

THESIS

EXAMINING THE RELATIONSHIP BETWEEN WORK STRESSORS AND MENTAL
HEALTH AMONG WOMEN IN ACADEMIA

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Rebecca L. Clancy

Department of Psychology

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Colorado State University

Fort Collins, Colorado

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Master's Committee:

Advisor: Gwenith Fisher

Tori Crain
Mark Prince
Chris Henle

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ABSTRACT

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This study aimed to increase our understanding about the relationship between work stressors and mental health outcomes for female faculty members in American colleges and universities. Specifically, the purpose of this study was to identify how work stressors and the work and nonwork interface (e.g., work/nonwork interference, work/nonwork enhancement) related to symptoms of depression, anxiety, and burnout for female faculty members, and sought to examine how these relationships differed amongst women who were parents and those who were not. I distributed an anonymous online survey to faculty members employed by colleges and universities across the United States. The final sample size included 216 women. Results indicated that general job stress and work interference with personal life were positively related to symptoms of depression, anxiety, and burnout, and work enhancement of personal life and personal life enhancement of work were negatively related to symptoms of depression, anxiety, and burnout. However, organizational support and nonwork social support generally did not moderate these relationships. Further, parents and non-parents had similar ratings (i.e., non-significant differences) of work stressors and mental health symptoms. The present study provides incremental information about women's experiences in academia and lends support to existing theories in the occupational health psychology literature regarding the occupational stressor-strain process. This study can be used to inform the development of interventions in

academia to reduce work-related strain. Importantly, implications for preventing employee burnout and supporting psychological recovery in academia are discussed.

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INTRODUCTION

The occupational stress literature has continued to grow over the last 20 years, particularly in terms of the relationship between work stress and well-being (Ganster & Rosen, 2013). In the earlier stages of research on occupational stress, Beehr and Newman (1978) defined work stress as a process whereby physiological responses are triggered by factors at work that cause employees to deviate from their normal feelings or behaviors. A more recent multidisciplinary review of work stress and employee health defined occupational stress as the “process by which workplace psychological experiences and demands [stressors] produce both short-term and long-term changes [strains] in mental and physical health” (Ganster & Rosen, 2013, p. 1088).

Over time, occupational stress has been conceptualized as a stressor-strain process. Environmental events (i.e., psychological experiences, job demands) that trigger a series of cognitive and physiological responses are commonly referred to as stressors, whereas the responses are conceptualized as strains (Ganster & Rosen, 2013; Griffin & Clarke, 2011). Previous literature has supported the claim that workplace stressors can have negative impacts on physical and mental health (Schonfeld & Chang, 2017; Stansfeld & Candy, 2006; Terrill, Garofalo, Soliday, & Craft, 2012). Research has also assessed the potential impact of work and non-work stressors on a variety of work-related outcomes, such as job satisfaction, job performance, turnover intentions, and many more (Kahn, Wolf, Quinn, Snoek, & Rosenthal, 1964; Ganster, 2008).

Stressors can be either acute or chronic in nature, and vary across individuals. According to Lazarus and Folkman (1984), cognitive appraisal is an important part of the stress process.

Specifically, what is perceived as stressful for one person may not be perceived as stressful for another. This introduces important differences in how occupational stressors are perceived across people and across (as well as within) organizations. There are also buffers to the stressor-strain process, which are often conceptualized as resources (Beehr, 1995; Beehr & Newman, 1978). Relatedly, these resources are also cognitively appraised. One type of buffer (e.g., organizational social support) may be particularly effective for one individual, but not for another. Additionally, certain buffers (e.g., flexible working arrangements) may be more feasible in specific types of jobs compared to others (e.g., academia compared to nursing). Understanding the nuances of occupational stress and its' associated buffers in diverse samples and occupations contributes to our understanding of how strain varies across individuals.

In the past few decades, research has focused on the role that occupational stressors play in mental health problems (Dewa, Corbière, Durand, & Hensel, 2012; Kirsh & Gewurtz, 2012; Melchior, Caspi, Milne, Danese, Poulton, & Moffitt, 2007). In general, research literature and nationally recognized organizations such as the World Health Organization (WHO) and the National Institute for Occupational Safety and Health (NIOSH) have defined health and well-being in a way that incorporates mental health. The WHO constitution states: “Health is a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity” (World Health Organization, 2018). In 2013, the World Health Assembly approved a comprehensive mental health action plan for 2013-2020 to improve mental health through focus on prevention of mental disorders, promotion of care, enhancement of recovery, and strengthening information systems, evidence, and research for mental health (World Health Organization, 2018).

Mental health is also relevant to work settings. As a result, NIOSH has also created and incorporated research approaches such as Total Worker Health, which refers to “policies, programs, and practices that integrate protection from work-related safety and health hazards with promotion of injury and illness prevention efforts to advance worker well-being” (NIOSH, 2015). Total Worker Health has recognized that there are work-related risk factors for both physical and mental health as a result of strain.

Work organizations and practitioners have also recognized the importance and impact of occupational strain. For example, employee health and well-being moved from #10 on the Society of Industrial-Organizational Psychology (SIOP)’s Top 10 Workplace Trends List in 2017 to #3 in 2018 (SIOP Administrative Office, 2017, 2018). However, even research published by SIOP has neglected to explicitly include mental health as part of employee health and well-being. For example, a white paper published in 2016 in the SIOP Worker Well-Being White Paper Series entitled “The Business Case for Employee Health and Wellness Programs” (Harris, 2016), began by describing worksite wellness programs as programs that “focus on risk factors such as weight loss, fitness level, and smoking cessation,” yet made no remarks regarding negative mental health risk factors or how to protect employees’ mental health with these programs (Harris, 2016, p.4). Additionally, another paper in the same series published in 2015 entitled “Work-Life Balance” did not include any outcomes or implications of poor work-life balance with regard to mental health (Rife & Hall, 2015).

The current study seeks to examine occupational stress and mental health among women in academia, and how these relationships may be impacted by the experience of being a parent. By studying how mental health, specifically symptoms of burnout, depression, and anxiety, are related to occupational stress and the combination of work and non-work responsibilities,

research will gain a more nuanced understanding of the academic work setting, as well as the women who work in it.

Importance of Mental Health

Mental health is a serious and prominent issue in society that has been studied extensively over the years, particularly in clinical and counseling psychology, psychiatry, and rehabilitation services (Follmer & Jones, 2018). Mental health includes our emotional, psychological, and social well-being. Mental illness refers to a wide range of mental health conditions (e.g., depression, anxiety) that affect one's emotions, thinking and behavior (American Psychological Association, 2019; Mayo Clinic, 2015). Mental health and mental illness have been discussed in the literature as separate but related constructs (Benton, 2018; Keyes, 2005; Westerhof & Keyes, 2010), often known as the two continua model: one continuum indicates the presence or absence of mental health, and the other the presence or absence of mental illness. Research from Keyes (2005) provided strong support for the two continua model using data from the study on Midlife Development in the United States (MIDUS); a confirmatory factor model with two related factors proved to be superior to the single-factor model. Mental health is therefore best viewed as a complete state, (i.e., not merely the absence of mental illness but also the presence of mental health).

Keyes (2005) categorized individuals based on both their mental health and their mental illness. Mental illness was dichotomized as those with or without mental illness. Mental health was categorized by languishing, moderate, and flourishing mental health. In 1995, only 16.8% of the American adult population had complete mental health (i.e., no mental illness and flourishing mental health). Findings consistently show that individuals who are diagnosed as anything less

than in complete mental health (i.e., flourishing without mental illness) are functioning worse in terms of work productivity and psychosocial functioning (Keyes, 2002; 2007).

One group that is of particular concern, but is often neglected in research, is the group of individuals who have languishing mental health but do not experience mental illness. This group made up 9.5% of the MIDUS dataset in 1995. These individuals are often overlooked in research when dichotomized mental illness is used as a proxy for mental health. Therefore, these individuals are categorized as "mentally healthy", when in fact, they are not. Interestingly, languishing individuals function as poorly on most outcomes as those with a mental illness (Westerhof & Keyes, 2010). In the context of the present study, the term mental health is used to capture the experiences of individuals who have varying levels of mental health AND mental illness. In mental health research, it is important to assess the experiences of individuals who may or may not have clinical diagnoses of mental illness, but may still be suffering through their emotional, psychological, or social well-being.

The lack of literature surrounding employee mental health is unfortunate, as epidemiological research has demonstrated a high prevalence of poor mental health in the U.S. For example, in 1999, it was estimated that only about 17% of American adults were considered to be in optimal mental health (U.S. Department of Health and Human Services, DHHS; 1999). In 2015, the Center for Disease Control and Prevention (CDC) estimated that 43.4 million adults (about 1 in 5 Americans aged 18 or older) had a mental illness in the last year (CDC, 2018). Similar numbers were reported from the U.S. National Institute of Mental Health (NIMH); of the 44.7 million adults who had any mental illness (defined as a mental, behavioral, or emotional disorder that can range in impairment) in 2016, only 19.2 million (around 43%) received treatment in the past year (NIMH, 2017). New research from Mental Health America, a leading

non-profit that assesses and advocates for mental health in the U.S., estimated similar numbers in 2018; 18% of American adults (around 44 million people) had a mental illness in the last year and 56% of those adults (around 24 million) went untreated in the last year (Mental Health America, 2019).

