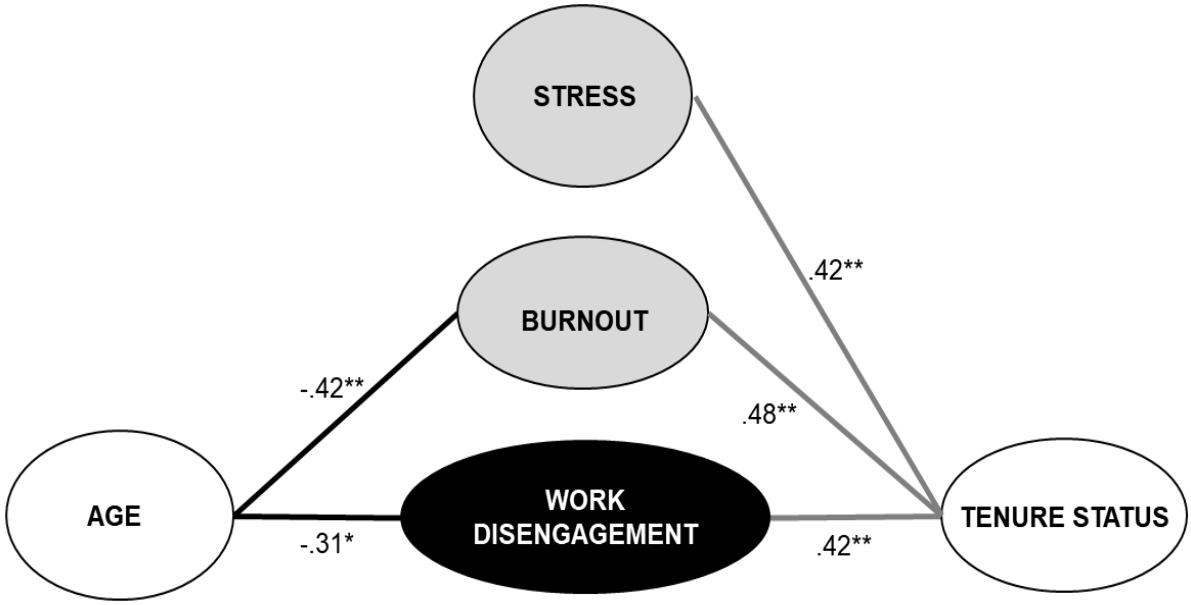


Figure 3. Correlations Between Work Disengagement, Stress Factors, Age, and Tenure Status
Note: **Correlation is statistically significant at the .01 level (2-tailed)
*Correlation is statistically significant at the .05 level (2-tailed)

A point-biserial correlation with a two-tailed test was conducted to examine work disengagement and stress factors of general burnout and stress as they relate to faculty

characteristics of gender and teaching after 5:00 p.m. Table 21 demonstrates that the results indicate no statistically significant difference between work disengagement, burnout, or stress and gender or faculty who teach after 5:00 p.m.

Table 21
Descriptive Statistics and Correlations for Work Disengagement, Stress Factors, Gender, and Faculty Teaching after 5pm

	N	*M*	*SD*	*Mode*	1.	2.	3.
1. Work Disengagement	45	2.24	.51	2ª	---	---	---
2. Burnout	45	3.21	.94	3	---	---	---
3. Stress	43	3.16	.96	4ª	---	---	---
Gender	45	---	---	2	-.02	.08	.19
Teaching after 5pm	45	---	---	1	.08	-.11	-.26

Note: ª Multiple modes exist. The smallest value is shown

Research Question 3: Are stress outcomes and work disengagement related to faculty of different characteristics?

Research Hypothesis 3: Different levels of stress outcomes and work disengagement are related to tenure status, work position, time of day worked, number of hours worked, number of classes taught, gender, and age.

The Spearman's rank order correlation with a two-tailed test was conducted to examine work disengagement and stress outcomes of general health, cognitive stress, somatic stress, depressive symptoms, and sleep concerns as they relate to faculty characteristics that include age, tenure status, and number of hours worked per week. Based on the crosstabulations and monotonic relationships, only age and tenure status meet the Spearman's rho correlation assumptions required for a correlational analysis. Table 22 provides the descriptive statistics and correlations for age and tenure status and work disengagement and stress outcomes. As indicated before, the scale "Work disengagement" demonstrated a statistically significant negative

correlation with “Age”, r (44) = -.31, p < .05 and a statistically significant strong positive correlation with “Tenure status”, r (43) = .42, p < .01. Based on the scoring, the positive correlation indicates that non-tenure-track faculty and younger faculty are more likely to demonstrate work disengagement.

“Age” demonstrated a statistically significant strong negative correlation with the scale “Cognitive stress”, r (44) = -.39, p < .01. These results indicate that younger faculty are more likely to present with symptoms of cognitive stress such as having problems concentrating, thinking clearly, making decisions, or with memory. Again, the coding for faculty age was so that the age group of 20-29 received a score of 1, a score of 2 was used for age group 30-39, a score of 3 was used for age group 40-49, a score of 4 was used for age group 50-59, and a 5 was used for the age group of 60 years of age or more, which means that a negative correlation indicates that younger faculty are more likely to experience the relationships indicated.

“Tenure status” demonstrated a statistically significant strong positive correlation with the scale “Cognitive stress”, r (43) = .50, p < .01; the scale “Somatic stress”, r (43) = .55, p < .01; and the scale “Depressive symptoms”, r (43) = .44, p < .01. “Tenure status” also demonstrated a statistically significant positive correlation with “General Health”, r (43) = .35, p < .05. The results indicate that non-tenured faculty are more likely to experience symptoms of cognitive stress, somatic stress, depressive symptoms, and reflect poor health followed by tenure track faculty and then tenured faculty. Again, the coding for tenure status was so that tenured faculty received a score of 1, a score of 2 was used for tenure track faculty, and a 3 for non-tenured faculty, which means that a positive correlation indicates that non-tenured faculty are more likely to report the relationships indicated. Again, the modes for age ranges and tenure

status are indicated in the table, which are a 3 indicating faculty between the ages of 40-49 and non-tenured faculty.

Table 22
Descriptive Statistics and Correlations for Work Disengagement, Stress Outcomes, Age, and Tenure Status

	N	*M*	*SD*	*Mode*	1.	2.	3.	4.	5.	6.
1. Work Disengagement	45	2.23	.51	2ª	---	---	---	---	---	---
2. Cognitive Stress	45	2.63	.86	3	.42**	---	---	---	---	---
3. Somatic Stress	45	2.31	.88	2	.41**	.51**	---	---	---	---
4. Depressive Symptoms	44	2.21	.96	1ª	.47**	.78**	.62**	---	---	---
5. Sleep Concern	43	2.50	.98	2	.31*	.36*	.46**	.55**	---	---
6. General Health	41	2.51	1.1	2ª	.47**	.65**	°	°	.27	---
Age	45	---	---	3	-.31*	-.39**	°	°	°	--
Tenure Status	44	---	---	3	.42**	.50**	.55**	.44**	.21	.35*

Note: **Correlation is statistically significant at the .01 level (2-tailed)
*Correlation is statistically significant at the .05 level (2-tailed)
° Indicates a monotonic relationship did not exist to warrant correlational outcome
ª Multiple modes exist. The smallest value is shown

Figure 4 provides a graphic representation of the relationship between stress outcomes, age, gender, and tenure status.

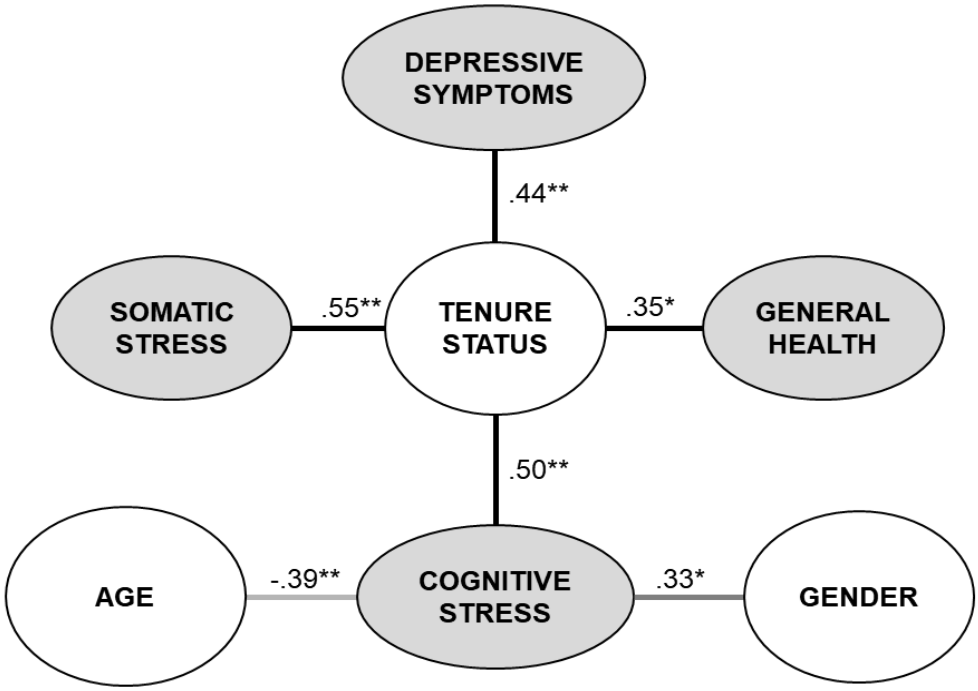


Figure 4. Correlations Between Stress Outcomes, Age, Tenure Status, and Gender
Note: **Correlation is statistically significant at the .01 level (2-tailed)
*Correlation is statistically significant at the .05 level (2-tailed)

A point-biserial correlation with a two-tailed test was conducted to examine work disengagement and stress factors of general burnout and stress as they relate to faculty characteristics that include gender and teaching after 5:00 p.m. Based on the point-biserial correlation assumptions tests, only cognitive stress met the assumptions required for a correlational analysis. Table 23 demonstrates the results that indicate that "Gender" demonstrated a statistically significant positive correlation with the scale "Cognitive stress", r (44) = .33, $p < .05$. These results indicate that female faculty are more likely to present with symptoms of cognitive stress such as having problems concentrating, thinking clearly, making decisions, or with memory. The coding for gender was so that male faculty received a score of 1 and a score of 2 was used for female faculty, which means that a positive correlation indicates that female faculty are more likely to report the relationships indicated. The mode for gender is a 2, which means female faculty.

Table 23
Descriptive Statistics and Correlations for Work Disengagement, Stress Outcomes, Gender, and Faculty Teaching after 5pm

	N	*M*	*SD*	*Mode*	1.	2.
1.Work Disengagement	45	2.24	.51	2ª	---	---
2. Cognitive Stress	45	2.63	.86	3	---	---
Gender	45	---	---	2	-.02	.33*
Teaching after 5pm	45	---	---	1	.08	-.22

Note: *Correlation is statistically significant at the .05 level (2-tailed)
ª Multiple modes exist. The smallest value is shown

Students' Perceptions of Faculty

Research Question 4: Are students' perceptions of faculty teaching effectiveness related to students' perceptions of faculty stress characteristics in the classroom?

Research Hypothesis 4: Students' perceptions of faculty effectiveness are related to students' perceptions of the different levels of faculty stress characteristics.

The Spearman's rank order correlation with a two-tailed test was conducted to examine the relationships between students' perceptions of faculty teaching effectiveness and students' perceptions of how faculty displayed characteristics of stress. Based on the crosstabulations and monotonic relationships, faculty teaching effectiveness only had a monotonic relationship with faculty perceived as tense or sad meeting the assumption required to conduct a correlational analysis. Table 24 provides the descriptive statistics and correlations for faculty teaching effectiveness and students' perceptions of different levels of faculty stress characteristics. Responses were scored on a four-point scale with score ranges between a 1 and 4 for teaching effectiveness and how faculty displayed stress characteristics. The table indicates the mean (*M*) of these scores and standard deviation (SD) for each scale and faculty characteristic. It was found that "Faculty teaching effectiveness" demonstrated a statistically significant strong negative

correlation with “Faculty perceived as tense”, r (118) = -.34, $p < .01$ and “Faculty perceived as sad”, r (118) = -.29, $p < .01$. These results indicate that as students’ perception of faculty demonstrating characteristics of tension or sadness increased, students’ perceptions of faculty teaching effectiveness decreased.

Table 24

Descriptive Statistics and Correlations of Student Perceptions of Faculty

	N	***M***	***SD***	**1.**
1. Faculty Teaching Effectiveness	119	4.24	.85	---
Faculty perceived as Tense	119	2.61	1.49	-.34**
Faculty perceived as Sad	119	1.72	1.09	-.29**

Note: **Correlation is statistically significant at the .01 level (2-tailed)

Research Question 5: Are different class sizes related to students’ perceptions of faculty teaching effectiveness and students’ perceptions of different faculty stress characteristics in the classroom?

Research Hypothesis 5: Different class sizes are related to students’ perceptions of faculty effectiveness and students’ perceptions of the different levels of faculty stress characteristics.

The Spearman’s rank order correlation with a two-tailed test was conducted to examine the relationships between students’ perceptions of faculty teaching effectiveness, students’ perceptions of how faculty displayed characteristics of stress, and class size. Based on the crosstabulations and monotonic relationship analysis, class size only had a monotonic relationship with faculty teaching effectiveness and faculty perceived as angry, sad, or forgetful meeting the assumption required to conduct a correlational analysis. Table 25 provides the descriptive statistics and correlations for class size, faculty teaching effectiveness, and only the

students' perceptions of different levels of faculty stress characteristics that demonstrated a monotonic relationship. Responses were scored on a four-point scale with score ranges between a 1 and 4 for teaching effectiveness and how faculty displayed stress characteristics. The table indicates the mean (*M*) of these scores and standard deviation (SD) for each scale and faculty characteristic. It was found that "Class size" demonstrated a statistically significant positive correlation with "Faculty perceived as sad", r (118) = .20, $p < .05$. These results indicate that it is more likely that students perceive faculty who display characteristics of sadness as class size increases. The coding for class size was so that a class size less than 20 received a score of 1, a score of 2 was used for class size of 20-40, a score of 3 was used for class size of 41-60, a score of 4 was used for class size of 61-80, a score of 5 was used for class size of 81-100, and a score of 6 was used for a class size of 81-100, which means that a positive correlation indicates that larger class sizes are more likely to experience the relationships indicated. The mode for class size range is a 2, which means a class size with 20-40 students.

Table 25
Descriptive Statistics and Correlations for Class Size and Student Perceptions of Faculty

	N	*M*	*SD*	*Mode*	1.	2.	3.	4.	5.
1. Class Size	119	---	---	2	---	---	---	---	---
2. Faculty Teaching Effectiveness	119	4.25	.85	5	-.00	---	---	---	---
3. Faculty perceived as Angry	119	1.64	1.08	1	.12	°	---	---	---
4. Faculty perceived as Sad	119	1.72	1.09	1	.20*	-.29**	.49**	---	---
5. Faculty perceived as Forgetful	119	2.28	1.47	1	-.02	°	°	°	°

Note: **Correlation is statistically significant at the .01 level (2-tailed)
*Correlation is statistically significant at the .05 level (2-tailed)
° Indicates a monotonic relationship did not exist to warrant correlational outcome

Research Question 6: Are different college student classifications related to students' perceptions of faculty teaching effectiveness and students' perceptions of different faculty stress characteristics in the classroom?

Research Hypothesis 6: Different college student classifications are related to students' perceptions of faculty effectiveness and students' perceptions of the different levels of faculty stress characteristics.

The Spearman's rank order correlation with a two-tailed test was conducted to examine the relationships between students' perceptions of faculty teaching effectiveness, students' perceptions of how faculty displayed characteristics of stress, and student classification. Based on the crosstabulations and monotonic relationship analysis, student classification only had a monotonic relationship with faculty teaching effectiveness and faculty perceived as sad meeting the assumption required to conduct a correlational analysis. Table 26 provides the descriptive statistics and correlations for student classification, faculty teaching effectiveness, and only the students' perceptions of different levels of faculty stress characteristics that demonstrated a monotonic relationship. Responses were scored on a four-point scale with score ranges between a 1 and 4 for teaching effectiveness and how faculty displayed stress characteristics. The table indicates the mean (*M*) of these scores and standard deviation (SD) for each scale and faculty characteristic. It was found that "Student classification" demonstrated a statistically significant positive correlation with "Faculty perceived as sad", $r\ (118) = .18$, $p < .05$. These results indicate that students' perceptions of faculty displaying characteristics of sadness increased as the classification level increased. The coding for student status was so that an undergraduate freshmen received a score of 1, a score of 2 was used for an undergraduate sophomore, a score of 3 was used for an undergraduate junior, a score of 4 was used for an undergraduate senior, a score of 5 was used for a master's graduate student, and a score of 6 was used for a doctoral graduate student, which means that a positive correlation indicates a higher student classification

is more likely to report the relationships indicated. The mode for student classification is a 5, which means master's graduate students.

Table 26
Descriptive Statistics and Correlations for Student Classification and Student Perceptions of Faculty

	N	*M*	*SD*	*Mode*	1.	2.	3.
1. Student Classification	119	---	---	5	---	---	---
2. Faculty Teaching Effectiveness	119	4.25	.85	5	.05	---	---
3. Faculty perceived as Sad	119	1.72	1.09	1	.18*	-.29**	---

Note: **Correlation is statistically significant at the .01 level (2-tailed)
*Correlation is statistically significant at the .05 level (2-tailed)

Figure 5 provides a graphic representation of the relationship between teaching effectiveness, class size, student classification, and faculty perceived as sad and tense.

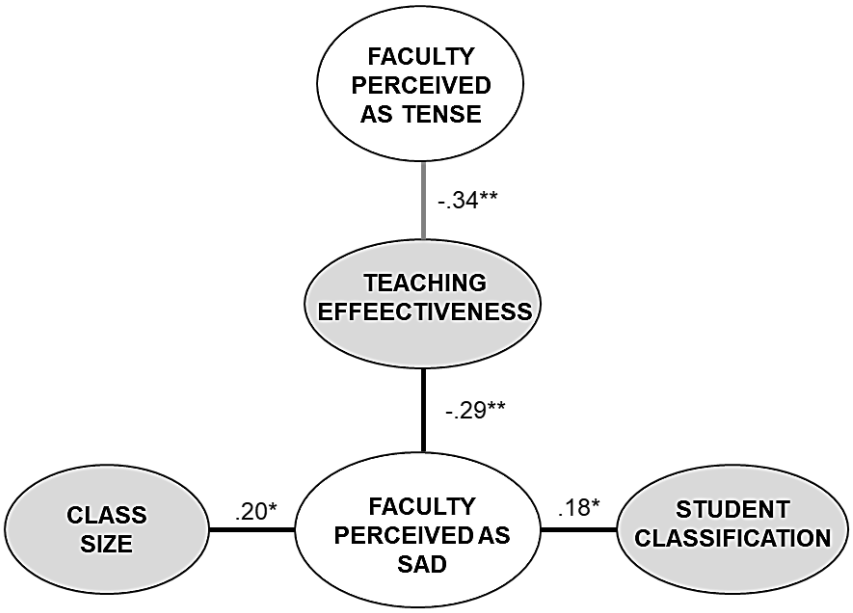


Figure 5. Correlations Between Teaching Effectiveness, Class Size, Student Classification, and Student Perceptions of Faculty
Note: **Correlation is statistically significant at the .01 level (2-tailed)
*Correlation is statistically significant at the .05 level (2-tailed)

Health and Wellness Programming

Research Question 7: What strategies and delivery methods of health and wellness strategies do faculty prefer?

Faculty participants were asked to rank their preferences in health and wellness program characteristics. Figure 6 demonstrates nine characteristics with the average rank reported for each characteristic. The ranks ranged from a 1 being the highest priority level to a 9 being the lowest priority. Increasing overall health was the highest priority with an average rank of 4.22 followed by lowering stress at an average rank of 4.33 and living more in the present at an average rank of 4.46. The lowest preference was to decrease physical pain at 6.79 average rank.

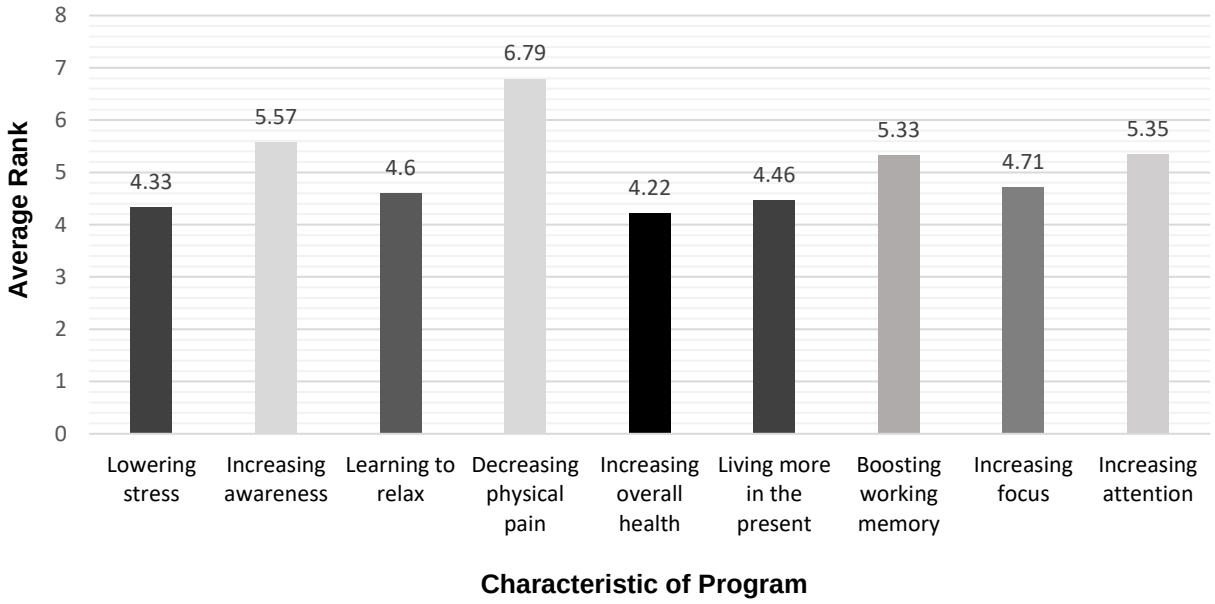


Figure 6. Faculty Preference on Characteristics of Health and Wellness Programs

Faculty were asked to consider ways that programs could be implemented in the workplace with a score of 1 indicating participants would "*Definitely participate*", a 2 indicated participants "*Would possibly participate*", and a 3 indicated participants "*Would not participate*". Figure 7 shows that most forms of program implementation had average scores of "*would possibly participate*".

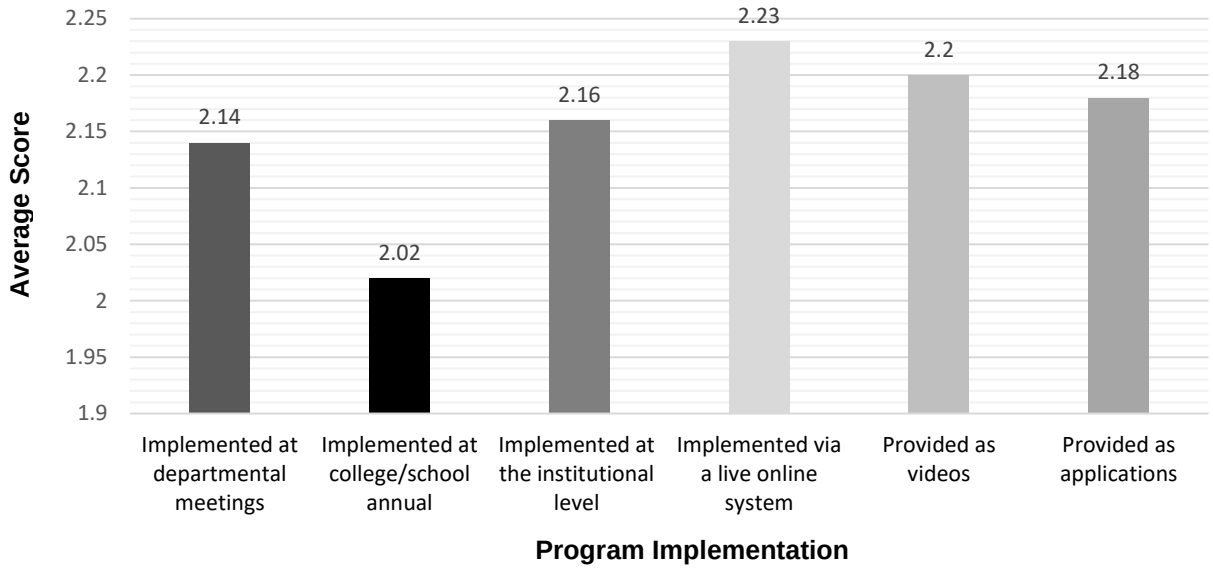


Figure 7. Faculty Preference on Implementation of Health and Wellness Programs

However, these numbers do not clearly define the difference between participating or not participating. Table 27 further breaks down the number count and percent preference for each form of program implementation. The number count for each preference category indicates more faculty would "*definitely participate*" in programs provided at the departmental meetings, 22.7% (n=10), or at biannual college/school retreats or meetings, 22.7% (n=10). Programs implemented at the institutional level had the highest number of faculty, 61.4% (n=27), who "*would possibly participate*" followed by programs implemented as computer or phone applications, 54.6% (n=24), and at biannual college/school retreats or meetings, 52.3% (n=23). Based on faculty numbers alone, programs provided via live online systems, 38.6 % (n=17), or as videos, 38.6 % (n=17), were least preferred and faculty "*would not participate*" in these forms of implementations. Over 36% of faculty also indicated they "*would not participate*" if the program was provided at a departmental meeting.

Table 27

Degree of Faculty Participation in Program Implementation

	Definitely Participate		Would Possibly Participate		Would Not Participate	
Forms of Program Implementation	N	%	N	%	N	%
At departmental meetings	10	22.7	18	40.9	16	36.4
At College/school annual or biannual retreats/meetings	10	22.7	23	52.3	11	25
At the institutional level (i.e. health and wellness programs)	5	11.3	27	61.4	12	27.3
Provided via a live online system	7	15.9	20	45.5	17	38.6
Provided as videos	8	18.2	19	43.2	17	38.6
Provided as an application	6	13.6	24	54.6	14	31.8

N=44

Summary

The purpose of the study was to understand three interrelated parts: the relationship between work disengagement and faculty stress, how student's perceive faculty stress in the classroom, and faculty preferences for health and wellness programs. The chapter provided an overview of how the data was collected and screened from two online questionnaires that included 45 faculty members and 119 students from a U.S. public, four-year research university. As such, the chapter provided descriptive data on faculty work disengagement, stress factors, and stress outcomes and how they related to each other as well as to faculty characteristics. The chapter also showed faculty preferences of characteristics for health and wellness programming to include how programs could be implemented to mitigate stress. Descriptive data demonstrated students' perceptions of faculty teaching effectiveness and perceptions of how faculty displayed stress characteristics alongside class size and student classifications. The descriptive data

provided a profile of the participants and guided the statistical analysis completed. Based on the data and the assumption tests of statistical analysis for Spearman's rank order and point-biserial correlations, not all variables met the requirement to conduct correlational analysis.

Spearman's rank order correlation was conducted to analyze faculty and student variables. Point-biserial correlation was conducted with some faculty variables. The results of the study for faculty variables indicated statistically significant strong positive correlations between work disengagement and faculty burnout, stress, cognitive stress, somatic stress, and general health and a statistically significant positive correlation with sleep concerns. Only age and tenure status reflected monotonic relationships with the variables of work disengagement and stress factors and outcome required for Spearman's rho correlation. The results of the Spearman's rho correlation for faculty variables indicated age demonstrated a statistically significant strong negative correlation with work disengagement, burnout, and cognitive stress. Tenure status demonstrated a statistically significant strong positive correlation with work disengagement, burnout, stress, cognitive stress, somatic stress, and depressive symptoms. Tenure status also demonstrated a statistically significant positive correlation with general health. The results of the point-biserial correlation indicated that gender had a statistically significant positive correlation with cognitive stress. The results of the Spearman's rho correlation for student variables indicated a statistically significant strong negative correlation between faculty teaching effectiveness and faculty perceived as tense and sad. Both class size and student classification demonstrated a statistically significant positive correlation with faculty perceived as sad.

The results of the data provide a snapshot of faculty and students from a U.S. public, four-year research university on levels of faculty stress and work disengagement as well as faculty preferences for health and wellness programs. Additionally, the study reflected how

students perceive faculty stress in the classroom and the relationship it has with students' perceptions of faculty teaching effectiveness. The next chapter provides the overall conclusions and implications of the study that include the limitations and recommendations for practice and future research.

Chapter 5: Conclusions, Implications, and Recommendations

It is imperative that higher education leaders analyze the factors and outcomes that contribute to faculty stress and burnout as they relate to work engagement especially in the classroom. The study is guided by changes in higher education, which indicate that faculty stress has become normalized impacting academic life (Austin & Pilat, 1990; Darabi et al., 2017a). The chapter will provide the overall results of the study by summarizing the study, restating the problem, outlining the procedures used, and providing descriptive and inferential statistics of the study. The chapter will provide the conclusions drawn from the results, implications of the study, and recommendations for practice and future research.

Summary of Study

The purpose of the study was to examine three interrelated parts that impact faculty stress in higher education. The first analyzed the relationship between work disengagement and faculty stress factors and outcomes. The stress factors included general stress and burnout while the outcomes included general health, cognitive stress, somatic stress, depressive symptoms, and sleep concerns. The first part of the study also considered the relationship between work disengagement, stress factors, and stress outcomes and the faculty characteristics of age, gender, tenure status, work position of being full-time or part-time, number of hours worked per week, number of classes taught, and the time of day faculty taught. The second part took the study a step further by examining how students perceived faculty stress by analyzing the relationship between students' perceptions of how faculty displayed characteristics of stress and teaching effectiveness. The class size and student classification were considered in relation to these first factors. The third part of the study considered faculty preferences for health and wellness programs to address stress and how they could be implemented in the workplace. The study examined questionnaires from 45 faculty participants and 119 student participants from a U.S.

public, four-year research university. The results provided faculty preferences for health and wellness programs and demonstrated correlational relationships between faculty variables and student variables adding to the body of knowledge on faculty stress. Prior to outlining the results, the problem statement will be reiterated.

Statement of the Problem

Since the mid-1980s, research in higher education continues to demonstrate constant concerns with faculty stress despite the evidence that it impacts work tasks (Colacion-Quiros & Gemora, 2016; Gillespie et al., 2001). Faculty tend to work between 50 to 70 hours per week perpetuating inefficacy with struggles to meet all the workload demands to include providing adequate time to students (Colacion-Quiros & Gemora, 2016; Darabi et al., 2017b; Gillespie et al., 2001). Additionally, faculty stress affects mental and physical health well-being as it can promote psychological effects and contribute to burnout, which is a stress perpetuated by a long-term response to work demands (Darabi et al., 2017b; Jacobs & Jacobs, 2001; Lackritz, 2014; Padilla & Thompson, 2015).

Burnout is not only costly by accounting for over $190 billion in health care costs but is a concern that affects faculty (Lynch, 2015). Although many higher education institutions provide health and wellness programs, it is unclear if faculty use the resources provided and if faculty have a preference on how stress could be mitigated at work. Much less is understood if faculty stress impacts work engagement especially in the classroom. As faculty stress appears to remain constant throughout the timeframe it has been studied, it is important to consider students' perceptions on this phenomenon to obtain the attention of higher education leaders. Evidence demonstrates that teacher stress in the K-12 education system has the potential to affect student learning (Oberle & Schonert-Reichl, 2016). However, similar research related to higher

education students is currently not available. The study attempted to understand the relationship between faculty stress and students by considering student perceptions of faculty in the classroom as it relates to stress and teaching effectiveness.

Statement of the Procedures

The single institution study used a cross-sectional survey and collected data via anonymous online questionnaires provided to faculty and students at a U.S. public, four-year research university. Using purposive sampling, the study was guided by the Job Demands-Resource (JDR) model and mindfulness-based principles for faculty outcomes and the campus ecology theory for student outcomes. Descriptive statistics were conducted to obtain a profile of the participants and was used to initially analyze the data of all faculty and student variables. Based on the assumptions' testing of the data for Spearman's rank order correlation and point-biserial statistics, correlational analysis was used to examine the relationship between faculty variables of work disengagement, stress factors, stress outcomes, and faculty demographic characteristics. Descriptive statistics were used to examine faculty preferences of characteristics and implementation of health and wellness programs. Similarly, the Spearman's rank order correlation was used to examine the student variables. The first correlation analyzed the relationship between faculty teaching effectiveness and how faculty displayed stress characteristics. The second and third correlations included these two variables and how they related to class size and student classification.

Conclusions

The conclusions for faculty stress and students' perceptions of faculty displaying stress characteristics and teaching effectiveness are based on the research questions and hypotheses that can be viewed in chapters 1, 3, and 4. I will begin with faculty stress.