Mental health problems such as depression, anxiety, and burnout have gained more attention in recent years as they are becoming increasingly common. Research from the American Psychological Association showed that 32% of adults reported that they are more anxious this year than last year (American Psychological Association, 2019). Further, the World Health Organization named depression the leading cause of disability worldwide, and a major contributor to the overall global burden of disease. Globally, more than 300 million people of all ages suffer from depression (World Health Organization, 2018), and a recent meta-analysis of mortality in mental disorders and global disease burden estimated that 14.3% of deaths worldwide, or approximately 8 million deaths each year, are attributable to mental disorders (Walker, McGee, & Druss, 2015). Data from the U.S. National Institute of Mental Health (NIMH) showed that young adults aged 18-25 and adults aged 26-49 years had the highest prevalence rates of mental illness, with 22.1% and 21.1%, respectively (NIMH, 2017). This is particularly concerning as millennials (i.e., those born from 1981 to 1996) became the largest generation in the U.S. workforce in 2016 (Fry, 2018).

Importance of Mental Health at Work

Given the importance of employee health and wellbeing, the topic of mental health in the context of work has been neglected in the I-O psychology and management literature. One explanation for the lack of attention to mental health in I-O psychology is that many organizations are unprepared to support individuals with mental illness in a way that is reflected

through policies, procedures, and leadership tactics, which makes it difficult to assess best practices or implement interventions (Fairclough, Robinson, Nichols, & Cousley, 2013; Follmer & Jones, 2018). Some examples of organizations that have sought to improve their employees' mental health include Prudential Financial, TiER1 Performance Solutions, and Certified Angus Beef (Center for Disease Control, 2019). These companies have used policies, procedures, and leadership tactics including: 1) Normalizing the discussion of mental health by having senior leadership share personal stories in video messages, 2) Monitoring the effect of supervisors on worker well-being, especially when supervisors change, 3) Focusing specifically on depression, anxiety, obsessive-compulsive disorder, schizophrenia, bipolar disorder, and addictions as part of a 'Start the Conversation about Mental Illness' awareness campaign, 4) Providing free wellness consultations by an on-site clinical psychologist, and 5) Holding lunchtime learning sessions to reduce stigma about mental health and the services available to employees. Clearly, the implementation of programs and resources such as these requires time, money, and knowledge about mental health. Many organizations may not have the resources to devote to these types of programs or the knowledge to know where to begin.

Another possible explanation for the lack of mental health research work is that disclosure concerns have been shown to be the most commonly reported stigma barrier to seeking help (Clement et al., 2015). This may provide insight as to why organizations have difficulty assessing and handling mental health in the workplace if employees are concerned about disclosing mental health, particularly in a work-related setting. Stigma is later discussed as a key methodological challenge in assessing mental health.

Relatedly, there are laws surrounding employee privacy, such as the Americans with Disabilities Act (ADA), which prevent employers from asking whether an employee has a

disability, as well as asking questions about a known (i.e., disclosed or visible) disability. With such laws in place, employees have legal protection from employment discrimination (e.g., discrimination in hiring, firing, promotions, pay, and other employment-related activities; U.S. Equal Employment Opportunity, 2008). Thus, the ADA creates a clear legal barrier for conducting research in work settings that would explicitly ask employees about their mental health. Therefore, it is particularly difficult to gather and interpret organizational-level data about employee mental health.

Notably, in 2008, important changes to the ADA expanded the definition of disability to include people with “invisible” conditions, such as mental impairments from depression, anxiety, and other mental or psychological disorders, to be protected from discrimination. These protections hold even when employees’ symptoms are treated with medications or therapy. The new language of the ADA amendment explains that “an impairment that is episodic or in remission is a disability if it would substantially limit a major life activity when active” (U.S. Equal Employment Opportunity Commission, 2008). However, given the recency of this expansion in the definition of disability, many employees still may not know or understand how they are protected by the ADA, and therefore may not wish to disclose at work.

Workplace mental health has increasingly continued as a topic of conversation. In the United States, an estimated 50% of Americans are diagnosed with a mental illness or disorder at some point in their lifetimes (Center for Disease Control, 2018). With regard to depression, an estimated 17.3 million adults (7.1%) had at least one major depressive episode in 2017 (NIMH, 2019). One Harvard Business Review (HBR) article published in 2018 highlighted that 18% of the US population has an anxiety disorder (Aarons-Mele, 2018). Clearly, mental health is impacting a large percentage of people. A 2018 Forbes article reported findings from a survey of

more than 44,000 employees in the U.K in which 48% of respondents reported that they had experienced a mental health problem while working in their current job (Higginbottom, 2018). However, another HBR article that was also published in 2018 reported that only 14% of Accenture employees had a senior leader at work talking about the importance of mental health (Harvey, 2018). Given the increasing prevalence of mental health problems at work, this finding is particularly concerning. With a growing concern for employees' well-being, workplaces and leaders need to consider how they are equipped to support employee mental health. In response to these conversations, the empirical literature needs to further investigate how the workplace may contribute to employees' mental health, and what can be done to provide employees with the resources they may need to address their mental health.

Theoretical Framework

In the occupational health psychology literature, there are multiple theories that conceptualize the occupational stress process and outline specific stressors and strains (see Ganster & Rosen, 2013, for a multidisciplinary review on work stress and employee health). Two theoretical frameworks that are particularly relevant to the present study include the job demands-resources model and the work-home resources model. I explain each of these below.

Job Demands-Resources model. One theory that is useful for increasing our understanding of mental health problems in the workplace is the job-demands resources (JDR) model. The JDR model is a broad theory in the occupational health literature that has provided strong support for the idea that working conditions can be categorized in terms of job demands and job resources, which can have specific physical and psychological outcomes on workers (Bakker & Demerouti, 2007; Demerouti, Bakker, Nachreiner, & Schaufeli, 2001).

Job demands are conceptualized as the physical, psychological, social, or organizational aspects of the job that require sustained physical and/or psychological (cognitive or emotional) effort or skills. These demands often associated with different physiological or psychological costs to an individual (Bakker & Demerouti, 2007; Demerouti et al., 2001). Physical job demands could include having to stand for long periods of time. Psychological job demands may involve frequent emotional regulation when dealing with students. An example of a social job demand could be interacting in a department meeting. Finally, an organizational job demand may be working longer hours during certain times in the semester, such as exam weeks.

Job resources can also be physical, psychological, social, or organizational aspects of the job that can either help to achieve work goals, reduce job demands and their associated physical or psychological costs, or stimulate personal growth and development (Bakker & Demerouti, 2007; Demerouti et al., 2001). For example, a physical job resource may be providing employees with adjustable desks, so that they can sit or stand to complete their work. A psychological job resource may be finding meaning in one's work. A social job resource could be relying on colleagues or supervisors for assistance or support when there is a work/nonwork conflict. Finally, an organizational resource may be providing employees with discounted counseling services through an employee assistance plan. Although job demands are not innately negative or always perceived as stressful, they can become stressors if an employee has to exert high effort repeatedly to meet a job demand and does not have adequate time or other resources available (Meijman & Mulder, 1998).

The JDR model is relevant for investigating occupational stress among faculty for a few distinct reasons. First, the majority of faculty divide their time between research, teaching, and service. There are different demands in each of these realms which may conflict with one

another, as well as demands in other social roles, including those of a parent, spouse, volunteer, etc. For example, if a faculty member has to teach multiple classes in one semester, their research may stall, or the amount of time they have available for service may decrease as a result of time spent related to teaching. The design of work in academe often pits competing demands in different roles against one another, leaving faculty feeling stuck (Kinman, 1998; Mamiseishvili, 2012).

Second, relatively few studies have utilized the JDR model in the U.S. to assess faculty behaviors and experiences. However, studies that have utilized the JDR model as a theoretical framework have found comparable findings with regard to burnout and occupational strain. Watanabe and Falci (2014) found that work-related demands and resources were much stronger predictors of work–family turnover intentions in faculty than family-related demands or resources. Mudrak and colleagues (2018) found that job resources were related predominantly to work engagement and job satisfaction and job demands were predominantly associated with strain, mostly through work-family conflict. Sabagh, Hall, and Saroyan (2018) reviewed correlates, antecedents, and outcomes of faculty burnout through the lens of the JDR model. Findings showed that job demands (e.g., workload, task characteristics, value conflict) and lack of resources (e.g., social support, rewards, control) all contributed to burnout. Consequences of burnout led to reduced work activities and increased turnover intentions, as well as psychological and physical health outcomes like ill health and depression (Sabagh et al., 2018).

Research utilizing the JDR model has mainly investigated – and provided evidence for – burnout, overall strain, and motivation as outcomes from the interaction of job demands and job resources (Bakker & Demerouti, 2007; Demerouti et al., 2001; Hakanen, Schaufeli, & Ahola, 2008; Schaufeli, Bakker, & Van Rhenen, 2009). Employees who experience high job demands

and have low resources are more likely to experience burnout as a type of strain, as they do not have enough resources to meet the demands of their work (Demerouti et al., 2001). However, employees with high job demands and high job resources are more likely to be engaged and motivated through an active job, where they likely have autonomy and support to meet their job demands in ways that work for them.

Extensive research has shown that the JDR model is applicable across multiple industries and occupations (Bakker & Demerouti, 2007; Demerouti et al., 2001; Hakanen et al., 2008; Schaufeli et al., 2009). For example, Brauchli and colleagues tested the JDR model by using a sample of organizations across industry, health care, and the public sectors (Brauchli, Schaufeli, Jenny, Füllemann, & Bauer, 2013). Results found that changes in job demands (eg, work interruptions, time pressure, uncertainty, and overload) and changes in job resources (eg, social support, job control, task significance, and interpersonal justice) related to changes in burnout and work engagement over time across all sectors, providing support for its use (Brauchli et al., 2013). A recent study also examined the JDR model across the health care, industry, service, and public sectors and found that the four sectors differed in the experience of job demands, resources, burnout, and work engagement, but they did not vary in how strongly job demands and resources associated with burnout and work engagement (Van den Broeck, Elst, Baillien, Servu, Schouteden, De Witte, & Godderis, 2017).

Previous research has also suggested that repeated exposure to high demands and low control increases the risk of major depression in workers who have not previously had the disorder (Stansfeld, Shipley, Head, & Fuhrer, 2012; Wang, Schmitz, Dewa, & Stansfield, 2009). Although research on mental health outcomes in academia has been conducted (Dunn, Whelton,

& Sharpe, 2006; Kinman & Jones, 2008), the literature has not yet examined how women's experiences in academia and their mental health differs as a function of parental status..

Work-Home Resources model. In addition to the JDR model, the work-home resources (WHR) model is an additional theoretical framework to consider in the context of occupational stress and mental health (ten Brummelhuis & Bakker, 2012). In contrast to the idea that work and nonwork responsibilities are competing demands that lead to strain when combined, there may be possible benefits of occupying dual roles (Barnett & Hyde, 2001). Additionally, although combining work and nonwork can result in conflict or enrichment, many occupational stress models have not looked at factors that influence work-home processes outside of the work and home domains; some examples include ecology, culture, and personality (Parasuraman & Greenhaus, 2002). The WHR model attempts to address these gaps, as well as others in the occupational stress literature, by viewing the work-home interface as a set of processes. Each process runs from demands and resources in the work (or home) domain, via changes in personal resources, to outcomes in the home (or work) domain. Going above and beyond other theories that solely identify the demands and resources in one domain and how those may impact the demands and resources in another domain, the WHR model identifies how changes in personal resources, either more volatile ones (e.g., time, physical energy, positive mood) or more structural ones (e.g., skills, perspectives), are linking mechanisms between the work and home domains. Additionally, macro-level resources such as culture, public policies, and social equality, as well as key resources, including optimism, self-efficacy, and social power, are accounted for as conditional factors that prevent work-home conflict and foster work-home enrichment.

In the context of occupational stressors and mental health, the WHR model posits that there are demands in both the work and nonwork domains, and that resources in both the work and nonwork domains, as well as personal, macro-level, and key resources, impact whether those demands are met or not. The result of the interaction between demands in one domain and an individual's collective resources will thus impact the other domain, either with conflict or enrichment. When individuals are depleted of resources in any of the outlined domains, occupational stress is more likely to occur, and mental health is likely to suffer.

Prior Mental Health and Work Research

Mental illness contributes to many organizational costs, such as health care and insurance claims, as well as lost productivity, absenteeism, and potential turnover that exceed billions of dollars per year (Greenberg, Fournier, Sisitsky, Pike, & Kessler, 2015). Estimates of the total economic impact suggest that major depressive disorder (MDD) cost the United States \$210.5 billion in 2010, representing a 21.5% increase from \$173.2 billion per year in 2005 (Greenberg et al., 2015). A key finding from this research showed that nearly half (48%-50%) of these costs were attributed to the workplace, including absenteeism (missed days from work) and presenteeism (reduced productivity while at work), whereas 45%-47% were due to direct medical costs (e.g., outpatient and inpatient medical services, pharmacy costs), which are shared by employers, employees, and society. About five percent of the total cost expenditures were related to suicide. Other research has supported the impact of mental health on absenteeism and productivity. In 1992, an estimated 200 million days lost from work each year due to depression alone (Conti & Burton, 1994); that number has since grown to 400 million days lost from work in 2019 (Forbes, 2019). More days of work loss and work impairment are attributed to mental illness than by other chronic health conditions, including arthritis, asthma, back pain, diabetes,

hypertension and heart disease (Druss & Rosenheck, 1999; Kessler, Greenberg, Mickelson, Meneades, & Wang, 2001; Stewart, Ricci, Chee, Hahn, & Morganstein, 2003). Further, as of 2019, depression and anxiety are estimated to cost the global economy \$1 trillion each year in lost productivity (Forbes, 2019).

The impairment from a mental illness may not only impact basic life functioning (e.g., caring for one's self, adequate sleep), but also an employee's safety and performance at work. One qualitative study by Haslam and colleagues (2005) conducted focus groups with employees diagnosed with anxiety or depression. Participants in their study reported that their mental illness affected their ability to engage in effective decision-making and also contributed to workplace accidents. A later study based on longitudinal data from the Maastricht Cohort Study found that over time, older adults who suffered from depression were more likely to have concentration problems and restrictions in social interactions at work compared to a referent group without depression. Further, depression was associated with more concentration problems when combined with high psychological job demands in these workers (Stynen, Jansen, & Kant, 2015).

A meta-analysis of psychosocial work stressors and common mental disorders found that work stressors such as job strain, low decision latitude, low social support, high psychological demands, effort-reward imbalance, and high job insecurity significantly predicted mental disorders, with the strongest effects for job strain and effort-reward imbalance (Stansfeld & Candy, 2006). More recent research has also begun to assess how mental illness varies across industries and occupations. For example, a study from Wulsin and colleagues (2014) assessed the relationship between clinical rates of depression and the industry where employees worked by analyzing trends in health insurance claims data. Their research found that industries with the

highest rates of depression tended to be those which require frequent face-to-face interactions, have high levels of strain, and low levels of physical activity (Wulsin et al., 2014). Their study was the first of its kind to publish empirical data about depression rates by industry based on actual health care claims. This study also provided support for the notion that certain areas of work may be particularly susceptible to poor mental health, such as academia. Thompson and Dey (1998) highlighted that researchers have given attention to the stressor-strain process among college and university faculty, but with limited attention to the different types of stressors faculty may encounter (e.g., general job stressors, combining work and nonwork demands). Previous studies with work on faculty stress have been noted between men and women faculty (Dey, 1994; Smith, 1995), white and African American faculty (Smith & Witt, 1996), and underrepresented and white male faculty (Dey, 1994).

Challenges to Assessing Mental Health

Clearly, the importance of mental health has been recognized in both research and practice, yet there are still barriers to researching mental health at work. The following challenges represent the most pressing issues related to assessing mental health in the context of work, including the resources devoted to studying non-communicable diseases, methodological challenges, and stigma.

Mental health as a non-communicable disease. One of the primary challenges is that mental health is often seen as an "invisible" disease, particularly because it is non-communicable (i.e., not contagious). An assessment of mortality and disability from diseases, injuries, and risk factors published from the WHO and the Harvard School of Public Health highlights one of the key issues of research methodology with mental illness: traditional approaches to health assessment have focused on infectious diseases, whereas non-communicable diseases (e.g.,

diseases that cannot be spread) have not garnered the same attention. It is estimated that less than three percent of total donor funding worldwide goes to addressing non-communicable diseases. Large sources of research funding such as the U.S. Government, the World Bank, and the United Kingdom Department for International Development have been reluctant to provide grants and loans to tackle non-communicable diseases research (UN Chronicle, 2010). The lack of attention given to these diseases has been attributed to a few different explanations. One reason could be that chronic diseases are not seen as directly linked to poverty or development, but superficially attributed to affluence and Westernization. Perhaps these conditions do not evoke the same feelings of empathy and social justice as do traditional and contagious diseases. A final reason may be that we put the burden of responsibility on the individual rather than on society for these types of diseases (UN Chronicle, 2010).

Methodological challenges. In addition to the lack of attention given to mental health in research, there are also methodological challenges related to the assessment of mental health. As previously mentioned, the differentiation between the topics of mental health and mental illness makes studying overall mental health difficult. When mental illness is used as a proxy for total mental health, individuals who may not have diagnosed mental illness are viewed as psychologically similar, which is likely not an accurate picture of individuals' differences in functioning and overall well-being. These differentiations also make systematic reviews of the current state of national or worldwide mental health increasingly challenging, as researchers must disentangle whether studies have assessed mental illness, mental health, or both.

Another area of difficulty in assessing the impact of mental health is whether symptomology or functioning is used as the metric of interest. Patterson and Mausbach (2010) argued that assessing individuals' functional capacity is more useful than simply measuring

symptomology, as measurement of functional capacity provides information to examine the effects of mental illness on the overall performance of an individual, their ability to perform specific tasks, and how specific treatments (e.g., medications, psychosocial interventions) improve performance.

It is also important to acknowledge the sensitivity of measures over time and how mental health can change over time (Patternson & Mausbach, 2010). Although the majority of research on mental health is cross-sectional, psychiatric conditions are not static and cannot be accurately represented from measurement at only one time point. More specifically, fluctuations in mental health symptomology (e.g., depressive symptoms, anxiety symptoms, burnout) are common within persons over time. Therefore, the types of research currently being done may not accurately capture the severity of the impact of poor mental health.