Faculty Stress

Work Disengagement. The results revealed statistically significant strong positive correlations between work disengagement and burnout, stress, cognitive stress, somatic stress, depressive symptoms, and general health. A statistically significant correlation was also noted between work disengagement and sleep concerns, but to a lesser effect than the other variables. These results indicate that as the levels of stress factors and outcomes increase, faculty are more likely to disengage at work. For example, if a faculty member demonstrates cognitive stress such as having trouble concentrating, thinking clearly, making decisions, or being forgetful, the faculty member faces the risk of disengaging at work. If a faculty member demonstrates somatic stress such as having many headaches and experiences frequent muscle tension, the faculty member faces the risk of disengaging at work. If a faculty member demonstrates depressive symptoms such as feeling sad, lacking self-confidence, or lacking interest in everyday items, the faculty member faces the risk of disengaging at work.

Stress Factors and Outcomes. For the first question, the hypothesis did not ask for the relationship between stress variables, but a correlation was conducted between the stress factors and outcomes because it is relevant to understand faculty stress. General stress and general burnout demonstrated statistically significant strong positive correlations with each other as well as with the stress outcomes of general health, cognitive stress, somatic stress, and depressive symptoms. The results indicate that as faculty general stress increases, faculty are more likely to have levels of general burnout increase. As these two stress factors increase, faculty are also more likely to have an increase in levels of cognitive stress, somatic stress, depressive symptoms, and poor sleep quality. Likewise, as faculty experience higher levels of cognitive stress, faculty are more likely to experience higher levels of somatic stress, depressive

symptoms, sleep problems, and poor health. Furthermore, as faculty experience higher levels of somatic stress, faculty are more likely to also experience higher levels of depressive symptoms, poor sleep quality, and poor health. Finally, faculty are more likely to experience poor quality of sleep and poor health when they display higher levels of depressive symptoms.

Age. The results revealed statistically significant strong negative correlations between age and work disengagement, burnout, and cognitive stress. The results indicate that younger faculty are more likely to demonstrate work disengagement and experience higher levels of burnout. The results also indicate that younger faculty are more likely to experience cognitive stress symptoms that include problems concentrating, thinking clearly, making decision, and having memory problems.

Tenure Status. Tenure status demonstrated statistically significant strong positive correlations with work disengagement, burnout, stress, cognitive stress, somatic stress, depressive symptoms and to a lesser degree poorer health. The results indicate that non-tenure-track faculty, followed by tenure track faculty and then tenured faculty, are more likely to demonstrate work disengagement and experience higher levels of stress and burnout. Non-tenured faculty are also more likely to experience cognitive stress, somatic stress, and depressive symptoms and to a lesser degree poorer health.

Gender. The results indicate that female faculty compared to male faculty are more likely to experience symptoms of cognitive stress that include problems concentrating, thinking clearly, making decision, and having memory problems.

Faculty well-being is especially essential in higher education since faculty serve important roles that directly influence student outcomes through the faculty-student relationship and the influence faculty have in the classroom environment.

Students' Perceptions of Faculty

Faculty Teaching Effectiveness. The results indicate that students who perceive faculty as sad or tense are more likely to perceive faculty as being less effective at teaching.

Class Size. The results indicate that as the class size increases, students are more likely to recognize faculty who display characteristics of sadness.

Student Classification. The results indicate that as students' move up in their classification level, students are more likely to recognize faculty who display characteristics of sadness.

Health and Wellness Programming

Characteristics. Health and wellness questions were used to gather preliminary faculty preferences that could guide the types of health and wellness program characteristics that should considered in the workplace. Based on faculty responses, the average of the ranks reported for health and wellness characteristics demonstrated a preference by faculty in the following order: (1) increasing overall health, (2) lowering stress, (3) living more in the present, (4) learning to relax, (5) increasing focus, (6) boosting working memory, (7) increasing attention, (8) increasing awareness, and (9) decreasing physical pain.

Implementation. Health and wellness questions were used to gather preliminary faculty preferences that could guide the way health and wellness programs could be implemented at work. The average scores for the way health and wellness programs could be implemented demonstrated a faculty preference in the following order: (1) implemented at a college/school annual meeting, (2) implemented at a departmental meeting, (3) implemented at the institutional level, (4) provided as an application, (5) provided as videos, and (6) implemented via a live online system.

The implications of the study will be outlined followed by the limitations and recommendations for future research and practice.

Implications

Based on the literature review and the results of the study, faculty in higher education continue to experience stress in various ways that impact not only their physical and mental health but also work outcomes. Prior to discussing the implications, it is important to understand how the current study differed from previous studies as faculty stress has been studied globally for the past 30 years:

1. The study fills a gap as previous studies did not clearly outline the relationship between work disengagement and faculty stress and much less with stress outcomes of general health, cognitive stress, somatic stress, depressive symptoms, and sleep concerns.
2. The study expands current research on work disengagement, stress factors, and stress outcome by examining it them with faculty characteristics of age, gender, tenure status, work position, number of hours worked per week, number of classes taught, and time of day faculty taught.
3. Previous research addressed stress and burnout separately and did not examine them together as an extension of each other. Burnout is a type of stress that is related to work outcomes and can explain outcomes of exhaustion, cynicism, or inefficiency (Padilla & Thompson, 2015). Stress examined alone in previous research explained how it is multifaceted and has a linear relationship with work performance, but could not explain to what extent or at what point the stress level became burnout and much less to what extent general stress and burnout were related (Eagan & Garvey, 2015).

4. The study fills a gap by initially understanding faculty preferences for health and wellness programs that may mitigate stress in the workplace providing higher education leaders a description of these preferences.
5. There are no previous studies that examine how higher education faculty stress may impact student outcomes. The study fills a gap by considering student perceptions of faculty stress in the classroom as a first step to understand if a relationship exists.

Faculty Stress

Work Disengagement. The study implies that many factors can influence why faculty disengage at work, which is not only influenced by levels of burnout as previous research suggests (Demerouti et al., 2010). Like previous research, work disengagement is positively related to physical and psychological poor health; however, the study expands on the types of health concerns faculty and higher education leaders should be aware of when considering who is at risk for work disengagement (Demerouti et al., 2010; Barkhuizen et al., 2014). Work disengagement is not only due to burnout, but is related to stress, cognitive stress, somatic stress, depressive symptoms, sleep problems, and poor general health. Faculty disengaging at work is a risk even if burnout levels are not present, which suggests faculty have too many responsibilities that any level of stress can influence disengagement. As previous studies suggest, faculty work long hours to meet the high demand of heavy workloads that influence work performance; however, faculty are left feeling as though they do not have enough time to meet all the work demands (Ablandedo-Rosas et al., 2011; Colacion-Quiros & Gemora, 2016; Darabi et al., 2017a; Gillespie et al., 2001; Mudrak et al., 2018; Padilla & Thompson, 2015). The implication for higher education is that these faculty members may require additional support and resources to

manage stress in the workplace. Higher education leaders should recognize that addressing stress in the workplace may mitigate other concerns that can impact work and overall well-being.

Stress Factors and Outcomes. The relationships between the stress factors and outcomes support Eagan and Garvey's (2015) results that indicate faculty stress is multifaceted, which means faculty stress can be influenced by various variables and can directly affect work performance. For example, stress levels may affect teaching while influencing outcomes of somatic symptoms of fatigue and headaches (Colacion-Quiros & Gemora, 2016). As previous studies suggest, faculty stress is related to physical health concerns of high blood pressure, fatigue, headaches, and poor quality of sleep as well as mental health concerns such as being irritable, frustrated, anxious, depressed, angry, displaying low tolerance or interest, and being overwhelmed (Colacion-Quiros & Gemora, 2016; Darabi et al., 2017b). The results add to the body of knowledge by indicating any stress factor or outcome has the potential to place faculty at risk for experiencing any other of the stress factors or outcomes. Considering that faculty have many responsibilities such as teaching, service, and for many research or scholarly work on top of personal life stressors, it makes sense that burnout, stress, as well as poor general health, cognitive stressors, somatic stressors, depressive symptoms, and sleep problems would be related to each other. Based on previous studies, faculty perceive problems with their physical and mental health due to stressors related to task overload, job insecurity, lack of funding, resources, and support (Gillespie et al., 2001). Most studies analyzed the faculty stress outcomes as they relate to only stress or only burnout. It is difficult to determine at what point burnout becomes a concern in the workplace as it can be cyclical versus a gradual event, which means a person may experience outcomes of burnout without consistently feeling the consequences (Lackritz, 2004). However, the results of the current study implies that stress and burnout should be analyzed

together because a faculty member may not demonstrate signs of burnout, but if stress or any of the other stress outcomes are present, then faculty are more likely to experience burnout at some point. This aspect is important because burnout is costly in terms of health and teaching (Lackritz, 2004; Lynch, 2015). The results indicate that stress and burnout should be considered together when addressing faculty stress implying that programs that manage stress should consider all levels and types of stress when supporting faculty. Understanding these various relationships is crucial as higher education leaders seek ways to improve the quality of faculty work by supporting faculty needs that are impacted by stress.

Age. The results indicate that younger faculty are more likely to demonstrate work disengagement and experience higher levels of burnout, which is consistent with the conclusions of Lackritz (2004) who showed that younger faculty are more likely to experience burnout. Younger faculty are also more likely to experience cognitive stress symptoms that include problems concentrating, thinking clearly, making decision, and having memory problems. These results relate to Gillespie et al.'s (2001) results that stress reduces focus and concentration, which in turn impacts work performance. The results also imply that young faculty may not use engaging coping mechanisms compared to older faculty because some studies suggest that older faculty use less mental disengagement and substance use compared to younger faculty (Reevy & Deason, 2014). Engaging coping mechanisms are used to face and manage stressors and are associated with better physical and mental health outcomes compared to disengaging coping mechanisms that are used to avoid stressors and are associated with less positive life outcomes.

Tenure Status. Previous research reflected inconsistencies on which tenure status tended to experience more stress levels. However, the results of the current study are consistent with Gmelch et al. (1986) that indicated that untenured track faculty, which consists of tenure track

and non-tenured faculty, perceived higher levels of stress compared to tenured faculty. The results of the current study imply that non-tenure-track faculty may experience other stressors that are related specifically to this population in terms of age, minority status, job security, and coping mechanisms.

First, as indicated before, younger faculty are more likely to experience stress compared to other tenure statuses. The non-tenure and tenure track faculty of the study fell between the ages of 20-39, which are the younger age groups. Gonzalez and Griffin (2020) also indicated that the majority of non-tenured faculty tend to be female faculty. The results of this study indicate that over 34% of non-tenured faculty reported being female.

Next, previous studies suggest that most non-tenured faculty are more likely minority faculty such as Black/African American, Hispanic/Latino, or American Indian (Reevy & Deason, 2014). The current study indicates that 24.9% of faculty who reported being non-tenured faculty indicated they were of Mexican, Mexican American, Chicano, or another Hispanic, Latino, or Spanish origin.

Furthermore, non-tenured faculty experience job insecurity because appointments are dependent upon the budget and/or enrollment of students, which are aspects that can affect faculty stress (Reevy & Deason, 2014). The concern became more apparent as the university closed due to the pandemic of COVID-19. Job security became more of a concern especially for non-tenured faculty as campuses reported concerns related to the economic downturn of the country (The Executive Committee of Tenure for the Common Good [ECTCG], 2020). The insecurity of the contingent positions added another layer of faculty stress that could not be ignored as the results were being analyzed. Conversely, unlike non-tenured faculty and tenure track faculty, tenured faculty have indefinite appointments with administrative and legal rights

that provide job security even though they can be terminated due to extraordinary circumstances such as extraneous financial concerns or the termination of programs (Browne, n.d.; Flaherty, 2018).

Finally, tenured faculty have more experience coping with the stressors related to academic work unlike non-tenured faculty are more likely to use disengagement coping mechanisms such as giving up, being in denial, or use substances (Browne, n.d.; Flaherty, 2018). The concern is that substance use can predict depression and anxiety that can also influence levels of faculty stress (Reevy & Deason, 2014).

Gender. The results indicate that female faculty are more likely to experience symptoms of cognitive stress that include problems concentrating, thinking clearly, making decision, and having memory problems. The results are consistent with Gmelch et al. (1986) who indicated that female faculty tend to experience more levels of stress than male faculty. Although the results do not reflect a direct relationship between gender and general stress and burnout, recall that stress and burnout are statistically significantly correlated with cognitive stress. The study did not show that female participants are likely to experience more stress than male participants, but the results indicate that female faculty are more likely at risk to experience stress compared to male faculty based on the relationship stress has with cognitive stress and overall well-being. The results imply that female faculty have greater sources of strain outside of work such as family commitments compared to male faculty. Studies suggest that female faculty who are married continue to complete most of the housework and additional home life changes occur when parenthood is an aspect to consider because women tend to take on most of the childcaring responsibilities (Bianchi et al., 2012). Therefore, female faculty tend to have higher levels of strain if they are not able to manage both work and family commitments, which is a concern

because work-family conflicts are a significant predictor of stress (Mudrak et al., 2018; Sumathi & Velmurugan, 2020).

Students' Perceptions of Faculty

Faculty Teaching Effectiveness. Ahmed et al. (2018) indicated that students tend to be more critical of the learning environment as they progress through their program. Most student participants were graduate students, so it makes sense that they would find faculty who were perceived as sad or tense as being less effective at teaching. Sadness is considered a basic emotion but presents itself differently depending on the person (Lauwerijssen, 2008). However, it is an emotion recognized by most cultures and societies. Sadness can influence a person into withdrawing from others, focusing more on themselves, and it can impact cognition that influences judgements. As most people have experienced some level of sadness, it appears to be an emotion easily recognized and based on its effects, one can conclude that faculty who appear sad will be perceived as less effective in teaching. Likewise, faculty who appear tense reflect a form of general stress that is related to burnout and other stress outcomes. As indicated before, stress can affect teaching (Gillespie et al., 2001; Lackritz, 2004; Padilla & Thompson, 2015). The results are important for faculty to consider and reflect how they portray stress in the classroom as it can influence how students perceive teaching effectiveness that is often reflected in the end of semester evaluations. The results imply that more research is required to understand faculty stress in the classroom and what the implications are for student outcomes.

Class Size. The results align with results by Bettinger and Long (2017) that indicated large class sizes influence the behavior of both the student and faculty member. The results may imply that larger class sizes affect faculty who can become stressed especially if students appear disengaged (Toppin & Pullens, 2015). Additionally, students and faculty interacted in the

classroom right before the university closed due to the pandemic of COVID-19. The data collection occurred during the closure and pandemic. It is difficult to know if faculty were sad about the effects the pandemic had in other parts of the world or if they began to experience concerns related to how the virus would affect them. Likewise, it is difficult to discern if students reflected on perceptions of the faculty member while in the classroom or if they reported on their perceptions based on the interaction that occurred while completing the course online. Although the study does not demonstrate cause and effect results, the findings may suggest that students and faculty would benefit from smaller class sizes to support faculty stress while promoting student outcomes (Bettinger & Long, 2017).

Student Classification. As indicated earlier, most student participants were graduate students with the results aligning with the research that indicates students tend to be more critical of the learning environment as they progress through their program (Ahmed et al., 2018). The results also suggest that the characteristic of sadness may be more readily recognized by students who have been in college for a while compared to students who have just begun their college education; however, it is an emotion recognized by most cultures and societies (Lauwerijssen, 2008). Again, the results are important as faculty reflect on how they display stress in the classroom, especially faculty who teach graduate students.

Health and Wellness Programming

Characteristics. According to the qualitative study by Gillespie et al. (2001), faculty are aware of how work stress impacts their overall health. Based on the order of faculty preferences and how all the stress factors and stress outcomes are related, it makes sense that the first preference by faculty would be to increase overall health followed by lowering stress. As higher

education leaders consider programming, these findings should influence the types of programs that are specifically developed for faculty.

Implementation. The results of faculty preferences in how health and wellness programs could be implemented requires more research. Based on faculty responses, the preferences were ranked, and the first two preferences are as follows: (1) implemented at a college/school annual meeting, (2) implemented at a departmental meeting. These preferences may suggest that programs being implemented physically at the institution in a manner where faculty would need to attend would be familiar, but lack of evidence makes this aspect unclear. The last three options were: (4) provided as an application, (5) provided as videos, and (6) implemented via a live online system. These options require new ways of interacting and participating in health and wellness programs and may either seem unfamiliar or too much work. It is unclear as these forms of program implementations have not been provided before and much less studied. These results imply that higher education leaders need to recognize that health and wellness programs need to be developed based on evidence and faculty preferences.

By understanding the contributions of the study, the limitations can be understood prior to providing recommendations for future research and practice.

Limitations

The study presents with a few limitations to include the number of faculty participants that affected the statistical analysis used for faculty variables, and the methodology used to understand faculty preferences for health and wellness programs. The study was also limited by the way it was advertised as only online advertisement could be used due to the pandemic of the coronavirus, COVID-19, that impacted the study in more ways than advertising the study.

When data collection for the study began on March 30, 2020, universities across the U.S. had closed their doors and courses that began in a physical classroom were transitioned online because social distancing was mandated in many U.S. states due to the outbreak of COVID-19 (Research University of Washington, 2020). The change affected the continuity of research, which is a core function of many universities. As indicated, the economic downturn of the country began to impact the security of faculty positions in higher education (ECTCG, 2020). Job insecurity is a major concern for higher education as it can impact student learning if less faculty are available to teach the courses required for students to graduate. As the study was being conducted, it was unclear if faculty were aware of these higher education issues. Additionally, a major concern with contingent faculty is that the majority are "women and racially minoritized persons" (Gonzalez & Griffin, 2020, p. 3). COVID-19 added unexpected layers of stress such as faculty being required to teach online even if they had little experience doing so causing struggles and leaving faculty feeling anxious to meet the demands of the classroom (Gonzalez & Griffin, 2020). Furthermore, women tend to assume the majority of childcare and family responsibilities, which was enhanced during this period as over 32 million public schools closed across the nation. Many employees were sent home to work with children present who simultaneously were completing schoolwork that required major adjustments to home life (Booth, 2020). The study did not account for all these factors, so it is difficult to report how different the outcomes would have been had the stressors of COVID-19 not been present during data collection. It is unclear what aspects of stress or work-life changes were influenced by the pandemic because the study was not designed to consider the faculty-student relationship outside the classroom and much less during a pandemic. For example, non-tenured track faculty reflected stronger relationships with stress factors and outcomes, and it could be related to the

additional stressors inflicted by COVID-19 or related to the characteristics of being a non-tenured faculty member as indicated in the literature. For example, stress could have been related to the insecurity of having employment in the future or the lack of knowledge on how to implement online courses. Another aspect to consider while reflecting on the faculty questionnaire, only faculty who began teaching in a classroom were invited, but the questionnaire asks faculty to consider the past four weeks when they answered the questions about stress factors and outcomes. Faculty who completed the questionnaire towards the end of the data collection period were only considering the time period that included them teaching online and during the pandemic. With these factors in mind, the number of faculty participants was also a great limitation.

The number of faculty members was adequate to complete correlational analysis; however, more faculty participants were required to conduct other forms of analysis that could have added to the body of knowledge. For example, an analysis of variance (ANOVA) could have been used to answer the question "How are the relationships different between groups?" An ANOVA would have allowed for the evaluation of the differences between groups such as the differences between faculty age, gender, and tenure status (Gravetter & Wallnau, 2013). With an increase number in participant, other characteristics could have been analyzed such as race and ethnicity. Knowing the differences between groups would allow higher education leaders to consider a starting point in implementing programs that mitigate stress. Higher education resources are limited even though all faculty should be supported in terms of stress (Gallup & Syare, 2016). However, knowing which faculty members are most impacted could begin pilot programs that influence future practice. Unfortunately, the number of faculty participants was

not enough to meet the statistical assumptions needed to run ANOVA. Another limitation was the way data was gathered on faculty preferences for health and wellness programs.

Although the results provide an initial analysis at faculty preferences in terms of characteristics of programs, the data regarding implementing programs lacked clear differences between the results reported by faculty. An expanded Likert scale may have provided more differences in preferences. The current questionnaire asked for three different ratings of "definitely participate", "would possibly participate", or "would not participate" and a rating scale of at least five choices could have enhanced the results. Another option would be conducting a semi-experimental study that compares the way programs could be implemented. The current results indicate that most responses were allocated to faculty that "would possibly participate" in institutional programs. The concern with this finding is that most institutions already provide this form of program implementation; however, very few faculty members use the programs that are implemented in this manner as faculty have been reported to lack time and interest (Wagner et al., 2012). The limitations as well as the results of the study guide the recommendations.

Recommendations

Recommendations for Practice

The following recommendations are provided considering the results and limitations outlined.

1. Higher education leaders should include prevention practices that include:
    a. Supporting all faculty members of all statuses and positions by developing programs that mitigate stress in the workplace to include using engaging coping mechanisms. Stress does not discriminate by specific faculty characteristics, so

all faculty should be considered equally when faculty well-being is being considered.

b. Programs that are part of faculty development initiatives. Brown et al. (2016) found that faculty are open to having wellness workshops as part of their faculty development and the study's results support that at least 22% of faculty would definitely participate in health and wellness programs that are implemented in meetings at all levels of the institution and between 40% and 61% would possibly participate in programs implemented in meetings at all levels.

c. Seminars or monthly quick tips that provide educational awareness on how to manage stress can be useful. The simple awareness of stress-reduction interventions can improve faculty job satisfaction and lower psychological strain (Pignata et al., 2014). Higher education leaders may consider providing stress management education to doctoral students who may become future faculty and higher education administrators.

d. Adequate resources. By viewing the results through the Job Demands-Resource model, work demands can be buffered with job resources such as social support, quality relationships, and performance feedback to promote faculty well-being (Bakker & Demerouti, 2017).

    1) Support from supervisors and higher education leaders is strongly associated with faculty well-being that include engaging them at work and managing stress (Mudrak et al., 2018). Faculty tend to remain satisfied with work conditions when job resources are available regardless of the job demands.

2) The characteristics of a job can influence faculty motivation and faculty could benefit from division of labor (O'Meara, 2018). Although the process of making work activities more equitable appears difficult, if the faculty members and their directors/chairs are willing to change, departments can have positive outcomes. Based on the research by O'Meara (2018), the process requires changes to the way choices are made and various ways can assist. For example, departments can be transparent, performance can be measured with clear benchmarks for tasks, and faculty can have the option to rotate the tasks that are time intensive as well as the preferred roles. For this reason, higher education leaders should promote a positive work environment and provide leadership education to young directors or supervisors as leaders in these positions may have been promoted due to their scientific abilities versus their leadership and managerial abilities. Considering these aspects can enhance the prevention practices used.

e. Higher education leaders need to provide additional ways to support non-tenure and tenure track faculty:

1) Extend the time frame tenure track faculty need to meet tenured status.

2) Provide flexibility to the tenure clock that promotes support especially for female and minority faculty (Mason, 2009). For example, stop the tenure clock while a female faculty member is pregnant. Provide daycare for faculty parents and include additional support systems if faculty are caregivers to elderly parents or other dependents. Providing care for aging

parents has been an unspoken concern that tends to fall on daughters with very few programs to support these family caregivers (O'Donnell, 2016). Female faculty who have the responsibility of caring for an aging parent or other dependent with a disability can be at risk and may switch to a less demanding job, fall behind as time is taken off, or quit to meet the additional demands. It is important to not only consider the concerns of faculty parents, but faculty who may be caregivers to other dependents.

3) Broaden and clarify the criteria needed for tenure track faculty to meet the accomplishments needed to obtain tenure. Additionally, the process should be transparent and the process democratic to humanize the process because the argument is that the current process affects female and minority faculty as it "exacerbates existing inequalities in education" (Strunk, 2020, para. 14).
4) Increase job security by providing more tenure-track opportunities and extending non-tenure track contracts. Universities should review their policies and procedures and, if policies are in place to allow for extended contracts, higher education leaders should extend non-tenure track contracts as common practice. The University of Denver provides one system that supports non-tenured track. The system includes hiring non-tenure track faculty for annual contracts up to five years and based on a positive evaluation, faculty obtain a promotion and a five-year contract (Flaherty, 2015). Other universities provide 2-3-year contracts that range from short term contracts of two years or less or three years or less and

rolling term contracts that automatically extend for another year after a 2-3-year contract terms end (The University of Texas at Austin, 2018). Universities need to analyze what works best for their institution but should at least provide initially a 2-3-year contract and, based on evaluations at that point, provide a rolling term contract that promotes job security.

5) Provide mentorship between senior and junior faculty

2. Provide strategies to manage stress once it is present is important. Health and wellness programs based on evidence and faculty preferences may mitigate faculty stress by teaching faculty techniques to address aspects they can control, which is their own perceptions and reactions to stressors versus waiting for universities to implement practices that recognize and practice cultural competence while promoting diversity.
    a. Provide mindfulness-based programs that are known to promote states of relaxation that enhance overall well-being (Alberts & Hulsheger, 2015). Health and wellness departments should pilot and study the various ways programs can be implemented with a focus on understanding the best way to support faculty.
        1) Faculty demonstrate a preference for health and wellness programs that enhance overall health while lowering stress.
        2) Faculty seek to learn how to live more in the present.
    b. These programs can also teach faculty how to become more self-aware of their mood and how it is projected especially in the classroom.

c. The results demonstrate that more research is required to promote the practice of mitigating stress in the workplace.

3. Faculty members should reflect on how their stress is being brought into the classroom as it may impact how students perceive their level of teaching effectiveness.
    a. Mindfulness approaches can assist in this area as indicated before. The results do not reflect causal effects but indicate a relationship between students perceiving sadness and tension with less efficacy especially in larger classrooms and as the student classification increases.
    b. Faculty may consider being open with students to promote transparency and model ways to manage stress.
    c. Higher education leaders should assist by providing the stress management programs discussed before as well as education on communication styles that can promote transparency in the classroom.
4. Higher education leaders should promote smaller class sizes that can influence faculty stress as well as student outcomes and perceptions.

Recommendations for Future Research

The following recommendations are provided considering the results, limitations, and recommendations for practice.

1. The impact of COVID-19 brought to light other factors that can be considered should the study be repeated. The study sought general relationships between work disengagement and stress and burnout, physical and mental health, and work-related factors; however, stressors are multifaceted and can be influenced by several sources

such as responsibilities outside of work. The next step would be to further examine work disengagement and faculty stress factors and outcomes in relation to faculty who have children, are caregivers of aging parents or other dependents, the roles of women, and minority faculty. The results demonstrated that non-tenured faculty are more likely to disengage at work and reflect stress factors and outcomes. Gonzalez and Griffin (2020) indicated that the majority of non-tenured faculty tend to be women, which is an aspect that requires further research. The COVID-19 pandemic could have influenced the results; however, the results may indicate concerns with non-tenured faculty that are unrecognized because non-tenured faculty are not usually included in faculty stress studies and are often overlooked (Barnes et al., 1998; Eagan et al., 2015). Additionally, bearing in mind the pandemic, studies should consider including faculty who teach online courses.

2. A study with a larger faculty sample size would allow for other forms of statistical analysis to consider the differences between tenure status, age, and gender as well as race and ethnicity while demonstrating differences in the stress factors and outcomes that influence faculty the most. It is important to consider these various variables as the results indicated that younger faculty also happened to fall into the category of faculty who were non-tenured and tenure track faculty, which demonstrates the need to further research this population.
3. Semi-experimental studies that consider the different ways health and wellness programs can be implemented would enhance the understanding of how to mitigate stress in the workplace. For example, the same program could be provided to faculty via different methods. One group would have the traditional program where faculty

are required to attend at a specific time and place on campus while another group attends at the same time, but via an online source from their office or off site location while a third group could access the recorded class at the faculty members' convenience in time and place.

4. Qualitative studies would also add to the richness of the data gathered to further understand how faculty experience stress in the U.S. as most qualitative studies have been conducted overseas. Using a qualitative approach would expand on what faculty want and need to address the stress that impacts their life in terms of work and life outside work. Faculty are not currently using the resources provided to address stress in the workplace and it continues to be unclear if it is due to a lack of time, interest, implementation, or higher education leadership support. Further research in this area would provide much needed insight because faculty stress has appeared to remain the same in the past 30 years of research and it cannot continue to be ignored as a normal faculty characteristic especially if it possibly influences students.
5. All faculty members and all students from one U.S. public, four-year research university were invited to participate in the study; however, their data was separate. The anonymity of the study provided no knowledge of the classroom that students were considering or the faculty member they were analyzing. The lack of insight means there is no way of knowing if the faculty members who reported higher levels of stress, burnout, or work disengagement had students who perceived them as displaying stress characteristics and/or perceived them as being less effective. Although the first step was to identify if a relationship existed between student perceptions and faculty stress, a stronger stance to promote faculty support would be

to connect the student data with faculty data. Studying faculty with their own students while considering how class size impacts faculty stress and the types of communication styles that can influence student perceptions of faculty would greatly enhance the body of knowledge related to faculty stress. The results would obtain the attention of higher education leaders displaying the severity of how stress affects not only faculty work tasks, but their overall well-being physically and psychologically.

Summary

The purpose of the study was to analyze faculty stress through various factors using the Job Demands-Resource model, mindfulness-based principles, and the campus ecology model to promote mitigating stress in the higher education. Researchers have demonstrated that faculty are stressed and have become so accustomed to stress as a normal work characteristic that stress is often overlooked by higher education leaders (Austin & Pilat, 1990; Barnes et al., 1998; Darabi et al., 2017a). The study considered three interrelated parts. The first part examined how work engagement is related to stress factors of general stress and burnout and stress outcomes of poor health, cognitive stress concerns, somatic stress concerns, depressive symptoms, and sleep concerns. The study took a step further by analyzing the relationship of these variables against faculty characteristics of age, gender, tenure status, work position of being full-time versus part-time, number of hours worked per week, number of classes taught, and time of day faculty taught. Previous research lacked clarity on how faculty stress factors and outcomes are related to work disengagement especially in the classroom, so the study considered other variables such as students' perceptions of faculty stress. The second part of the study recognized that to have higher education leaders take a closer look or another look at faculty stress, faculty stress needed to be viewed from a students' perspective as student success is the mission of higher education.

The faculty-student relationship plays a strong role in student success and the study took the first step to question how faculty stress is perceived by students and if that perception was related to students' perception of faculty teaching effectiveness. The relationship between these two perceptions was also analyzed in relation to class size and student classification. Finally, the third part of the study asked faculty about their preferences in health and wellness program characteristics that are based on mindfulness principles and how faculty prefer they are implemented in the workplace as these aspects had not been studied before. The chapter provided the overall conclusions, implications, limitations, and recommendations for practice and future research.

The single institution study used a cross-sectional survey with two anonymous online questionnaires to collect data from 45 faculty participants and 119 student participants from a U.S. public, four-year research university. Participants were 18 years old or older and had begun teaching or completing a course in a physical classroom and not solely online. The results of the study indicated several strong correlations between faculty variables and student variables as well as outlining faculty preferences for health and wellness programs that add to the body of knowledge on faculty stress.

For faculty, the study found statistically significant strong positive correlations between work disengagement and stress factors of burnout and stress and stress outcomes of poor health, cognitive stress, somatic stress, and depressive symptoms and to a lesser degree sleep concern. The results also indicated strong statistically significant relationships between all the stress factors and outcomes indicating that faculty who experience any of these stressors are more likely to disengage from work or be at risk of experiencing any of the other stress factors and outcomes. Work disengagement, stress factors, and stress outcomes had statistically significant

correlations with age and tenure status. Gender demonstrated a statistically significant positive correlation with cognitive stress, which indicates that female faculty are more likely to present with cognitive concerns compared to male faculty members. Age demonstrated a statistically significant strong negative correlation with work disengagement, burnout, and cognitive stress that indicates that younger faculty are more likely to experience burnout, have cognitive concerns, and disengage from work tasks. Finally, tenure status demonstrated a statistically significant strong positive correlation with work disengagement, burnout, stress, cognitive stress, somatic stress, and depressive symptoms, and to a lesser degree poor health. The results indicated that non-tenure-track faculty are more likely to disengage from work and experience higher levels of stress and burnout and experience physical, cognitive, and mental health concerns. The results also indicated that younger faculty also were the faculty who indicated being non-tenured and tenure track faculty demonstrating the need to further research this population.

For student outcomes, the study found statistically significant strong negative correlation between faculty teaching effectiveness and faculty perceived as sad or tense indicating that students are more likely to perceive a faculty member is less effective when the faculty member is perceived as sad or tense. Class size and student classification demonstrated a statistically significant correlation with faculty perceived as sad indicating that these variables do not affect how students perceive faculty teaching effectiveness, but that students are more likely to perceive sadness as the class size increases or as students move up in classification. With these results, the study provides important recommendations for practice and future research.