Finally, applied mental health research generally relies on non-diagnostic measures, which may have limited generalizability or action orientation. Most clinically-diagnostic measures for mental illnesses (such as anxiety or depression) are proprietary, making them less accessible to researchers and organizations. Diagnostic measures are also often extremely lengthy, which is seen as less desirable for both survey respondents and organizations/researchers conducting surveys. Survey respondents do not want to answer extremely lengthy measures and may begin to answer inaccurately or with less attention as the length of the survey increases. Researchers and organizations want accurate information, and a short survey time to maximize response rates and reduce employee time away from work. Relatedly, HR professionals, as well as management and I/O psychologists, are not trained how to use or interpret diagnostic measures. Utilizing these types of measures would go beyond the

bounds of competency for those administering the survey and place researchers in an ethical dilemma.

Stigma. Other challenges related to the assessment of mental health at work include the stigma surrounding mental disorders and the perceived consequences of disclosing these disorders at work. Individuals who suffer from poor mental health may be labeled as unstable, incompetent, or lazy (Corrigan, Kerr, & Knudson, 2005). Not surprisingly, these characteristics are incompatible with desirable employee characteristics, which can negatively impact others' perceptions of the employee and the quality of their work. If colleagues perceive an employee with a mental health problem to be an undesirable or unproductive worker, they may be less likely to provide support, foster relationships, or view that employee as an equal team member. An understanding of the stigma surrounding mental illness is important because misattributions directly affect how others often treat those with mental illnesses, which can lead to stereotyping and discrimination. Many employees may fear the potential of being publicly exposed, losing opportunities at work if they disclose that they are struggling with their mental health (Follmer & Jones, 2018), or subjecting themselves to uncomfortable material in interviews or surveys. If this is the case, there may be an increased probability that primarily healthy employees participate in our research samples, creating further methodological challenges (Barling & Cloutier, 2017).

Follmer and Jones (2018) highlighted difficulties that differentiate those who suffer from mental illness from those with other concealable health conditions (e.g, heart disease, diabetes, etc.). One of these difficulties is that mental illness is often perceived as less legitimate than physical disorders or conditions, which makes managing mental illness in the workplace more difficult by first having to prove that it is a genuine condition. Second, fluctuations in symptoms of mental illness can impact the perceptions of an employee's credibility by their peers.

Coworkers and bosses may have the expectation that mental illnesses should have stable symptoms, and these inconsistencies may be attributed to the employee's motivation or engagement, rather than their mental illness. Finally, people with mental health concerns are often perceived as dangerous. One study showed that individuals with mental illness have been perceived as unable to control their emotions, handle criticism, resolve conflict, and are capable of violent behavior at work (Hand & Tryssennar, 2006). This perception is less likely to be seen among individuals with physical disorders or illnesses, including communicable or infectious diseases (Follmer & Jones, 2018).

In addition to dealing with public stigma, individuals with mental health problems also may internalize these negative attributions and apply this stigma to themselves, which is known as self-stigma (Corrigan et al., 2005). Self-stigma has been found to contribute to decrements in self-esteem, self-efficacy, and work-related performance and attitudes, such as commitment (Perlick et al., 2001). More specifically, Clement and colleagues (2015) identified an association of $d = -0.27$ between mental health-related stigma and help-seeking for mental health problems, with internalized stigma (i.e., self-stigma) and treatment-related stigma being most often associated with reduced help seeking. Further, they identified specific groups that were disproportionately deterred by stigma, including ethnic minorities, men, youth, and employees in military and health professions (Clement et al., 2015). Employers need to ensure that individuals feel supported and able to ask for support in continuing with or returning to work and are provided with the necessary resources to do their job.

College and University Professors as a Special Population

According to the U.S. Bureau of Labor Statistics (BLS; 2017), there are more than 1.3 million college and university professors in the United States in 2016. It is expected that the

overall employment of postsecondary teachers will grow 15% from 2016 to 2026, which is much faster than the average for all occupations (BLS, 2017). Results from the 2010-2011 Higher Education Research Institute Faculty Survey found that only 32% of faculty in the U.S. strongly believe that they have a healthy balance between their professional and personal life (Hurtado, Eagan, Pryor, Whang, & Tran, 2012). This low percentage corresponds with research that shows incompatibility between work and family life among faculty (O’Laughlin & Bischoff, 2005). As academia continues to grow and universities' focus and priorities change to adapt to economic pressures (e.g., reduced state funding for public institutions), it is imperative to gain a better grasp on the experiences and demands that college and university professors face in order to provide support in ways that are accessible and worthwhile.

In comparison to primary and secondary educators, there are fewer studies that focus on postsecondary educators and their experiences at work. However, existing research has found that recognizing different experiences in academia is crucial to understanding factors that may lead to the success or derailment of faculty. Work context data from the Occupational Information Network (O*NET; Peterson et al., 2001), a database developed by the U.S. Department of Labor and the primary online source of occupational information in the U.S., demonstrates different perceived experiences of occupational stressors and buffers. For example, 70% of psychology professors who responded to a work context survey reported that they had a lot of freedom to make decisions, compared to the 98% of political science professors who said they had a lot of freedom to make decisions (O*NET, 2018a, 2018b). Further, 36% of psychology professors reported that they experienced time pressure every day, in contrast to 44% of political science professors who reported that they experienced time pressure one or more times a month, but not every week. Evidently, both stressors and buffers are experienced in a

different way across various fields of study. However, occupational stress in academia appears to be a well-known phenomenon. Gillespie, Walsh, Winefield, Dua, and Stough (2001) conducted focus groups with a total of 178 academic and general staff from 15 Australian universities to identify sources, outcomes, and moderators of stress in academia. Two-thirds of the focus groups reported that their occupational stress impacted them psychologically, and described problems with anxiety, depression, burnout, anger, irritability, helplessness, and being overwhelmed.

Mental health among academics has historically been dismissed as being inherent to academic culture (Lucia, 2016). Common themes of escalating stressors like time pressure, long working hours, frequent face-to-face interactions, and competitive work cultures have been associated with resulting strains such as poor work/life balance, depression, anxiety, sleep disorders, substance abuse problems, and eating disorders. These stressors and strains have become hallmarks of academia and are seen in numerous popular press articles and blogs (Anonymous Academic, 2014; Flaherty, 2017; Shaw & Ward, 2014). Flaherty (2017) emphasized that student mental-health issues have received much attention and consequent de-stigmatization in recent years, but it's unclear how much of that has translated to the professoriate, where clarity of thought is critical for success. Shaw and Ward (2014) highlighted that demands for increased output and productivity have become synonymous with rising levels of mental health problems among academics. Further, they mention the concerning nature of the academic environment, which can often still carry the mentality that those who cannot handle the stressors should not be in academe (Shaw & Ward, 2014). Cultures such as these prevent employees from disclosing their struggles and seeking support, which is detrimental to their health, well-being and performance.

Women in academia. Other identities within the workplace may also offer explanations for how work experiences in academia differ. Work-family research has generally supported the notion that women and men often have different work experiences, particularly in regard to work-family conflict (Byron, 2005; Clark, Rudolph, Zhdanova, Michel, & Baltes, 2017; Shockley, Shen, DeNunzio, Aryan, & Knudsen, 2017). Consistent with social role theory (Eagly, 1987; Eagly & Steffen, 1984) women are more likely than men to be expected to be caregivers, due to attitudes and beliefs about men and women's social roles (Clancy, Fisher, Daigle, Henle, McCarthy, & Fruhauf, 2019). Consequently, women are more likely to end up "stuck in the middle," with multiple roles as employee, spouse, mother, and daughter (Brody, 2004). This presents unique challenges for women in academia and warrants individualized attention in empirical research.

Previous research on women in academia indicated that women generally experience higher overall levels of strain in their jobs (Doyle & Hind, 2002), are more likely to perceive increases in the pressure to publish (Kinman, 1998), and are more likely to view work overload as a stressor compared to their male counterparts (Narayanan, Menon, & Spector, 1999). One study examined how skewed sex ratios within a university and the absence of a women-friendly environment impacted female full professors' career path experiences and their perceptions of the ease for a woman to obtain full professorship (Sanders, Willemsen, & Millar, 2009). Results showed a positive relationship between the perception of a women-friendly environment and the experience of their own career path, as well as the perceived ease with which other women could become full professors. Additionally, having a higher percentage of women professors in the academic field moderated the relationship between the perception of women friendliness and the experienced ease of becoming a Professor (Sanders et al., 2009).

The experience of chronic occupational strain very well may be pushing women out of academia. For example, a review by Rothblum (1988) examined why a disproportionate percentage of women were voluntarily resigning from academia in comparison to their male colleagues. Institutional, interpersonal, and psychological factors were highlighted as the main reasons that women were more likely than men to experience sustained strain and voluntarily resign.

At the institutional level, students and colleagues may have different expectations for male and female faculty. Research has shown that female professors matched in rank and teaching experience with male professors receive lower teaching evaluations from students (MacNeill, Driscoll, & Hunt, 2015; Mitchell & Martin, 2018), receive greater demands for student contact and support (Bennett, 1982; El-Alayi, Hansen-Brown, & Ceynar, 2018), and may be more likely to experience direct discrimination with regard to initial hiring appointments, promotion, salary, and tenure (Curtis & Thornton, 2014; Fidell, 1970; Mitchell & Martin, 2018; Rothblum, 1988). Further, a key premise of academic work relating to tenure is its "up or out" nature, particularly in North American institutions, which creates additional pressure for women who may be institutionally disadvantaged compared to their male counterparts (Dickson, 2018).

Research on women's interpersonal roles suggest that nonwork responsibilities play a large role in women's work lives. Specifically, combining academic careers and family commitments may be less compatible for women than men; women in academe are less likely to become parents than other professional women or their male colleagues in academe, and are more likely to remain single for the purpose of achieving career success (Mason, Wolfinger, & Goulden, 2013; Drago & Colbeck, 2004). The discourse in relevant academic motherhood literature tends to focus predominantly on discussions regarding the woman's tenure clock, the

dilemma of the ‘best’ time to start having a family, and the struggle to balance achieving tenure while having and raising young children simultaneously (Armenti, 2004; Dickson, 2018; Stockdell-Giesler & Ingalls, 2007; Young & Wright, 2001). Related to this, research has supported the notion that employed women who are married and have children continue to have the primary responsibility for housework and child care (Dickson, 2018; Cleveland, Fisher, & Sawver, 2015). Although men who are married to women who are employed are more likely to contribute to household and childcare-related tasks than men whose wives are not employed outside the home, employed women still take on the majority of this work, essentially working two full-time jobs (Helmreich, Spence, Beane, Lucker, & Mathews, 1980; Goode, 2000). These women are more likely to report work overload and role conflict due to the competing demands on their time, and are also more likely than men to report their spouse's career as more important than their own (Helmreich et al., 1980).

Psychologically, men and women have demonstrated differences in self-evaluation habits and risks for mental health problems. Female faculty have rated themselves lower in teaching ability, number of publications, and professional reputation than do their male colleagues (Stake, 1979). Further, research has established that the prevalence of depression is consistently higher among women compared to men (Albert, 2015); about twice as many women as men experience depression (Harvard Health, 2011; Mayo Clinic, 2019). Women also have higher rates of anxiety, seasonal affective disorder, depressive symptoms in bipolar disorder, and dysthymia (mild chronic depression) than men (Harvard Health, 2011). Although many explanations for these patterns have been offered (genes, hormones, life experiences), many explanations also include experienced stress and work load for women who are balancing multiple roles. Not surprisingly,

a good portion of existing literature on women in academia has reported the strain of combining academia with motherhood (Dickson, 2018; Ward & Wolf-Wendel, 2004).

Other research has also examined issues among college and university professors, such as the emotional labor of scholarly work in academe (Bellas, 1999; Neumann, 2006), the influence of gender and tenure status on experiences of balancing parenthood and a career (O’Laughlin & Bischoff, 2005), and perceptions of growth and development throughout an academic career (Åkerlind, 2005). However, fewer studies have been conducted within the last 10 years, resulting in a gap in the literature for new work experiences of faculty. These experiences may be exacerbated by the increased use of technology, nontypical work hours, growth within the field of academia, pressures to publish and secure external research funding, and changes in requirements and processes for promotion and tenure.

Considering the costs that mental illness requires from organizations and the toll it takes on individuals, it is necessary to develop or modify existing interventions that can help prevent the onset or lessen the severity of manifestations of negative mental health. Balancing research, teaching, and service commitments, as well as managing non-work responsibilities, can be damaging to employee health and well-being without adequate resources. The limited recognition of and support for mental health issues in academia comes at a great cost not only to individual health, but to the scientific community. Identifying stressors for professors and the potential resulting strains are important because prolonged strain may lead to forms of withdrawal behavior, including physically or psychologically leaving the work setting (Hughes, 2001; Rothblum; Watts & Short, 1990). Although exact factors for the potential causes of mental health issues depend strongly on individuals, research and practice should work to establish more flexible standards and protocols that can accommodate the various circumstances that employees

may encounter, particularly among employees who are balancing work and non-work responsibilities simultaneously. Such actions would help to drive a broader culture shift toward recognizing and destigmatizing mental health issues in the community and at work.

PRESENT STUDY

Objectives

The goal of the present research was two-fold. First, I aimed to understand the relationship between occupational stressors and mental health outcomes among women in academia. Being able to establish how different stressors (i.e., general job stress, work to nonwork interference, nonwork to work interference, work to nonwork enhancement, nonwork to work enhancement) relate to various mental health symptoms will inform future research and interventions regarding how work can potentially be crafted by employees or particularly relevant stressors can be studied further be in attempts to prevent and/or reduce strain over time. Second, I assessed how the experience of stressors and mental health symptoms differ for female faculty members who are parents compared to those who are not. Understanding how different groups of people experience their work and utilize resources available to them is imperative to inform useful interventions that are accessible to a variety of employees. I will describe my specific hypotheses later in this section.

Anticipated Contributions

There are three ways in which this study should contribute to the existing literature on occupational stress and mental health. The present study first presents novel theoretical contributions by extending previous research of the JDR model by looking at symptoms of generalized anxiety and depression as outcomes related to experiences of occupational stress. Although previous literature has focused on overall strain, burnout, motivation, and physical health outcomes, few studies have addressed other mental health problems in relation to occupational stress.

Additionally, the present study extends current applications of the JDR model specifically to the occupation of university/college faculty members, specifically among female faculty members. Although the JDR model has been found to be versatile across multiple industries and occupations, relatively little research has applied this model to higher education and professors.

Finally, my study will make contributions to the literature on occupational stressors and strain in academia by investigating differences between parents and non-parents in academia. Existing research on women's experiences in academia has typically focused solely on mothers' experiences of strain, and has not made comparisons between the two groups. Although mothers in academia face unique challenges in combining nonwork responsibilities with their careers, less attention has been given to the strain that women without children in academia still face. Additionally, the present study has captured information regarding the interface between work and nonwork responsibilities as a potential buffer (i.e., enhancement of experiences) rather than a stressor, which has been rarely investigated in the existing occupational health psychology literature.

Hypotheses

Occupational Stressors and Mental Health

Existing research on occupational stressors among academics has argued that the nature of work in academia has changed over time, such that increasing numbers of academic positions are now untenured (Gillespie et al., 2001), workloads have increased (Boyd & Wylie, 1994), and academics are under increasing pressure to 'publish or perish' (Fisher, 1994). These changes have important consequences. Two other recent studies used survival analysis and hazard models to examine differences in the retention of science and social science assistant professors. These

studies established that the chances of survival of assistant professors in science and engineering are less than 50%. Specifically, Kaminski and Gisler (2012) found that the median time to departure of academia was 10.9 years, and that in social sciences, half of all entering faculty departed by year 9 (Box-Steffensmeier et al., 2015).

Qualitative research from Gillespie and colleagues (2001) identified task overload and resulting time constraints as a key finding from focus groups of Australian professors who were asked to identify the causes and outcomes of their occupational strain. Respondents agreed that in order to complete the high volume of work, many consistently reported working a high number of unpaid overtime hours (i.e., more than 40 hours/week), which further contributed to their experience of stress and work/nonwork conflict. Thorsen (1996) found similar findings among a sample of Canadian faculty, such that the hours spent on the job and tasks that had time constraints were significant stressors. Kinman (1998) published a report on occupational stress among academics in the U.K., and highlighted a relevant quote from a respondent's open-ended answer regarding time management in academia:

“I find the open-endedness of the expectations the single most stressful element of my job. A clearer definition of what is an accepted upper limit of work would be useful... There is always another paper to write, another grant to apply for, another paper to read for a lecture, an extra twenty minutes to spend with an unhappy student. Where do you stop?” (Kinman, 1998, p. 10)

Clearly, the presence of occupational stressors in academia is well-documented, although strains and in particular, mental health outcomes for faculty members, have received less attention in recent years. However, existing theoretical frameworks support the notion that sustained occupational stressors can lead to consequential strain, which can manifest in psychological or

physical ways.

Hypothesis 1: Perceptions of general job stress will be positively related to poor mental health outcomes including symptoms of burnout (1a), symptoms of depression (1b) and symptoms of anxiety (1c).

The Work/Nonwork Interface and Mental Health

The interface between work and nonwork responsibilities has often been categorized as a stressor specifically for those with immediate family responsibilities (i.e., work/family conflict). Work–family conflict occurs when efforts to fulfill work role demands interfere with one’s ability to fulfill family demands and vice versa (Greenhaus & Beutell, 1985). Because work–family conflict reflects a lack of overall fit between work and family life, it has been integrated into conceptual models of job stress as an important stressor in the lives of employees (e.g., Greenhaus & Parasuraman, 1986; Ironson, 1992). Expectedly, work-family conflict has been linked with heightened psychological distress, including depression (Frone, Russell, & Barnes, 1996). However, despite the fact that prior research supports a relationship between work–family conflict and employee health and well-being, the measures utilized often contain three major conceptual limitations regarding the assessment of the interface between work and nonwork responsibilities, which will be outlined and explained in the following sets of hypotheses.

The first major conceptual issue in the majority of work/nonwork research is that most of the research has focused on the interface between work and *family* roles, such as childcare, eldercare, or marital relationships, with very few studies measuring conflict with nonfamily roles outside work (i.e., volunteering, hobbies, pets; Fisher, Bulger, & Smith, 2009). Thus, those who may not have immediate family responsibilities are less likely to perceive the content of these measures as accurately describing their experiences of stress. My study seeks to examine how

parents and non-parents differ in their mental health and occupational stress; therefore, the assessment of conflict through "work/nonwork" terminology is more appropriate for accurate data collection and measurement.