The study fills gaps that enhance the understanding of faculty stress and the various dimensions that contribute to stress, which can influence work disengagement. It is the first study

to analyze work disengagement in higher education as it relates to several stress factors and outcomes, to consider faculty preferences for health and wellness programs that can mitigate stress, and to include student perceptions of faculty stress as it relates to faculty teaching effectiveness. The study sets the stage to promote initiatives to prevent and manage stress and to consider future research that builds on the results. Specifically, research that compares health and wellness programs with mindfulness-based characteristics, that compares how health and wellness programs are implemented to increase faculty participation, and that compares faculty stress with teaching effectiveness and student outcomes. The study had various limitations that future research can improve on although some were inevitable. For example, the study was conducted at the same time university was closing due to the COVID-19 outbreak, which likely affected the results. The study would have been enhanced by increasing the number of faculty participants and using assessments that clearly indicate faculty preferences on how health and wellness programs are implemented. Although the limitations exist, the results add to the body of knowledge on faculty stress. The study provides the certainty that stress is multifaceted and needs to move beyond being a normalized characteristic of being a faculty member. Faculty should not have to compromise their physical and mental health or quality of work to do what they enjoy, which is to teach and for many, produce new knowledge. The study indicates that faculty who experience one stressor is at risk to disengage from work or experience another stressor. More needs to be done because faculty stress is worth investigating further, is a concern that has the potential to impact student outcomes and needs to be addressed on a continuing basis.

References

Ablandedo-Rosas, J. H., Blevins, R. C., Gao, H., Teng, W., & White, J. (2011). The impact of occupational stress on academic and administrative staff, and on students: An empirical case analysis. *Journal of Higher Education Policy and Management, 33*(5), 553-564. https://doi.org/10.1080/1360080X.2011.605255

Abdel-Ghany, M. M. M. (2013). Measuring job characteristics of agricultural extension centers' personnel in Assiut Governorate using Hackman and Oldham's model. *Arab Universities Journal of Agricultural Sciences, 21*(2), 133-141. https://doi.org/10.21608/ajs.2013.14814

Ahmed, Y., Taha, M. H., Alneel, S., & Gaffar, A. M. (2018). Students' perception of the learning environment and its relation to their study year and performance in Sudan. *International Journal of Medical Education, 9,* 145-150. https://doi.org/10.5116/ijme.5af0.1fee

Alberts, H. J. E. M., & Hulsheger, U. R. (2015). Applying mindfulness in the context of work: Mindfulness-based interventions. *Research Gate,* 100-132. https://www.researchgate.net/publication/290494511_Applying_mindfulness_in_the_context_of_work_Mindfulness-based_interventions?enrichId=rgreq-70ccb3ce12b98bca42a70eed373c957b-XXX&enrichSource=Y292ZXJQYWdlOzI5MDQ5NDUxMTtBUzo1MDY5NzA3MjIzMjQ0ODBAMTQ5Nzg4MjY0NzMzMA%3D%3D&el=1_x_2&_esc=publicationCoverPdf

American College Health Association. (2019). Faculty and staff health and wellness coalition. https://www.acha.org/ACHA/Networks/Committees/Faculty_Staff_Health_Coalition.aspx

Austin, A. E., & Pilat, M. (1990). Tension, stress, and the tapestry of faculty lives. *Academe, 76*(1), 38-42. https://doi.org/10.2307/40249663

Aydin, M. D., Miller, J. K., Xiaojun, Y., Mentes, T., Leblebici, D. N., Yildiz, M., & Erkul, E. (2013). Nonverbal immediacy and perception of learning: A cross-cultural survey in

Turkey, USA, and China. *Hacettepe Univeristy Journal of Education, 44*, 27-42. https://www.researchgate.net/publication/298830786_NONVERBAL_IMMEDIACY_AND_PERCEPTION_OF_LEARNING_A_CROSS-CULTURAL_SURVEY_IN_TURKEY_USA_AND_CHINA

Bakker, A. B., & Demerouti, E. (2017). Job demands–resources theory: Taking stock and looking forward. *Journal of Occupational Health Psychology, 22*(3), 273-285. http://dx.doi.org/10.1037/ocp0000056

Barnes, L. L. B., Agago, M. O., & Coombs, W. T. (1998). Effects of job-related stress on faculty intention to leave academia. *Research in Higher Education, 39*(4), 457-469. https://link.springer.com/content/pdf/10.1023%2FA%3A1018741404199.pdf

Barkhuizen, N., Rothmann, S., & Vijver, F. J. R. (2014). Burnout and work engagement of academics in higher education institutions: Effects of dispositional optimism. *Stress and Health, 30*(4), 322-332. https://doi.org/10.1002/smi.2520

Bazyk, S. (2011). *Mental health promotion, prevention, and intervention with children and youth: A guiding framework for occupational therapy.* American Occupational Therapy Association.

Bettinger, E. P., & Long, B. T. (2017). Mass instruction or higher learning? The impact of college class size on student retention and graduation. *Education Finance and Policy, 13*(11), 97-118. https://doi.org/10.1162/EDFP_a_00221

Bianchi, S. M, Sayer, L. C., Milkie, M. A., & Robinson, John P. (2012). Housework: Who did, does or will do it, and how much does it matter? *Social Forces, 91*(1), 55–63. https://doi.org/10.1093/sf/sos120

Bilimoria, D., & Stewart, A. J. (2009). "Don't ask, don't tell": The academic climate for lesbian, gay, bisexual, and transgender faculty in science and engineering. *NWSA Journal, 21*(2), 85-103. https://www.jstor.org/stable/20628175

Bonder, B. R. (2015). *Psychopathology and function* (5th ed.). Slack Inc.

Booth, B. (2020, March 30). Working at home during the coronavirus crisis with kids underfoot? Here are 9 ways to cope. https://www.cnbc.com/2020/03/17/working-at-home-with-kids-during-covid-19-crisis-with-kids-underfoot.html

Brems, C. (2015). A yoga stress reduction intervention for university faculty, staff, and graduate students. *International Journal of Yoga Therapy, 25*(1), 61-77. https://doi.org/10.17761/1531-2054-25.1.61

Bright, J., & Pokorny, H. (2013). Contemplative practices in higher education: Breathing heart and mindfulness into the staff and student experience. *HERDSA News, 35*(1), 9-12. https://search.informit.com.au/documentSummary;dn=772823671454318;res=IELHSS

Brown, C. (n.d.). What does having tenure mean? https://work.chron.com/having-tenure-mean-20689.html

Brown, G. E. Bharwani, A., Patel, K. D. & Lemaire, J. B. (2016). An orientation to wellness for new faculty of medicine members: meeting a need in faculty development. *International Journal of Medical Education, 7*, 255-260. https://doi.org/10.5116/ijme.578a.2064

Bulo, J. G., & Sanchez, M. G. (2014). Sources of stress among college students. *CVCITC Research Journal, 1*(1), 16-25. https://www.academia.edu/7498186/SOURCES_OF_STRESS_AMONG_COLLEGE_STUDENTS

Carmody, J., & Baer, R. A. (2009). How long does a mindfulness-based stress reduction program need to be? A review of class contact hours and effect sizes for psychological distress. *Journal of Clinical Psychology, 65*(6), 627-638. https://doi.org/10.1002/jclp.20555

Carr, A. R. (2014). Stress levels of tenure-track and recently tenured faculty members in selected institutions of higher education in northeast Tennessee (Doctoral dissertation). https://dc.etsu.edu/etd/2329/

Center for Disease Control and Prevention. (n.d.). Coping with stress. https://www.cdc.gov/violenceprevention/pub/coping_with_stress_tips.html

Cladellas, R., & Castello, A. (2011). University professors' stress and perceived state of health in relation to teaching schedules. *Electronic Journal of Research in Educational Psychology, 9*(1), 217-240. http://www.investigacion-psicopedagogica.org/revista/new/english/ContadorArticulo.php?508

Cohen, J. (1992). A power primer. *Psychological Bulletin, 112*(1), 155-159. https://www.ime.usp.br/~abe/lista/pdfn45sGokvRe.pdf

Colacion-Quiros, H., & Gemora, R. B. (2016). Causes and effects of stress among faculty members in a state university. *Asia Pacific Journal of Multidisciplinary Research, 4*(1), 18-27. http://www.apjmr.com

Cole, M. B. (2012). *Group dynamics in occupational therapy: The theoretical basis and practice application of group intervention* (4th ed.). Slack Incorporated.

Creswell, J. W. (2012). *Educational research: Planning, conducting and evaluating quantitative and qualitative research* (4th ed.). Pearson Education.

Darabi, M., Macaskill, A., & Reidy, L. (2017a). A qualitative study of the UK academic role: Positive features, negatives aspects, and associated stressors in a mainly teaching-focused

university. *Journal of Further and Higher Education, 41*(4), 566-580. https://doi.org/10.1080/0309877X.2016.1159287

Darabi, M., Macaskill, A., & Reidy, L. (2017b). Stress among UK academics: Identifying who copes best. *Journal of Further and Higher Education, 41*(3), 393-412. http://dx.doi.org/10.1080/0309877X.2015.1117598

Demerouti, E., Mostert, K., & Bakker, A. B. (2010). Burnout and work engagement: A thorough investigation of the independency of both constructs. *Journal of Occupational Health Psychology, 15*(3), 209-222. https://doi.org/10.1037/a0019408

Dillon, J. J. (2018). A letter to a new faculty member: How to stay sane in the academy. *The Humanistic Psychologist, 46*(2), 147-158. http://dx.doi.org/10.1037/hum0000085

Franco, C., Manas, I., Cangas, A. J., Moreno, E., & Gallego, J. (2010). Reducing teachers' psychological distress through a mindfulness training program. *The Spanish Journal of Psychology, 13*(2), 655-666. https://doi.org/10.1017/S1138741600002328

Eagan, M. K., & Garvey, J. C. (2015). Stressing out: Connecting race, gender, and stress with faculty productivity. *The Journal of Higher Education, 86*(6), 923-954. https://muse.jhu.edu/article/596719/pdf

Eagan, M. K., Jaeger, A. J., & Grantham, A. (2015). Supporting the academic majority: Policies and practices related to part-time faculty's job satisfaction. *The Journal of Higher Education, 86*(3), 448-483. https://doi.org/10.1080/00221546.2015.11777371

Emmanuel, G., & Delaney, H. (2014). Professors' influence on students' beliefs, values, and attitudes in the classroom. *Journal of College and Character, 15*(4), 244-258. https://doi.org/10.1515/jcc-2014-0029

ETL Project. (n.d.). [Homepage]. http://www.etl.tla.ed.ac.uk/index.html

Evans, N. J., Forney, D. S., Guido, F. M., Patton, L. D., & Renn, K. A. (2010). *Student development in college: Theory, research, and practice* (2nd ed.). Jossey-Bass.

Fain, P. (2016). Survey: Half of community college students report mental health problems. https://www.insidehighered.com/quicktakes/2016/03/02/survey-half-community-college-students-report-mental-health-problems

Flaherty, C. (2015). More than adjuncts. U. of Denver moves to new titles, a career path and multiyear contracts for those off the tenure track. Could this be a model for other institutions? https://www.insidehighered.com/news/2015/02/17/new-faculty-model-u-denver-could-be-prototype-reform

Flaherty, C. (2018). A non-tenure-track profession? https://www.insidehighered.com/news/2018/10/12/about-three-quarters-all-faculty-positions-are-tenure-track-according-new-aaup

Gallup, G. G., & Svare, B. B. (2016). Hijacked by an external funding mentality. https://www.insidehighered.com/views/2016/07/25/undesirable-consequences-growing-pressure-faculty-get-grants-essay

Gillespie, N. A., Walsh, M., Winefields, A. H., Dua, J., & Stough, C. (2001). Occupational stress in universities: Staff perceptions of the causes, consequences and moderators of stress. *Work and Stress, 15*(1), 53-72. https://doi.org/10.1080/02678370110062449

Gmelch, W. H., Lovrich, N. P., & Wilke, P. K. (1984). Sources of stress in academe. A national perspective. *Research in Higher Education, 20*(4), 477-490. https://www.jstor.org/stable/40785287

Gmelch, W. H., Wilke, P. K., & Lovrich, N. P. (1986). Dimensions of stress among university faculty: Factor-analytic results from a national study. *Research in Higher Education, 24*(3), 266-286. https://www.jstor.org/stable/40195713

Goncalves, S. A., & Trunk, D. (2014). Obstacles to success for the nontraditional student in higher education. *Psi Chi, Journal of Psychological Research, 19*(4), 164-172. https://doi.org/10.24839/2164-8204.JN19.4.164

Gonzalez, L. D, & Griffin, K. A. (2020). Supporting faculty during & after COVID-19. Don't let go of equity. https://www.mtu.edu/advance/resources/articles-books/supporting-faculty-during-and-after-covid.pdf

Gornall, L., & Salisbury, J. (2012). Compulsive working, 'hyperprofessionality', and the unseen pleasures of academic work. *Higher Education Quarterly, 66*(2), 135-154. https://doi.org/10.1111/j.1468-2273.2012.00512.x

Gravetter, F. J., & Wallnau, L. B. (2013). *Statistics for the behavioral sciences* (9th ed.). Wadsworth, Cengage Learning.

Griffin, K. A. (2017). Campus climate and diversity. In J. H. Schuh, S. R. Jones, & V. Torres (Eds.), *Student services: A handbook for the profession* (6th ed., pp. 73-88). Jossey-Bass.

Hains, D. J., Davis, L., Rancour, P., Robinson, M., Neel-Wilson, T., & Wagner, S. (2007). A pilot intervention to promote walking and wellness and to improve the health of college faculty and staff. *Journal of American College Health, 55*(4), 219-225. https://doi.org/10.3200/JACH.55.4.219-225

Harbour, W. S., & Greenbarg, D. (2017). Campus climate and students with disabilities. *National Center for College Students with Disabilities Research Brief, 1*(2), 1-27. https://files.eric.ed.gov/fulltext/ED577464.pdf

Hirschy, A. S., & Wilson, M. E. (2002). The sociology of the classroom and its influence on student learning. *Peabody Journal of Education, 77*(3), 85-100. https://doi.org/10.1207/S15327930PJE7703_5

Hoffman, E. M. (2014). Faculty and student relationships: Context matters. *College Teaching, 62,* 13-19. https://doi.org/10.1080/87567555.2013.817379

Hoglund, W. L. G., Klingle, K. E., & Hosan, N. E. (2015). Classroom risks and resources: Teacher burnout, classroom quality and children's adjustment in high needs elementary schools. *Journal of School Psychology, 53*, 337-357. http://dx.doi.org/10.1016/j.jsp.2015.06.002

Horne, L. (2018). Why we should partner with students to address campus mental health. https://www.higheredtoday.org/2018/07/16/partner-students-address-campus-mental-health/

Institute for Work and Health. (2015). Cross-sectional vs. longitudinal studies. https://www.iwh.on.ca/what-researchers-mean-by/cross-sectional-vs-longitudinal-studies

Iqbal, A., & Kokash, H. (2011). Faculty perception of stress and coping strategies in a Saudi private university: An exploratory study. *International Education Studies, 4*(3), 137-149. https://doi.org/10.5539/ies.v4n3p137

Jacobs, K., & Jacobs, L. (2001). *Quick reference dictionary for occupational therapy* (3rd ed.). Slack Incorporated.

Jacobs, J. A., & Winslow, S. E. (2004). Overworked faculty: Job stresses and family demands. The Annals of the American Academy of Political and Social Science, 596, 104-129. http://www.jstor.org/stabel/4127652

Johnson, D. R., Wasserman, T. H., Yildirim, N., & Yonai, B. A. (2014). Examining the effects of stress and campus climate on the persistence of students of color and white students: An

application of Bean and Eaton's psychological model of retention. *Research in Higher Education, 55*, 75-100. https://doi.org/10.1007/s11162-013-9304-9

Kang, H. (2013). The prevention and handling of the missing data. *Korean Journal of Anesthesiology, 64*(5), 402-406. https://doi.org/10.4097/kjae.2013.64.5.402

Karagiannopoulou, E., & Milienos, F. (2018). Experiences of the teaching-learning environment and approaches to learning: Testing the structure of the "experiences of teaching and learning" inventory in relation to earlier analyses. *International Journal of Teaching and Learning in Higher Education, 30*(3), 506-521. https://www.researchgate.net/publication/329482409

Kezar, A., & Sam, C. (2011). Understanding non-tenure track faculty: New assumptions and theories for conceptualizing behavior. *American Behavioral Scientist, 55*(11), 1419-1442. https://doi.org/10.1177/0002764211408879

Krusche, A., Cyhlarova, E., & Williams, J. M. G. (2013). Mindfulness online: An evaluation of the feasibility of a web-based mindfulness course for stress, anxiety and depression. *BMJ Open, 3*(11), 1-10. http://dx.doi.org/10.1136/bmjopen-2013-003498

Lackritz, J. R. (2004). Exploring burnout among university faculty: Incidence, performance, and demographic issues. *Teaching and Teacher Education, 20*, 713-729. https://doi.org/10.1016/j.tate.2004.07.002

Laerd Statistics. (2018a). Descriptive and inferential statistic. https://statistics.laerd.com/statistical-guides/descriptive-inferential-statistics.php

Laerd Statistics. (2018b). Point-biserial correlation using SPSS statistics. https://statistics.laerd.com/spss-tutorials/point-biserial-correlation-using-spss-statistics.php

Laerd Statistics. (2018c). Spearman's rank-order correlation using SPSS statistics. https://statistics.laerd.com/spss-tutorials/spearmans-rank-order-correlation-using-spss-statistics.php

LaSala, M. C, Jenkins, D. A., Wheeler, D. P. & Fredriksin-Goldsen, K. I. (2008). LGBT faculty, research, and researchers: *Risks and rewards. Journal of Gay & Lesbian Social Services, 20*(3), 253-267. https://doi.org/10.1080/10538720802235351

Lauwerijssen, K. (2008). Sadness. Retrieved from http://arno.uvt.nl/show.cgi?fid=113006

Lumpkin, A., Achen, R. M., & Dodd, R. K. (2015). Student perceptions of active learning. *College Student Journal, 49*(1), 121-133. http://www.queensu.ca/teachingandlearning/modules/active/documents/Lumpkin%20Angela%20Student%20Perceptions%20of%20Active%20Learning.PDF

Lynch, S. (2015). Why your workplace might be killing you. https://www.gsb.stanford.edu/insights/why-your-workplace-might-be-killing-you

MacRae, N., & Strout, K. (2015). Self-care project for faculty and staff of future health care professionals: Case report. *Work, 52*, 525-531. https://doi.org/10.3233/WOR-152191

Madzhie, M. (2015). University students' perceptions of the causes of stress. *Journal of Social Sciences, 44*(1), 53-59. https://doi.org/10.1080/09718923.2015.11893459

Mani, M., Kavanagh, D. J., Hides, L., & Stoyanov, S. R. (2015). Review and evaluation of mindfulness-based iPhone apps. *JMIR Mhealth and uHealth, 3*(3), e82. https://doi.org/10.2196/mhealth.4328

Maslach, C., Schaufeli, W. B., & Leiter, M. P. (2001). Job burnout. *Annual Review of Psychology, 52*, 397-422. http://www.wilmarschaufeli.nl/publications/Schaufeli/154.pdf

Mason, M. A. (2009). Rethinking the tenure clock. Dealing with the rigidities of the tenure system is a key reform facing academe, if we want tenure to persist. https://www.chronicle.com/article/rethinking-the-tenure-clock/

McArthur, J. A. (2015). Matching instructors and spaces of learning: The impact of space on behavioral, affective and cognitive learning. *Journal of Learning Spaces, 4*(1), 1-16. http://libjournal.uncg.edu/jls/article/view/766/821

McCroskey, J. C. (1994). Assessment of affect toward communication and affect toward instruction in communication. http://www.jamescmccroskey.com/measures/affect.pdf

Melin, M., Astvik, W., & Bernhard-Oettel, C. (2014). New work demands in higher education. A study of the relationship between excessive workload, coping strategies and subsequent health among academic staff. *Quality in Higher Education, 20*(3), 290-308. http://dx.doi.org/10.1080/13538322.2014.979547

Merriam, S. B., & Tisdell, E. J. (2016). *Qualitative research: A guide to designing and implementation* (4th ed.). Jossey-Bass.

Mitchell, M., Leachman, M., & Masterson, K. (2017). A lost decade in higher education funding. State cuts have driven up tuition and reduced quality. https://www.cbpp.org/research/state-budget-and-tax/a-lost-decade-in-higher-education-funding

Morledge, T. J., Allexandre, D., Fox, E., Fu, A. Z., Higashi, M. K., Kruzikas, D. T., Pham, S. V., & Reese, P. R. (2013). Feasibility of an online mindfulness program for stress management-A randomized, controlled trial. *Annals of Behavioral Medicine, 46,* 137–148. https://doi.org/10.1007/s12160-013-9490-x

Mudrak, J., Zabrodska, K., Kveton, P., Jelinek, M., Blatny, M., Solcova, I., & Machovcova, K. (2018). Occupational well-being among university faculty: A job demands-resources model. *Research in Higher Education, 59,* 325-348. https://doi.org/10.1007/s11162-017-9467-x

National Center for Chronic Disease Prevention and Health Promotion. (2016). Workplace health promotion: Using the workplace to improve the nation's health. At a glance 2016. https://www.cdc.gov/chronicdisease/resources/publications/aag/workplace-health.htm

National Center for Education Statistics. (2018). Digest of education statistics 2017. https://nces.ed.gov/programs/digest/d17/tables/dt17_315.10.asp

National Center for Education Statistics. (2019). Back to school statistics. https://nces.ed.gov/fastfacts/display.asp?id=372#College_enrollment

National Institute of Mental Health. (n.d.). 5 things you should know about stress. https://www.nimh.nih.gov/health/publications/stress/index.shtml

Navajas_Romero, V., Ariza-Montes, A., & Hernandez-Perlines, F. (2020). Analyzing the job demands-control-support model in work-life balance: A study among nurses in the European context. *International Journal of Environmental Research and Public Health, 17*(8), 2847. https://doi.org/10.3390/ijerph17082847

Nevarez, C., & Wood, J. L. (2010). *Community college leadership and administration: Theory, practice, and change.* Peter Lang Publishing, Inc.

Oberle, E., & Schonert-Reichl, K. A. (2016). Stress contagion in the classroom? The link between classroom teacher burnout and morning cortisol in elementary school students. *Social Science & Medicine, 159,* 30-37. http://dx.doi.org/10.1016/j.socscimed.2016.04.031

O'Donnell, L. (2016). The crisis facing America's working daughters. Many are familiar with the challenges faced by working moms, but the troubles of women with aging parents are

unseen and widely ignored. https://www.theatlantic.com/business/archive/2016/02/working-daughters-eldercare/459249/

Office of the Texas Governor. (2020, March 19). Governor Abbott issues executive orders to mitigate spread of COVID-19 in Texas. https://gov.texas.gov/news/post/governor-abbott-issues-executive-orders-to-mitigate-spread-of-covid-19-in-texas

O'Meare, K. (2018). Undoing the can of worms. https://www.insidehighered.com/advice/2018/06/27/how-make-faculty-service-demands-more-equitable-opinion

Padilla, M. A., & Thompson, J. N. (2015). Burning out faculty at doctoral research universities. *Stress and Health, 32,* 551-558. https://doi.org/10.1002/smi.2661

Parpala, A., Lindblom-Ylanne, S., Komulainen, E., & Entwistle, N. (2013). Assessing students' experiences of teaching–learning environments and approaches to learning: Validation of a questionnaire in different countries and varying contexts. *Learning Environments Research, 16,* 201-215. https://doi.org/10.1007/s10984-013-9128-8

Pejtersen, J. H., Kristensen, T. S., Borg, V., & Bjorner, J. B. (2010). The second version of the Copenhagen psychosocial questionnaire. *Scandinavian Journal of Public Health, 38*(Suppl3), 8-24. https://doi.org/10.1177/1403494809349858

Pignata, S., Boyd, C., Gillespie, N., Provis, C., & Winefield, A. H. (2014). Awareness of stress-reduction interventions. The impact on employees' well-being and organizational attitudes. *Stress and Health, 32,* 231-243. https://doi.org/10.1002/smi.2597

Pitt, A., Oprescu, F., Tapia, G., & Gray, M. (2018). An exploratory study of students' weekly stress levels and sources of stress during the semester. *Active Learning in Higher Education, 19*(1), 61-75. https://doi.org/10.1177/1469787417731194

Poalses, J., & Bezuidenhout, A. (2018). Mental health in higher education: A comparative stress risk assessment at an open distance learning university in South Africa. *International Review of Research in Open and Distributed Learning, 19*(2), 170-190. https://doi.org/10.19173/irrodl.v19i2.3391

Prock, K. A. Berlin, S. Harold, R. D. & Groden, S. R. (2019). Stories from LGBTQ social work faculty: What is the impact of being "out" in academia? *Journal of Gay & Lesbian Social Services, 31*(2) 182–201. https://doi.org/10.1080/10538720.2019.1584074

Pronk, N. P. (2014). Integrated worker health protection and promotion programs: Overview and perspectives on health and economic outcomes. Journal of Occupational and Environmental Medicine, 55(12O), S30-37. https://doi.org/10.1097/JOM.0000000000000031

Reddy, K. J., Menon, K. R., & Thattil, A. (2018). Academic stress and its sources among university students. *Biomedical and Pharmacology Journal, 11*(1), 531-537. http://dx.doi.org/10.13005/bpj/1404

Reevy, G. M., & Deason, G. (2014). Predictors of depression, stress, and anxiety among non-tenure track faculty. https://doi.org/10.3389/fpsyg.2014.00701

Reis, D., Xanthopoulou, D., & Tsaousis, I. (2015). Measuring job and academic burnout with the Oldenburg burnout inventory (OLBI): Factorial invariance across samples and countries. *Burnout Research, 2*, 8-18. http://dx.doi.org/10.1016/j.burn.2014.11.001

Reiser, J. E., Murphy, S. L., & McCarthy, C. J. (2016). Stress prevention and mindfulness. A psychoeducational and support group for teachers. *The Journal for Specialists in Group Work, 41*(2), 117-139. http://dx.doi.org/10.1080/01933922.2016.1151470

Research Optimus. (2020). Cross tabulation analysis. https://www.researchoptimus.com/article/cross-tab.php

Research University of Washington. (2020, June 11). Mitigating impacts to research activities due to COVID-19-Updated. https://www.washington.edu/research/announcements/mitigating-impacts-to-research-activities-due-to-covid-19/

Sabagh, Z., Hall, N. C., & Saroyan, A. (2018). Antecedents, correlates, and consequences of faculty burnout. *Educational Research, 60*(2), 131-156. https://doi.org/10.1080/00131881.2018.1461573

Seelman, K. L. (2014). Recommendations of transgender students, staff, and faculty in the USA for improving college campuses. *Gender and Education, 26*(6), 618–635. http://dx.doi.org/10.1080/09540253.2014.935300

Sheridan, J., Savoy, J. N., Kaatz, A., Lee, Y., Filut, A., & Carnes, M. (2017). Write more articles, get more grants: The impact of department climate on faculty research productivity. *Journal of Women's Health, 26*(5), 587-596. https://doi.org/10.1089/jwh.2016.6022

Social Research Methods. (2006). Convergent & discriminant validity. http://www.socialresearchmethods.net/kb/convdisc.php

Sorcinelli, M. D., & Near, J. P. (1989). Relations between work and life away from work among university faculty. *The Journal of Higher Education, 60*(1), 59-81. http://www.jstor.org/stable/1982111

Smith, D., & Hudson, S. (2012). Using the person-environment-occupational performance conceptual model as an analyzing framework for health literacy. *Journal of Communication in Healthcare, 5*(1), 3-11. https://doi.org/10.1179/1753807611Y.0000000021

Statistics Solutions. (2020). [Home]. https://www.statisticssolutions.com/

Sterley, T., Baimoukhametova, D., Fuzesi, T., Zurek, A. A., Daviu, N., Rasiah, N. P., Rosenegger, D., & Bains, J. S. (2018). Social transmission and buffering of synaptic changes after stress. *Nature Neuroscience, 21*, 393-403. https://doi.org/10.1038/s41593-017-0044-6

Strunk, K. K. (2020). Demystifying and democratizing tenure and promotion. https://www.insidehighered.com/advice/2020/03/13/tenure-and-promotion-process-must-be-revised-especially-historically-marginalized

Sumathi, V., & Velmurugan, R. (2020). The impact of stress and work life balance on job satisfaction among female faculty at select arts and science colleges in Coimbatore District. *Journal of Critical Review, 7*(4), 744-746. http://dx.doi.org/10.31838/jcr.07.04.138

Tenuto, P. L., & Gardiner, M. E. (2013). Seeking balance between challenge and success in an age of accountability: A first-year faculty growth model (FFGM). *Journal of International Education and Leadership, 3(*2), 1-17. http://files.eric.ed.gov/fulltext/EJ1136031.pdf

The American Institute of Stress (n.d). [Homepage]. https://www.stress.org/

The Carnegie Classification of Institutions of Higher Education. (2017). Institution lookup. http://carnegieclassifications.iu.edu/lookup/lookup.php

The Executive Committee of Tenure for the Common Good. (2020, April 30). A very stable and secure position? https://www.insidehighered.com/views/2020/04/30/covid-19-shows-how-precarious-positions-contingent-faculty-actually-are-opinion

The University of Texas at Austin. (2018). Employee contract types for non-tenure track faculty. https://austin-utexas.custhelp.com/app/answers/detail/a_id/7572

The University of Texas System. (2020a). Fast facts April 2020. https://www.utsystem.edu/sites/default/files/documents/publication/2020/fast-facts/fastfacts-april2020-finaldraft.pdf

The University of Texas System. (2020b). Letter to academic presidents. https://utsystem.edu/sites/default/files/sites/covid-19/letter-to-academic-presidents-03-17-2020.pdf

The University of Texas System. (2020c). UT system SmartBook. https://www.utsystem.edu/sites/default/files/documents/publication/2020/ut-system-smartbook/smartbook-2020-withlinks.pdf

Tight, M. (2010). Are academic workloads increasing? The post-war survey evidence in the UK. *Higher Education Quarterly, 64*(2), 200–215. https://doi.org/10.1111/j.1468-2273.2009.00433.x

Toppin, I. N., & Pullens, L. M. (2015). Reducing classroom disputes between faculty and students. *Journal of Instructional Research, 4*, 118-125. https://eric.ed.gov/?id=EJ1127699

Tovian, S., Thorn, B., Coons, H., Labott, S., Burg, M., Surwit, R., & Bruns, D. (n.d.). Stress effects on the body. http://www.apa.org/helpcenter/stress-body.aspx

Trolian, T. L., & Parker, E. T. (2017). Moderating influences of student-faculty interactions on students' graduate and professional school aspirations. *Journal of College Student Development, 58*(8), 1261-1267. https://doi.org/10.1353/csd.2017.0098

Upcounsel. (2019). How many hours is considered full time: Everything you need to know. https://www.upcounsel.com/how-many-hours-is-considered-full-time

U.S. Department of Labor. (2008). Fact sheet #22: Hours worked under the Fair Labor Standards Act (FLSA). https://www.dol.gov/whd/regs/compliance/whdfs22.pdf

Utriainen, J., Tynjala, P., Kallio, E., & Marttuene, M. (2018). Validation of a modified version of the experiences of teaching and learning questionnaire. *Studies in Educational Evaluation, 56,* 133-143. https://doi.org/10.1016/j.stueduc.2017.12.007

Van den Berg, J. W., Verberg, C. P. M., Berkhout, J. J., Lombarts, M. J. M. H., Scherpbier, A. J. J. A., & Jaarsma, A. D. (2015). A qualitative interview study on the positive well-being of medical faculty in their teaching role: Job demands, job resources, and role interaction. *BMC Research Notes, 8,* 1-11. https://doi.org/10.1186/s13104-015-1393-4

Waljee, J. F., Chang, K. W., Kim, H. M., Gyetko, M. R., Quint, E. H., Lukacs, N. W., Woolliscroft, J. O., & Chung, K. C. (2015). Gender disparities and academic practice. *Plastic and Reconstructive Surgery, 136*(3), 380e-387e. https://doi.org/10.1097/PRS.0000000000001530

Wagner, A. K., Yingling, F., Russom, L. N., Menn, M., & Umscheid, D. M. (2012). The current state of faculty and staff health and wellness programs: Results from an ACHA survey. https://www.acha.org/documents/resources/Survey_Data/Faculty_Staff_Health_Wellness_Programs_2012_Survey_Results.pdf

Wilson, L. O. (2018). The second principle. https://thesecondprinciple.com/instructional-design/threedomainsoflearning/

World Health Organization. (2018). Mental health: Strengthening our response. http://www.who.int/news-room/fact-sheets/detail/mental-health-strengthening-our-response

Xu, Y. J. (2008). Gender disparity in STEM disciplines: A study of faculty attrition and turnover intentions. *Research in Higher Education, 49,* 607-624. https://doi.org/10.1007/s11162-008-9097-4