The second conceptual issue with existing work/nonwork research regards the direction of the conflict outlined. Although definitions of work–family conflict (e.g., Greenhaus & Beutell, 1985) recognize that it is a bidirectional construct (i.e., work can interfere with family life and family life can interfere with work) many studies have either assessed only one type of interference or have used global measures that confound the bidirectionality of work/nonwork interference (see Mesmer-Magnus & Viswesveran, 2005 for a meta-analysis on work/family conflict measures). The notion that personal life interference with work (PLIW) can also negatively impact employees has been established in the literature; increased PLIW has been linked with depressive symptoms, poor physical health, and heavy alcohol use (Frone et al., 1996). The following hypotheses will outline the relationship between work interference with personal life (WIPL) and personal life interference with work (PLIW) (rather than work/family conflict) and mental health symptomology.

Hypothesis 2: Work interference with personal life will be positively related to mental health outcomes including burnout (2a), symptoms of depression (2b), and symptoms of anxiety (2c).

Hypothesis 3: Personal life interference with work will be positively related to mental health outcomes, including burnout (3a), symptoms of depression (3b), and symptoms of anxiety (3c).

The third conceptual limitation that has been outlined by Fisher and colleagues (2009) is that much less work/nonwork research has focused on measures of work/nonwork enhancement,

outlining the positive impact that combining work and nonwork roles can have on individuals. Carlson, Kacmar, Wayne, and Grzywacz (2006) developed a measure of work/family enrichment, and Hanson, Hammer, and Colton (2006) developed a multidimensional measure of work/family positive spillover. However, these measures focus solely on enhancement between work and family. It is important to understand how nonwork roles (unrelated to family) may be able to positively impact employees' lives, as well as how their work may be able to positively influence their nonwork lives. Carlson, Hunter, Ferguson, and Whitten (2014) found that work-family enrichment positively influenced job satisfaction as well as positive mood. Based on the notion that work enhancement of personal life (WEPL) would not be construed as a stressor, but perhaps a buffer or even a benefit of work, I predict that it will be negatively related to symptoms of burnout, depression, and anxiety.

Hypothesis 4: Work enhancement of personal life will be negatively related to mental health outcomes, including burnout (4a), symptoms of depression (4b), and symptoms of anxiety (4c).

Similar to WEPL, I expect that personal life enhancement of work (PLEW) will also operate as a buffer or benefit to improve employees' lives at work. Voydanoff (2005) and other sociologists have shown that participation and involvement in nonwork activities (e.g., community activities) can enhance job performance and job attitudes, as well as family-related variables such as marital satisfaction (Kirchmeyer, 1992; Voydanoff, 2005). Additionally, psychological capital has been outlined as an outcome of family-work enrichment (Mishra, 2015). Consistent with the existing literature on personal life enhancement of work, I hypothesize that PLEW will be negatively related to mental health outcomes.

Hypothesis 5: Personal life enhancement of work will be negatively related to mental health outcomes, including burnout (5a), symptoms of depression (5b), and symptoms of anxiety (5c).

Perceptions of Support

Previous research in occupational health psychology has supported the notion that organizational support can serve to lessen the severity of strain felt by employees from their work and non-work lives. As outlined in the Job Demands-Resources Model (Bakker & Demerouti, 2007; Demerouti et al., 2001), the amount of strain people experience in their work may be influenced by whether or not they perceive they have support (i.e., organizational support and social support) to help manage competing demands in multiple roles (where perceived support is seen as a resource). Social support has been examined in the literature for its potential direct and/or indirect effect on employee strain (Cooper et al., 2001; Dewe et al., 2002; Viswesvaran, Sanchez, & Fisher; 1999; Woodhead, Northrop, & Edelstein, 2016), as social support can work to decrease burnout and buffer the occupational stressor/strain process (Jenkins & Elliot, 2004). There is also evidence to suggest that work-related support, particularly support from supervisors, may be particularly important in decreasing strain among employees (Liang, Hsieh, Lin, & Chen, 2013; McGilton, Hall, Wodchis, & Petroz, 2007).

Organizational support has been highlighted across a variety of industries as a feasible buffer to the occupational stress process. Heaney, Price, and Rafferty (1995) demonstrated through a field experiment with human service workers that increasing organizational support through worksite coping resources (e.g., individual and group psychosocial resources, supervisor support) enhanced work team climate and reduced depressive symptoms in employees who participated in the experiment. Further, in their review of existing literature on employee

productivity and well-being, Kossek and colleagues (2010; 2012) noted that a caring workplace culture (which includes perceived organizational support) has a positive effect in both work and personal lives of employees. Isgro and Castañeda (2015) assert that practicing a “culture of care” within academic environments opens opportunities to acknowledge the multiple identities and responsibilities of employees while also fostering a workplace culture that is compassionate and productive. Therefore, with regard to the buffering effect of organizational support and nonwork social support on work/nonwork strain, I hypothesize the following:

Hypothesis 6: Perceptions of organizational support will moderate the relationship between general job stress and mental health outcomes, such that higher levels of organizational support will be associated with less burnout (6a), symptoms of depression (6b), and symptoms of anxiety (6c).

Hypothesis 7: Perceptions of organizational support will moderate the relationship between work interference with personal life and mental health outcomes, such that higher levels of organizational support will be associated with less burnout (7a), symptoms of depression (7b), and symptoms of anxiety (7c).

Hypothesis 8: Perceptions of organizational support will moderate the relationship between personal life interference with work and mental health outcomes, such that higher levels of organizational support will be associated with less burnout (8a), symptoms of depression (8b), and symptoms of anxiety (8c).

Hypothesis 9: Perceptions of nonwork support will moderate the relationship between general job stress and mental health outcomes, such that higher levels of nonwork support will be associated with less burnout (9a), symptoms of depression (9b), and symptoms of anxiety (9c).

Hypothesis 10: Perceptions of nonwork support will moderate the relationship between work interference with personal life and mental health outcomes, such that higher levels of nonwork support will be associated with less burnout (10a), symptoms of depression (10b), and symptoms of anxiety (10c).

Hypothesis 11: Perceptions of nonwork support will moderate the relationship between personal life interference with work and mental health outcomes, such that higher levels of nonwork support will be associated with less burnout (11a), symptoms of depression (11b), and symptoms of anxiety (11c).

Individual Differences

In line with social role theory (Eagly, 1987), employed parents are inherently filling the demands of multiple roles (employee, mother, wife, etc.) with limited resources to do so. This is not to say that employees who are not parents do not experience demands from other roles; however, other non-work responsibilities such as caring for pets, volunteering, hobbies, and home responsibilities are seemingly more predictable and less time-intensive than providing childcare. Fothergill and Feltey (2003) noted that academic mothers find the fact that their work often could be done at home stressful in itself. They reported academic mothers feeling extremely stretched thin in terms of their work roles and home roles. Further, these mothers attributed their success in their field due to personal expenses, sacrificing sleep and any kind of personal time in order to be productive in their work. It thus seems plausible that parents are more likely to have more competing demands between their work and nonwork lives, and less resources to meet these competing demands. Therefore, I hypothesize the following:

Hypothesis 12: Parents will have higher mean ratings of stressors than non-parents, including general job stress (12a), work interference with personal life (12b), and personal life interference with work (12c).

In contrast to the notable research on the negative aspects of combining parenthood with academic careers, there is also a body of literature that supports the positive aspects of combining work and nonwork roles. Research into faculty motherhood has highlighted the benefits of academia for parenthood such as the possible increased efficiency, sense of perspective, and better flexibility in scheduling (Ward & Wolf-Wendel, 2012). Additionally, working mothers have noted that responsibilities at work that led to time away from their families actually allowed them time to miss their children and thus return refreshed to their mothering roles (Dickson, 2018). Therefore, I hypothesize the following:

Hypothesis 13: Parents will have higher mean ratings of work enhancement of personal life than non-parents.

Further, research on mothers in academia has also found the positive impact of child-rearing and creation of joy in all areas of one's life, including interactions with students and other faculty (Ward & Wolf-Wendel, 2012). Further, qualitative research has found that the intellectual pleasure acquired from working in academia is an important part of women's self-identity, separate from their identity of being a parent (Dickson, 2018). Other sources of nonwork enrichment of work in academia have been noted, including ways in which academic parents felt more suited to their teaching roles since becoming parents. For example, academic parents felt that they had developed skills that were important and transferable to their work as a result of being a parent, such as time management, organization, and efficiency (Dickson, 2018).

Thus, I hypothesize that parents will attribute more enhancement of their work from their personal lives than non-parents.

Hypothesis 14: Parents will have higher mean ratings of personal life enhancement of work than non-parents.

Due to institutional, interpersonal, individual, and other barriers, women in academia are likely experiencing greater degrees of occupational stressors than their male counter parts (Michailidis, 2008). Not surprisingly, the occupational stress of higher education often inhibits individuals' ability to maintain life-affirming and health-promoting lifestyles. As some scholars have found, several academic mothers engage in negative stress management behaviors such as smoking, drinking, over-eating, and a sedentary lifestyle (Michailidis, 2008; Vancour & Sherman, 2010). These lifestyle behaviors have been linked to poor mental health as well (Cooper et al., 2012; Jerome et al., 2009; Pareletta, Alijeesh, & Baune, 2016). Given the likelihood that parents are managing more competing demands between work and nonwork with similar resources to (or less than) their colleagues without children, parents are likely to experience sustained strain that manifests as symptoms of depression, anxiety, and/or burnout.