Appendix A

Table 1

Causes of academic workplace stress and/or burnout

Causes of Stress/burnout*	International Source	U.S. Sources
Heavy Workload: overload, saturation, high demands	Colacion-Quiros & Gemora, 2016; Darabi et al., 2017a; Gillespie et al., 2001; Mudrak et al., 2018	Ablandedo-Rosas et al., 2011; Padilla & Thompson, 2015*
Long work hours	Colacion-Quiros & Gemora, 2016	
Teaching early or late shift	Cladellas & Castello, 2011	
Age: Younger faculty*		Lackritz, 2004*
Age: Faculty over 58	Colacion-Quiros & Gemora, 2016	
Age: Faculty between 30-69 have more strain		Carr, 2014
High number of students	Darabi et al., 2017a	Lackritz, 2004*
Gender: Females experience more exhaustion and stress compared to males		Gmelch, Wilke, & Lovrich, 1986; Lackritz, 2004*
Gender: No significant difference between males and females	Colacion-Quiros & Gemora, 2016	
Tenure Status: Tenure track & Non-tenured faculty		Carr, 2014; Gmelch, Wilke, & Lovrich, 1986
Tenure Status: Tenured faculty		Padilla & Thompson, 2015*
Lack of time	Darabi et al., 2017a; Gillespie et al., 2001	Barnes et al., 1998; Padilla & Thompson, 2015*
Job insecurity	Gillespie et al., 2001; Mudrak et al., 2018	
Work-family conflicts	Mudrak et al., 2018	
Decreased support: administrative or supervisor	Darabi et al., 2017a	
Poor management practices	Gillespie et al., 2001	
Decreases collegiality	Gillespie et al., 2001	
Lack of funding	Gillespie et al., 2001	
Insufficient recognition, undervalued	Colacion-Quiros & Gemora, 2016; Gillespie et al., 2001	
Threat/hindrance		Eagan & Garvey, 2015
Student evaluations*		Lackritz, 2004*

Note: Demographics analyzed in the study are in bold
* indicates a study on burnout

Appendix B

Table 2

Outcomes of academic workplace stress and/or burnout

Outcome: Work Performance	**International Source**	**U.S. Sources**
Increase intent to leave		Barnes et al., 1998;
Reduces focus & concentration reducing work performance	Gillespie et al., 2001	Eagan & Garvey, 2015
Reduces efficiency	Gillespie et al., 2001	
Affects research	Gillespie et al., 2001	
Affects teaching	Gillespie et al., 2001	Lackritz, 2004*; Padilla & Thompson, 2015
Outcome: Mental Health	**International Source**	**U.S. Sources**
Increased Irritability	Colacion-Quiros & Gemora, 2016; Darabi et al., 2017b	
Poor mental health	Darabi et al., 2017b	
Low positive affect	Darabi et al., 2017b	
Feelings of being overwhelmed	Gillespie et al., 2001	
Increased frustration	Gillespie et al., 2001	
Increased anxiety	Colacion-Quiros & Gemora, 2016; Gillespie et al., 2001	
Increased depression	Colacion-Quiros & Gemora, 2016; Gillespie et al., 2001	
Increased anger, bad temper	Colacion-Quiros & Gemora, 2016; Gillespie et al., 2001	
Increased helplessness	Gillespie et al., 2001	
Apprehension	Colacion-Quiros & Gemora, 2016	
Lowered tolerance	Colacion-Quiros & Gemora, 2016	
Loss of interest	Colacion-Quiros & Gemora, 2016	
Outcome: Physical Health	**International Source**	**U.S. Sources**
Poor Sleep quality, time	Colacion-Quiros & Gemora, 2016	
Poor eating habits	Colacion-Quiros & Gemora, 2016	
High blood pressure	Colacion-Quiros & Gemora, 2016	
Tired, fatigued	Colacion-Quiros & Gemora, 2016	
Headaches	Colacion-Quiros & Gemora, 2016	

Note: * indicates a study on burnout

Appendix C

Questionnaire on Faculty Stress and Programs to Address It

This questionnaire asks about your experiences with stress and how stress could be managed in the workplace.		
During this semester, are you teaching a course that meets in a classroom?	☐ YES	☐ NO
If yes, please complete the questionnaire.		
If no, thank for your time, but this questionnaire is based on experiences in the classroom.		
Demographic Information		
What is your current age range?		
☐ 20-29 ☐ 30-39 ☐ 40-49	☐ 50-59 ☐ More than 60	
What is your gender identity?		
☐ Woman ☐ Man ☐ Non-binary/ third gender	☐ Prefer to self-describe: _____ ☐ Prefer not to say	
Do you identify as transgender?		
☐ Yes ☐ No ☐ Prefer not to say		
Please check one or more of the following groups in which you consider yourself to be a member: ☐ White ☐ Black or African American ☐ American Indian or Native Alaskan ☐ Asian or Asian American ☐ Native Hawaiian or Other Pacific Islander ☐ Biracial or Multiracial ☐ Other (please specify):		
Please check if you are of Hispanic, Latino, or Spanish origin? ☐ No, not of Hispanic, Latino, or Spanish origin ☐ Yes, Mexican, Mexican American, Chicano ☐ Yes, Puerto Rican ☐ Yes, Cuban ☐ Yes, another Hispanic, Latino, or Spanish origin		
Which category best describes your tenure status:	☐ Tenured	☐ Tenure track ☐ Non-tenure-track

Which category best describes your faculty position:	☐ Full-time	☐ Part-time
How many years have you taught in a college or university?		_____
How many classes are your teaching this semester?		
☐ 0 ☐ 1 ☐ 2	☐ 3 ☐ 4 ☐ 5 or more	
During an academic year, how many hours is your typical work week? These hours include hours worked at the university and outside the university/another site?		
☐ Less than 40 hours ☐ 41-50 hours	☐ 51-60 hours ☐ 61-70 hours	
Do you teach courses before 8am?	☐ Yes	☐ No
Do you teach courses after 5pm?	☐ Yes	☐ No

Oldenburg Burnout Inventory

Below you will find a series of statements with which you may agree or disagree. Using the scale, please indicate the degree of your agreement by selecting the response that corresponds with each statement.

	Strongly Agree	**Agree**	**Disagree**	**Strongly Disagree**
I always find new and interesting aspects in my work.	☐	☐	☐	☐
It happens more and more often that I talk about my work in a negative way.	☐	☐	☐	☐
Lately, I tend to think less at work and do my job almost mechanically.	☐	☐	☐	☐
I find my work to be a positive challenge.	☐	☐	☐	☐
Over time, one can become disconnected from this type of work.	☐	☐	☐	☐
Sometimes I feel sickened by my work tasks.	☐	☐	☐	☐
This is the only type of work that I can imagine myself doing.	☐	☐	☐	☐
I feel more and more engaged in my work.	☐	☐	☐	☐

Copenhagen Health and Well-being Questionnaire

These questions are about how you have been during *the last 4 weeks*.

	Excellent	**Very good**	**Good**	**Fair**	**Poor**
In general, would you say your health is:	☐	☐	☐	☐	☐

	All the time	A large part of the time	Part of the time	A small part of the time	Not at all
Burnout					
How often have you felt worn out?	☐	☐	☐	☐	☐
How often have you been physically exhausted?	☐	☐	☐	☐	☐
How often have you been emotionally exhausted?	☐	☐	☐	☐	☐
How often have you felt tired?	☐	☐	☐	☐	☐
Stress					
How often have you had problems relaxing?	☐	☐	☐	☐	☐
How often have you been irritable?	☐	☐	☐	☐	☐
How often have you been tense?	☐	☐	☐	☐	☐
How often have you been stressed?	☐	☐	☐	☐	☐
Cognitive Stress					
How often have you had problems concentrating?	☐	☐	☐	☐	☐
How often have you found it difficult to think clearly?	☐	☐	☐	☐	☐
How often have you had difficulty in taking decisions?	☐	☐	☐	☐	☐
How often have you had difficulty with remembering?	☐	☐	☐	☐	☐
Somatic Stress					
How often have you had stomachache?	☐	☐	☐	☐	☐
How often have you had a headache?	☐	☐	☐	☐	☐
How often have you had tension in various muscles?	☐	☐	☐	☐	☐
Depressive symptoms					
How often have you felt sad?	☐	☐	☐	☐	☐
How often have you lacked self-confidence?	☐	☐	☐	☐	☐
How often have you had a bad conscience or felt guilty?	☐	☐	☐	☐	☐
How often have you lacked interest in everyday things?	☐	☐	☐	☐	☐
Sleep Troubles					
How often have you slept badly and restlessly?	☐	☐	☐	☐	☐

How often have you found it hard to go to sleep?	☐	☐	☐	☐	☐
How often have you woken up too early and not been able to get back to sleep?	☐	☐	☐	☐	☐
How often have you woken up several times and found it difficult to get back to sleep?	☐	☐	☐	☐	☐

Health & Wellness Programs

If you attended a health and wellness program at your institution, please rank in order the areas that would be of interest to you from 1 being the highest to 9 being the lowest priority

	Lowering stress		Living more in the present
	Increasing awareness		Boosting working memory
	Learning to relax		Increasing focus
	Decreasing physical pain		Increasing attention
	Increasing overall health		Other (Please specify):

Consider the following ways that health and wellness programs can be implemented at your institution, please indicate the degree of likely participation by you that corresponds with each statement

	Definitely Participate	**Would Possibly Participate**	**Would not Participate**
Programs implemented at your departmental meetings	☐	☐	☐
Programs implemented at your college/school annual or biannual retreat/meeting	☐	☐	☐
Programs implemented at the institutional level (i.e. health & wellness program for the campus)	☐	☐	☐
Programs provided via a live online system	☐	☐	☐
Programs provided as videos	☐	☐	☐
Programs provided as applications (apps)	☐	☐	☐

THANK YOU FOR TAKING THE TIME TO COMPLETE THE QUESTIONNAIRE

Appendix D

Questionnaire of College Students' Perceptions of Faculty

This questionnaire asks about your experience in **ONE** class this semester and your perceptions of the faculty member who teaches the course.		
During this semester, are you taking a course that meets in a classroom?	☐ YES	☐ NO
If yes, please complete the questionnaire.		
If no, thank for your time, but this questionnaire is based on experiences in the classroom.		

Learning environment

Instructions:
Please respond truthfully, so that your answers will describe your actual ways of studying and work your way through the questionnaire quite quickly. It is important that you respond to every item, even if that means using the 'unsure' category. Your answers will be confidential.

When you complete this questionnaire, think of **ONE** class you are taking right now and your perceptions of the faculty member who teaches the course (not the teaching assistant or graduate assistant). Please check the appropriate box to indicate how strongly you agree with each of the following statements.

	Agree	**Somewhat agree**	**Unsure**	**Somewhat disagree**	**Disagree**
What the faculty member taught seemed to match what we were supposed to learn.	☐	☐	☐	☐	☐
The faculty member encouraged me to rethink my understanding of some aspects of the subject.	☐	☐	☐	☐	☐
It was clear to me what the faculty member expected in the assessed work for this course.	☐	☐	☐	☐	☐
The feedback given on my work by the faculty member helped me to improve my ways of learning and studying.	☐	☐	☐	☐	☐
The faculty member gave me the support I needed to help me complete the work for this course.	☐	☐	☐	☐	☐
The faculty member tried to share their enthusiasm about the subject with us.	☐	☐	☐	☐	☐

The faculty member was patient in explaining things which seemed difficult to grasp.	☐	☐	☐	☐	☐
The faculty member was effective in teaching the course.	☐	☐	☐	☐	☐

In this **ONE course**, how did you perceive the faculty member who teaches the course (not the teaching assistant or graduate assistant)?

	Agree	**Somewhat agree**	**Unsure**	**Somewhat disagree**	**Disagree**
The faculty member appeared **stressed**.	☐	☐	☐	☐	☐
The faculty member appeared **tense**.	☐	☐	☐	☐	☐
The faculty member appeared **anxious**.	☐	☐	☐	☐	☐
The faculty member appeared **annoyed**.	☐	☐	☐	☐	☐
The faculty member appeared **angry**.	☐	☐	☐	☐	☐
The faculty member appeared **sad.**	☐	☐	☐	☐	☐
The faculty member appeared **tired**.	☐	☐	☐	☐	☐
The faculty member appeared **often forgetful**.	☐	☐	☐	☐	☐

Demographic Information

The faculty member who taught the course is:	☐ Male	☐ Female

How many students are in this class?

☐ Less than 20	☐ 81-100
☐ 20-40	☐ 101-200
☐ 41-60	☐ 201-300
☐ 61-80	☐ More than 300

Which category best describes your student classification:

☐ Undergraduate freshman	☐ Undergraduate-senior
☐ Undergraduate sophomore	☐ Graduate: Master student
☐ Undergraduate junior	☐ Graduate: Doctoral student

What is your current age range?

☐ Less than 18	☐ 30 to 39
☐ 18 to 24	☐ 40 to 49
☐ 25 to 29	☐ More than 50

What is your gender identity?

- ☐ Woman
- ☐ Man
- ☐ Non-binary/ third gender
- ☐ Prefer to self-describe: _____
- ☐ Prefer not to say

Do you identify as transgender?

- ☐ Yes
- ☐ No
- ☐ Prefer not to say

Please check one or more of the following groups in which you consider yourself to be a member:

- ☐ White
- ☐ Black or African American
- ☐ American Indian or Native Alaskan
- ☐ Asian or Asian American
- ☐ Native Hawaiian or Other Pacific Islander
- ☐ Biracial or Multiracial
- ☐ Other (please specify):

Please check if you are of Hispanic, Latino, or Spanish origin?

- ☐ No, not of Hispanic, Latino, or Spanish origin
- ☐ Yes, Mexican, Mexican American, Chicano
- ☐ Yes, Puerto Rican
- ☐ Yes, Cuban
- ☐ Yes, another Hispanic, Latino, or Spanish origin

THANK YOU FOR TAKING THE TIME TO COMPLETE THE QUESTIONNAIRE

Appendix E

Request for Permission to Conduct Research at [University Name]

[University Name]
Attention: Office of the Provost and Vice President for Academic Affairs
[University Address]

[Date]

Dear Dr. [Provost],

My name is Rocio Alvarenga and I am a student in the College of Education working towards a doctoral degree in Higher Education Administration and Leadership. The research I wish to conduct for my doctoral dissertation involves understanding how faculty stress factors and outcomes are related to work disengagement in the classroom while understanding how students' perception of faculty effectiveness are related to students' perception of the different levels of faculty stress characteristics. It is my hope to also understand faculty preferences on how health and wellness programs can be implemented to mitigate stress in the workplace as the findings may influence future programming and research. The study will be conducted under the supervision of Dr. Eduardo Arellano in the College of Education, Department of Educational Leadership and Foundations.

I am hereby seeking your permission to email questionnaire links to all faculty and students at the University of Texas at El Paso during the Spring of 2020 to understand their perspectives on this important topic. Attached are the questionnaires and the letters of invitation for participants.

If you require any further information, please do not hesitate to contact me at [phone number] or email me at [email address]. Thank you for your time, support, and overall consideration in this matter.

Respectfully,

Rocio Alvarenga, OTR, MOT
Doctoral Student
Education Administration and Leadership

Appendix F

Electronic Mail Version of Consent Letter to Faculty Participant

Dear Instructor,
Since the late 1980s, research in higher education has demonstrated that faculty experience stress in the workplace. However, limited evidence demonstrates the relationship between faculty stress factors and outcomes and work engagement especially in the classroom. If you are a full-time or part-time faculty member who taught any course that *began* in the classroom and not solely online courses, you are invited to voluntarily complete a questionnaire that will be used as research data. The questionnaire seeks to understand how faculty stress factors and outcomes are related to work disengagement. Your participation would greatly enhance the results of this study and may assist higher education administrators to emphasize the need to support faculty well-being. It is my hope to use the information to understand how to best support faculty in the workplace.

You will be asked a series of structured questions about your well-being. Participation is voluntary and you may skip any question. If you consent to complete the questionnaire, but later wish to cease participation, you may simply stop answering the questions and withdraw your involvement. If you do choose to withdraw, your responses to any previously answered questionnaire questions will not be included in the study and there will be no penalties involved if you choose not to take part in this study. The questionnaire will take you approximately 10-15 minutes to complete.

Due to the confidential nature of the questionnaire, there is little risk of being identified. The questionnaire was developed using QuestionPro Survey Software that has the option to enable for respondent anonymity, which does not allow for your email to be linked with the data. The possibility of emotional discomfort is also considered minimal; however, you will be asked demographic information that will be used further understand which stress factors and outcomes are related to work disengagement. The information will not be used congruently in a manner that could identify you and the name of the university will not be used in the dissertation or any publications. Only I, as the researcher, will have access to the questionnaire responses, which will be maintained in a password protected computer and locked file drawer. Thus, the confidentiality and privacy of your identity and questionnaire responses are assured.