Hypothesis 15: Parents will have higher mean ratings of mental health outcomes than non-parents, including burnout (15a), symptoms of depression (15b), and symptoms of anxiety (15c).

METHOD

Participants

I recruited female faculty from across the United States via convenience and snowball sampling to complete an anonymous online survey regarding their occupational stress and well-being. To be eligible for the study, participants had to report being employed as a faculty member at a college or university in the U.S. and working-full time in that position; therefore, graduate students, part-time, and adjunct faculty were not eligible for the present study. There were 242 women that met inclusion criteria for the study. Additionally, participants had to pass at least two of the three attention checks utilized in the study for their data to be retained for analysis. There were 25 participants were removed from the data based on failing more than one attention check and one participant who was removed for careless responding due to speeding through the survey. Therefore, 216 individuals were included in the present study.

Participant demographic characteristics including age, gender, race, education level, family structure (e.g., marital status, parental status, caregiver status), and mental health history were collected and can be found in Tables 2 and 3. The mean age of participants was 40.24 years old ($SD = 8.85$), with ages ranging from 26 to 74 years old. Participants were predominately White individuals (90%) with almost all (91%) having doctoral degrees. In my sample, 77% of participants were married, and 58% were parents, with an average of 1.85 children ($SD = 0.82$). The average age of the first-born child was 9.64 years old ($SD = 8.17$), and the average age of the second-born child was 9.42 years old ($SD = 7.70$). Of the women who reported having children, the majority (58%) reported they shared child care responsibilities with their partner (compared to 39% who indicated they were the primary caregiver of their children). Only 11% of

participants reported having eldercare responsibilities, devoting an average of 6.52 hours per week ($SD = 7.63$) to providing eldercare.

Work-related characteristics were also collected, including field of study, tenure-track vs. non-tenure track position, tenure status for those in tenure-track positions (e.g, pre-tenure, post-tenure), distribution of research, teaching, and service requirements, amount of time spent in current job (in years), and job title (e.g, Assistant Professor, Associate Professor, Professor). In my sample, 80% of participants were in tenure-track jobs; 51% of these individuals had already received tenure, while 49% had not. Participants had worked at their current job for an average of 7.62 years ($SD = 7.09$) and reported working an average of 49.5 hours per week ($SD = 8.79$, range 30-75 hours). On average, the largest percentage of work time was devoted to teaching ($M = 45.21\%$, $SD = 19.74\%$), then research ($M = 33.44\%$, $SD = 21.83\%$), and finally service ($M = 21.34\%$, $SD = 14.62\%$).

Procedure

I disseminated an anonymous Qualtrics survey to participants through convenience sampling among existing academic connections and subsequent snowball sampling of their colleagues, as well as online recruiting through social media (i.e., Facebook, Twitter, LinkedIn, Reddit, etc.). Two important sources of potential participants were accessible through two international Facebook group pages: Academic Mamas and The Professor Is In. The Academic Mamas group has over 17,000 members to date, and the group includes any mothers working in academia across the world. The Professor Is In has over 63,000 people who follow their page and postings, and attracts a diverse academic audience. I made a general post advertising my survey in each group twice, indicating that an anonymous survey for graduate student research was

available for anyone who wanted to participate so long as they had not previously participated (see Appendix A for posting).

The only identifying information related to the present study's survey was respondents' email addresses if they chose to provide one, which was used to conduct a raffle for gift cards as participant incentive. However, those who wished to provide an email addresses were redirected to a separate, password-protected survey to input their email. To encourage participants to answer the survey completely and carefully, four \$50 gift cards were raffled off to participants as incentives. Participants who answered the survey completely and passed 2 of 3 attention checks were eligible to be randomly selected to win one of the four gift cards.

Measures

General job stress. General job stress was assessed using the 15-item Stress-in-General (SIG) scale (Stanton, Balzer, Smith, Parra, & Ironson, 2001). This measure is an overall (rather than facet) measure of general job stress and is widely applicable, as opposed to being tied to specific stressors or strains. Previous research has found that the SIG assesses two dimensions of general job stress, but was designed with a unidimensional measurement model in mind (Stanton et al., 2001). The first, entitled Pressure, contains seven items, such as "Demanding" and "Hectic". The second factor, Threat, includes eight items, such as "Nerve-Wracking" and "Overwhelming". Full items can be found in Appendix C. Responses to each of the 15-items on the SIG measure were recorded as "Yes", "No", or "?/Not Sure." Scoring for the SIG is as follows: "No" = 0, "?" = 1.5 and "Yes" = 3 for the negatively worded items, and "No" = 3, "?" = 1.5, "Yes" = 0 for the positively worded items. I calculated a separate score for each dimension of the scale by summing the scores of each dimension's associated items, as well as an overall summed scale score, where higher scores indicate higher levels of general job stress.

To assess how the general job stress model fit the data, I first ran a confirmatory factor analysis on a unidimensional measurement model that included all items on a single factor. This model demonstrated poor model fit ($\chi^2 = 347.52$, $df = 90$, $p < .001$; $CFI = .74$; $TLI = .70$; $RMSEA = .11$) but good overall internal consistency reliability ($\alpha = .86$, $\omega = .87$). I then ran a measurement model that included two factors, "pressure" and "threat." There were seven items on the pressure factor, and eight items on the threat factor. The two-factor model demonstrated moderate model fit ($\chi^2 = 253.45$, $df = 89$, $p < .001$; $CFI = .84$; $TLI = .81$; $RMSEA = .09$). Cronbach's alpha values were .73 for the pressure dimension and .84 for the threat dimension ($\omega = .74$ and $\omega = .84$, respectively). However, given the good internal consistency of the overall measure, and the underlying goal of the items to capture a general, affectively oriented evaluation of the respondent's job situation (Stanton et al., 2001), I chose to report results of general job stress as a composite score of overall job stress. Analyses of the separate dimensions (threat and pressure) are discussed later in the paper as post hoc analyses.

Work/nonwork interference and enhancement. The work/nonwork interference and enhancement measure (Fisher et al., 2009) is a 16-item measure that assesses both the positive and negative aspects of the interface between work and nonwork. Although there are a multitude of measures that assess the work/family interface as a bi-directional and multidimensional construct (see Mesmer-Magnus & Visweveran, 2005 for a meta-analysis on these measures), many of these constructs lack clarity because they reference both conflict between work and family specifically, and conflict between work and nonwork (Tetrick.& Buffardi, 2006). Further, as noted by Fisher and colleagues (2009), there has been less empirical attention paid to the positive interface between work and nonwork. Thus, the included measure fills both needs because it focuses on work/nonwork interference and enhancement without being limited to the

mention of family roles, making it an appropriate measure for my intended sample of both women who are parents and non-parents.

The scale measures four separate and distinct dimensions of the work/nonwork interface: 1) work *interference* with personal life (WIPL), 2) personal life *interference* with work (PLIW), 3) work *enhancement* of personal life (WEPL), and 4) personal life *enhancement* of work (PLEW). A sample item from the WIPL dimension is "I often neglect my personal needs because of the demands of my job," whereas an item that demonstrates the PLIW dimension is "My work suffers because of everything going on in my personal life." An item from the WEPL dimension is "Because of my job, I am in a better mood at home," and PLEW is demonstrated by "My personal life gives me the energy to do my job." Full items can be found in Appendix D. Response options were recorded on a five-point Likert-type scale, with 1 being "*Strongly Disagree*" and 5 being "*Strongly Agree*". I scored and utilized this scale by creating composite scale scores for each dimension based on the average score for each dimension's associated items.

I tested the four-dimensional structure of the scale using a confirmatory factor analysis to assess how the model fit the data in the present sample. Five items were in the WIPL dimension, five items were in the PLIW dimension, three items were in the WEPL dimension, and three items were in the PLEW dimension. In this sample, the previously-validated four-factor model demonstrated good model fit ($\chi^2 = 210.01$, $df = 113$, $p < .001$; $CFI = .95$; $TLI = .94$; $RMSEA = .06$) and demonstrated good internal consistency reliability for each factor (WIPL: $\alpha = .91$, $\omega = .91$, PLIW: $\alpha = .83$, $\omega = .84$, WEPL: $\alpha = .78$, $\omega = .78$, PLEW: $\alpha = .86$, $\omega = .87$).

Burnout. The Copenhagen Burnout Inventory (CBI; Kristensen, Borritz, Villadsen, & Christensen, 2005) is a 19-item scale used to assess burnout in personal, work-related, and client-

related domains. For the purpose of this study, the CBI was adapted to only include the seven work-related burnout items. Three items assess the extent of agreement with statements, such as “I feel burned out because of my work.” The final four items assess frequency of burnout symptomology, such as “I am exhausted in the morning at the thought of another day at work.” Full items can be found in Appendix E . Response options are on a five-point Likert-type scale, with 1 being “*To a very low degree*” for agreement or “*Never/Almost never*” for frequency and 5 being “*To a very high degree*” for agreement or “*Always*” for frequency. I scored and utilized this scale by creating a composite scale score of burnout, based on combining the responses for the seven items and creating an average.