You will not be compensated for taking part in the study, but at the end of the questionnaire, you may participate in a drawing for a $75 Starbucks gift card. Your information will remain confidential and will only be used for the drawing. If you choose to participate, you will be directed to a separate site that is not linked to the study. Additionally, it is hoped that this study will create further professional understanding of the challenges of faculty stress. Your participation will be of benefit in helping us understand the stress factors and outcomes that are related to work disengagement. The findings may guide higher education leaders on where to begin to support faculty. Additionally, your input may also provide insight into faculty preferences for health and wellness programs that may mitigate stress in the workplace.

For any inquiries regarding this research, please call me at [phone number] or you may email me at [email address]. You may also contact IRB at [email address] or [phone number].

I truly appreciate your time to complete this questionnaire and for your participation in this valuable research.

By completing and submitting your questionnaire, you indicate informed consent to participate in this study giving permission for your data to be used anonymously by me. Here is the link you can either click or copy and paste to find the questionnaire: https://facultystress.questionpro.com

Respectfully,
Rocio Alvarenga

Appendix G

Electronic Mail Version of Consent Letter to Student Participant

Dear Student,
I am currently working on a study to understand how students perceive faculty in the classroom. Specifically, I want to understand how you perceive the faculty member teaching your class reflects stress characteristics like being tired or stressed and how that makes you perceive if they are effective in teaching the course. Your participation is extremely valuable. If you are 18 years old or older and *began* a course in a classroom, I would appreciate you completing the questionnaire that will be used as research data. The questionnaire will take you 5-10 minutes to complete.

You will be asked a series of structured questions about your learning environment. Your participation is voluntary, and you may skip any question. If you consent to complete the questionnaire, but later wish to cease participation, you may simply stop answering the questions and withdraw your involvement. If you do choose to withdraw, your responses to any previously answered questionnaire questions will not be included in the study and there will be no penalties involved if you choose not to take part in this study.

Due to the confidential nature of the questionnaire, there is little risk of being identified. The questionnaire was developed using QuestionPro Survey Software that has the option to enable for respondent anonymity, which does not allow for your email to be linked with the data. The possibility of emotional discomfort is also considered minimal; however, you will be asked demographic information that will provide insight into your perceptions on faculty effectiveness and if faculty reflect stress characteristics. This information is valuable in endorsing the need to support faculty who may experience stress because the faculty and student relationship is essential in promoting your success as a student. The information will not be used congruently in a manner that could identify you and the name of the university will not be used in the dissertation or any publications. Only I will have access to the questionnaire responses, which will be maintained in a password protected computer and locked file drawer. Thus, the confidentiality and privacy of your identity and questionnaire responses are assured.

You will not be compensated for taking part in the study, but at the end of the questionnaire, you may participate in a drawing for a $50 Starbucks gift card. Your information will remain confidential and will only be used for the drawing. If you choose to participate, you will be directed to a separate site that is not linked to the study. A break of confidentiality is not anticipated to pose a serious risk to your well-being or livelihood but will be avoided to every extent possible.

For any inquiries regarding this research, please call me at [phone number] or you may email me at [email address]. You may also contact IRB at [email address] or [phone number].

I truly appreciate your time to complete this questionnaire and for your participation in this valuable research.

By completing and submitting your questionnaire, you indicate informed consent to participate in this study giving permission for your data to be used anonymously by me.

Here is the link you can either click or copy and paste to find the questionnaire:
https://studentperceptions.questionpro.com

Respectfully,
Rocio Alvarenga

Appendix H

Table 3
Statistical Matrix for each Research Question

Research Question	Research Hypotheses	Rationale for Research Hypotheses	Questionnaire Items and Statistical Relationship between questions	Statistic	Sig. level
1. How are faculty stress factors related to work disengagement?	Research Hypothesis 1: Faculty burnout, general stress, cognitive stress, depressive symptoms, poor general health, poor sleep, and somatic stress are positively related to work disengagement.	Based on the research, work disengagement tends to increase as stress levels increase. Stress is multifaceted so it should be analyzed as general stress while separately analyzing cognitive stress and symptoms of depression, which may or may not be associated with stress. Depressive symptoms present psychological concerns that may impact stress but may not affect work disengagement. For this reason, these three need to be analyzed separately. Stress can affect physical health in various ways and those health concerns may or may not impact work engagement. General health must be analyzed separately from sleep concerns and somatic stress issues to determine which aspects may impact work disengagement. Somatic stressors (headaches, stomach aches, muscle tension) are physical stressors that present in various forms.	Faculty questionnaire, Appendix B: OLBI: 8 questions that ask about disengagement COPSOQII: 24 questions that ask: • 1 general health question • 4 questions about general burnout • 4 questions about general stress • 4 questions about cognitive stress • 3 questions about somatic stress • 4 questions about depressive symptoms • 4 questions about sleep troubles 	Spearman's rank-order correlation	$\alpha < .05$ $p \leq .05$

Table 1 continued

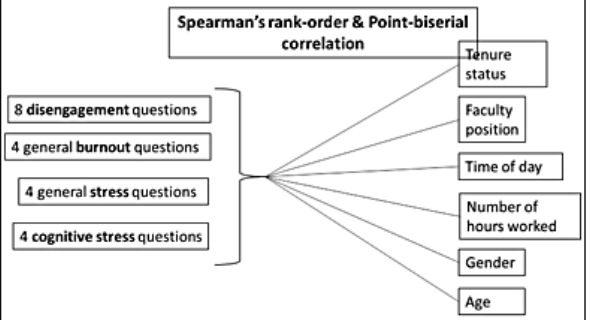
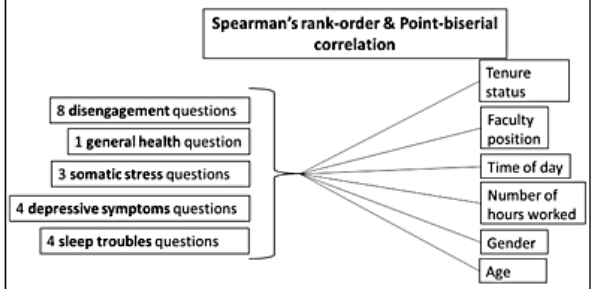
Research Question	Research Hypotheses	Rationale for Research Hypotheses	Questionnaire Items and Statistical Relationship between questions	Statistic	Sig. level
2. Are stress factors and work disengagement related to faculty of different characteristics?	Research Hypothesis 2: Different levels of stress factors and work disengagement are related to tenure status, work position, time of day worked, number of hours worked, number of classes taught, gender, and age.	Carr (2014) demonstrated differences of strain related to stress between tenured faculty and tenure track faculty. However, the stress was dependent on the experience of faculty. Stress levels among the three levels of tenured, tenure track, and non-tenured track have not been studied. Stress levels between full-time and part-time status faculty has not been compared. To understand if faculty stress impacts student learning, it is important to analyze if the work position contributes to levels of faculty stress and work engagement in the classroom. Cladellas and Castello (2011) found a difference between faculty who taught during regular work hours and faculty who taught outside of these hours. They indicated higher levels of stress for faculty who taught outside the work hours. It is the only study of its kind.	Faculty questionnaire, Appendix B: OLBI: 8 questions that ask about disengagement COPSOQII: 24 questions that ask: • 1 general health question • 4 questions about general burnout • 4 questions about general stress • 4 questions about cognitive stress • 3 questions about somatic stress • 4 questions about depressive symptoms • 4 questions about sleep troubles Demographic questions that ask about: • Tenure status (tenure; tenure-track; non-tenure) • Faculty position (full-time; part-time) • Time of day taught • Number of hours worked • Number of classes taught • Gender • Age 	Spearman's rank-order and/or Point-biserial correlation	$\alpha < .05$ $p \leq .05$
3. Are stress outcomes and work disengagement related to faculty of different characteristics?	Research Hypothesis 3: Different levels of stress outcomes and work disengagement are related to tenure status, work position, time of day worked, number of hours worked, number of classes taught, gender, and age.	Workload is a concern that has impacted faculty stress, but has not been clearly quantified (Carr, 2014). The number of hours worked, and classes taught may provide additional insight on how to quantify workload and the stress that impacts performance. Lackritz (2004) indicates that females experience more exhaustion compared to males; however other researches did not find a significant difference in stress levels between males and females (Colacion-Quiros & Gemora, 2016). Faculty stress has been compared between men and women, but the research has not factored faculty who identify as transgender, which should be considered. Carr (2014) stated that the youngest (20-29) and oldest faculty (70-89) felt less strain compared to those aged between 30-69 while the oldest group had the lowest coping levels. However, Colacion-Quiros & Gemorea (2016) stated faculty in the Phillippines who are over 58 tended to have higher levels of stress. Conversely, age is negatively correlated with burnout and younger faculty are at higher risks of burnout (Lackritz, 2004). The literature is contradictory requiring further analysis of this demographic status.			

Table 1 continued

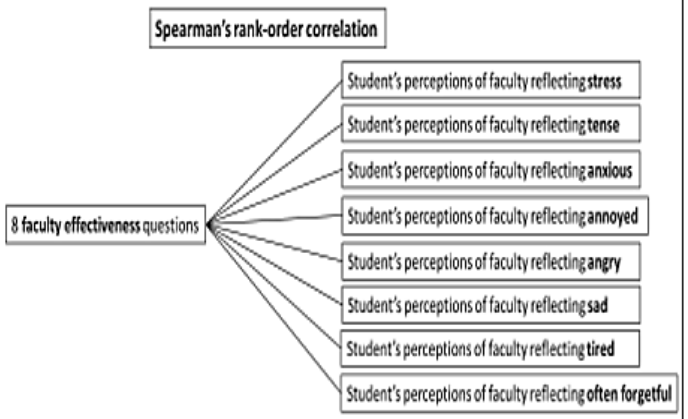
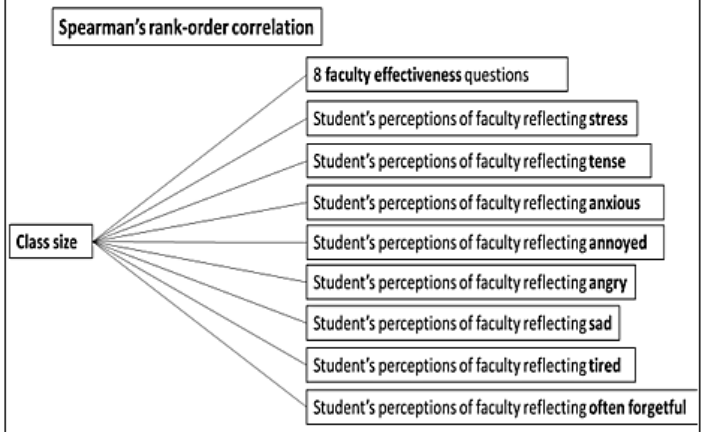
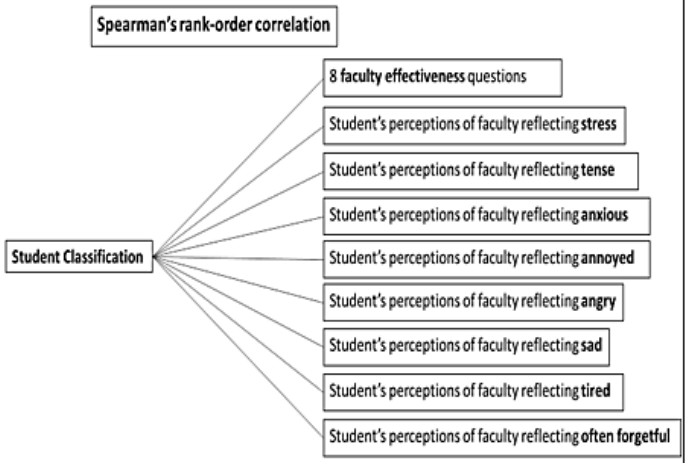
Research Question	Research Hypotheses	Rationale for Research Hypotheses	Questionnaire Items and Statistical Relationship between questions	Statistic	Sig. level
4. Are students' perceptions of faculty teaching effectiveness related to students' perceptions of faculty stress characteristics in the classroom?	Research Hypothesis 4: Students' perceptions of faculty teaching effectiveness are related to students' perceptions of the different levels of faculty stress characteristics (stressed, tense, anxious, annoyed, angry, sad, tired, often forgetful).	Faculty are part of the learning environment and can influence it when they are stressed. What is not understood is students' perception of the faculty's teaching effectiveness in relation to students' perceptions of how faculty display different characteristics of stress.	Student questionnaire, Appendix C SETLQ: 8 questions on faculty effectiveness will be compared to 8 questions on students' perceptions of faculty reflecting stress characteristics 	Spearman's rank-order correlation	$\alpha < .05$ $p \leq .05$
5. Are different class sizes related to students' perceptions of faculty teaching effectiveness and students' perceptions of different faculty stress characteristics in the classroom?	Research Hypothesis 5: Different class sizes are related to students' perceptions of faculty teaching effectiveness and students' perceptions of the different levels of faculty stress characteristics (stressed, tense, anxious, annoyed, angry, sad, tired, often forgetful).	Bettinger and Long (2017) found that class size can impact student and faculty behavior.	Student questionnaire, Appendix C SETLQ: 8 questions on faculty effectiveness will be compared to 8 questions on students' perceptions of faculty reflecting stress characteristics 1 demographic question • How many students are/were in your class? ○ Categoric range of classes sizes are provided as options 	Spearman's rank-order correlation	$\alpha < .05$ $p \leq .05$

Table 1 continued

Research Question	Research Hypotheses	Rationale for Research Hypotheses	Questionnaire Items and Statistical Relationship between questions	Statistic	Sig. level
6. Are different college student classifications related to students' perceptions of faculty teaching effectiveness and students' perceptions of different faculty stress characteristics in the classroom?	Research Hypothesis 6: Different college student classifications are related to students' perceptions of faculty teaching effectiveness and students' perceptions of the different levels of faculty stress characteristics (stressed, tense, anxious, annoyed, angry, sad, tired, often forgetful).	Ahmed, Taha, Alneel, & Gaffar (2018) stated that as students' progress academically, students tend to be more critical of the learning environment. The learning environment includes the relationship students have with faculty, which can influence how students perceive the faculty's teaching effectiveness. For this reason, it was important to consider analyzing this factor within the study.	Student questionnaire, Appendix C SETLQ: 8 questions on faculty effectiveness will be compared to 8 questions on students' perceptions of faculty reflecting stress characteristics 1 demographic question • Which category best describes your student status: ○ Undergraduate freshman ○ Undergraduate sophomore ○ Undergraduate junior ○ Undergraduate senior ○ Graduate: Master student ○ Graduate: Doctoral student 	Spearman's rank-order correlation	$\alpha < .05$ $p \leq .05$
7. What strategies and delivery methods of health and wellness strategies do faculty prefer?	No hypothesis, but faculty will be asked to rank areas as a possible focus for programming with 1 being the highest level of interest to 9 being the lowest level of interest. Faculty will also be asked to indicate the likely participation in how programs are implemented.	The question will be used descriptively to understand faculty preferences that will guide the development of meaningful health and wellness programs.	Faculty questionnaire, Appendix B: 1. If you attended a health and wellness program at your institution, please rank in order the areas that would be of interest to you? Consider the following ways that health and wellness programs can be implemented at your institution, please indicate the degree of participation that corresponds with each statement	Frequency Distribution	N/A

Curriculum Vita

Rocio Alvarenga was born in Las Cruces, New Mexico, and was primarily raised in El Paso, Texas. The first daughter of Rene Villa Alvarez and Victoria Silva Alvarez, Mrs. Alvarenga joined the U.S. Navy in 1994 and was honorably discharged as a Spanish linguist after serving six years of active duty. Prior to her discharge in 2000, she obtained a license in massage therapy. In 2003, she graduated with an Associate of Science in Graphic Design from San Antonio College and went on to pursue a Bachelor of Science in Human Development and Family Science from The University of Texas at Austin, which was completed in 2007. Mrs. Alvarenga then graduated in 2010 with a Master of Occupational Therapy from The University of Texas at El Paso (UTEP). She has practiced as a licensed occupational therapist in pediatric and adult outpatient and home health rehabilitation, adult inpatient rehabilitation, and at the El Paso State Supported Living Center, which is an institution for individuals with intellectual disability. Mrs. Alvarenga was a clinical instructor and fieldwork coordinator for the UTEP Occupational Therapy program from 2013-2019 and, in 2020, she began teaching for the UTEP BS Rehabilitation Science Program. In 2016, she enrolled in the UTEP Educational Leadership and Administration doctoral program with a focus in higher education leadership. Rocio Alvarenga has presented at three state and national conferences and co-published two articles found in the OT Practice Magazine. Additionally, she presented findings from a pilot qualitative study on faculty stress at the UTEP Grad Expo in 2018 and at the American Occupational Therapy Association Conference in 2019.

This dissertation was typed by Rocio Alvarenga.