I conducted a confirmatory factor analysis to assess how the unidimensional model fit the data in the present sample. This measurement model demonstrated acceptable model fit ($\chi^2 = 65.89$, $df = 14$, $p < .001$; $CFI = .94$; $TLI = .91$; $RMSEA = .13$), and had strong internal consistency reliability ($\alpha = .89$, $\omega = .91$).

Depressive symptoms. The Center for Epidemiological Studies-Depression scale (CES-D 8; Radloff, 1977) is an eight-item unidimensional measure designed to assess depressive symptoms and identify individuals at risk for clinical depression. Initially, the CES-D was constructed with 20 self-report items that primarily measure affective and somatic dimensions of depression, especially reflected in complaints such as depressed mood, feelings of guilt and worthlessness, helplessness and hopelessness, loss of appetite, and sleep disturbance (Van de Velde, Levecque, & Bracke, 2009).

Although the measure does not assess all diagnostic criteria of clinical depression and is not intended as a diagnostic tool, it has been widely used and validated in many populations within the United States (Perreria, Deeb-Sossa, Harris, & Bollen, 2005). The measure asks

respondents how often, during the last two weeks, they have felt like each item. Sample items include “I felt like everything I did was an effort” and “I felt lonely.” Items can be found in Appendix F. Response options are “*Rarely or none of the time (less than 1 day)*,” “*Some or a little of the time (1-2 days)*,” “*Occasionally or a moderate amount of time (3-4 days)*,” and “*Most or all of the time (5-7 days)*,” and are scored as 0, 1, 2, and 3, respectively. The score range is from 0-24, with a higher score reflecting greater symptoms of depression. I created CES-D scores by summing the scores for the eight items for a total scale score. A score greater than or equal to 16 is typically interpreted as a probable case of clinical depression (Radloff, 1977). In the current sample, 7% of respondents had scores that were greater than or equal to 16. The established internal consistency of the shortened version is comparable to the full-length version ($\alpha = .83$ and $\alpha = .80$, respectively) and test-retest reliability is moderate, which is as expected if the scale is sensitive to current states ($r = .45-.70$) (Radloff, 1977; Van de Velde et al., 2009).

I ran a unidimensional confirmatory factor analysis on the measure to test the model fit of the CESD-8; this model demonstrated poor model fit ($\chi^2 = 98.69$, $df = 20$, $p < .001$; $CFI = .88$; $TLI = .84$; $RMSEA = .14$) but acceptable internal consistency reliability ($\alpha = .84$, $\omega = .84$). Based on factor loadings, discrepancy matrices, and item content, I removed two items because they were much more highly correlated with one another than any of the other items and had undesirable factor loadings (less than .40). Doing so resulted in a well-fitting model ($\chi^2 = 15.05$, $df = 9$, $p > .05$; $CFI = .99$; $TLI = .98$; $RMSEA = .05$) and acceptable internal consistency reliability ($\alpha = .81$, $\omega = .81$). I then ran my analyses with both versions of the CES-D (i.e., including all eight items in the composite score for analyses, and then creating a new composite score from the six items that were retained, and using the revised composite score for analyses) to assess whether differences arose due to the model fit. Significant (and non-significant) effects

were consistent regardless of the version of the scale used, and effect sizes did not change. Thus, I chose to retain and report findings from the original, validated version of the CESD-8 scale.

Generalized anxiety disorder symptoms. The Generalized Anxiety Disorder self-report scale (GAD-7; Spitzer, Kroenke, Williams, & Löwe, 2006) is a seven-item measure to identify probable cases of GAD and assess symptom severity. Because existing measures of anxiety are seldom used due to their length, proprietary nature, or requirement of clinical diagnosis, this brief scale is used to assess the frequency and intensity of symptoms that are typical for GAD. This measure is also not intended as a diagnostic tool. Although anxiety and depression have high comorbidity, previous factor analyses have confirmed that depression and anxiety are separate dimensions within this scale (Spitzer et al., 2006).

The questionnaire asks respondents how often, during the last two weeks, they were bothered by each symptom. Response options are “*Not at all*,” “*Several days*,” “*More than half the days*,” and “*Nearly every day*,” and are scored as 0, 1, 2, and 3, respectively. Responses were then summed for a total overall score, where higher scores indicate stronger anxiety symptoms. Sample items include “How often have you been bothered by feeling nervous, anxious or on edge?” and “How often have you been bothered by not being able to stop or control worrying?” Items can be found in Appendix G. A score of 10 or greater on the GAD-7 represents a reasonable point for identifying cases of GAD (Spitzer et al., 2006). In the current sample, 27% of participants had scores of 10 or greater. I conducted a confirmatory factor analysis to test the unidimensional model fit of the GAD-7 in my sample; this measurement model had good model fit ($\chi^2 = 56.43$, $df = 14$, $p < .001$; $CFI = .95$; $TLI = .92$; $RMSEA = .12$) and good internal consistency reliability ($\alpha = .89$, $\omega = .89$).

Overall organizational support. The Perceived Organizational Support Survey (POSS;

Eisenberger, Huntington, Hutchison, & Sowa, 1986) is a 17-item measure used to evaluate employees' perceptions of support from their organization, supervisors, peers, and subordinates. Perceived organizational support has been shown across industries to strengthen employees' affective attachment to an organization, resulting in greater efforts to fulfill the organization's goals (Eisenberger et al., 1986). Therefore, employees may experience less strain if they feel they are well-supported while at work. The scale captures support from the overall organization, supervisors, peers, and subordinates (adapted to "people I supervise" in the context of universities). Sample items include "Help is available from my university when I have a problem," and "Other faculty at my level really care about my well-being." Full items can be found in Appendix H. I tested an overall, unidimensional model of organizational support and conducted a confirmatory factor analysis to assess the model fit. This model demonstrated poor fit ($\chi^2 = 928.97$, $df = 119$, $p < .001$; $CFI = .62$; $TLI = .55$; $RMSEA = .17$) but good internal consistency ($\alpha = .94$, $\omega = .97$). An overall composite score of organizational support was created by taking the average score from all items.

Nonwork support. Nonwork social support was assessed using an established 7-item measure from Winefield, Winefield, and Tiggemann (1992). The measure asks respondents to think about the 2-3 friends or family that are most important to them and how often, during the past month, they felt supported by these people. Response options were recorded on a five point-point Likert scale, with 1 being "Never" and 5 being "Always." Sample items include "How often could you use them as examples of how to deal with your problems?" and "How often did you feel that they were really trying to understand your problems?" A full list of items can be found in Appendix I. I ran a unidimensional confirmatory factor analysis on the measure to test the model fit of nonwork support in my sample; this model showed acceptable overall model fit

model ($\chi^2 = 79.33$, $df = 14$, $p < .001$; $CFI = .91$; $TLI = .87$; $RMSEA = .14$) and good internal consistency ($\alpha = .86$, $\omega = .86$). I created an overall scale score by taking the average of responses from the seven items.

Demographic and work-related characteristics. Participant demographic information and work-related characteristics were collected for the purpose of accurately describing the sample of respondents when reporting results, as well as potentially controlling for covariates where relevant. This information includes personal demographics such as gender, age, race, education level, family structure (e.g., marital status, parental status), caregiving status (e.g., childcare, eldercare), subjective health, and current and previous mental health history. Work-related characteristics, such as field of study, tenure-track position, tenure status, ranking, percentage of female colleagues in the respondent's department, and percentage of time devoted to research, teaching, and service were also collected. Demographics and work-related characteristics can be found in Appendix B and summarized in Tables 2 and 3.

Age, race, tenure-track position, tenure-track status, and percentage of female faculty in the department were not significantly correlated with any of the outcome variables (e.g., mental health variables). Additionally, race, tenure-track position, tenure-track status, and percentage of female faculty were not significantly correlated with any of the predictor variables (e.g., occupational stressors). Due to these findings, race, tenure-track position, tenure-track status, and percentage of female faculty were not retained as potential control variables in my analyses. Age, parental status, marital status, subjective health, current and previous mental health treatment, and hours worked per week were used as control variables in my analyses, and are described in more detail in the post hoc analyses section.

Negative affectivity. The negative affectivity scale (PANAS; Watson, Clark, & Tellegen,

1988) is a 10-item scale that has often been used to measure negative affectivity (NA) across different time dimensions, including “in this moment,” “today,” “past few weeks,” “in general,” etc. For the purpose of this study, time instructions indicated “in general” to assess more stable, trait-like dispositions of affectivity. Negative affectivity is a general dimension of subjective distress and unpleasurable engagement that includes a variety of aversive mood states, like nervousness, guilt, contempt, and anger (Watson et al., 1988). Response options are on a five-point Likert scale, with 1 being “*Very slightly or not at all*” and 5 being “*Extremely*.” The items and time instructions used for this study can be found in Appendix J. The coefficient alpha of the validated NA scale was .87 (Watson et al., 1988). In the present study, the internal consistency reliability of the NA scale was comparable ($\alpha = .87$, $\omega = .88$). To test the model fit of the negative affectivity scale, I conducted a confirmatory factor analysis on a unidimensional measurement model, with all ten items loaded onto one factor. This measurement model demonstrated poor model fit ($\chi^2 = 262.28$, $df = 35$, $p < .001$; $CFI = .75$; $TLI = .67$; $RMSEA = .17$). Due to the poor fit of this model, I examined the factor loadings, discrepancy matrices, and item content. I dropped two items that seemed to be causing misfit, which resulted in a better but still poor-fitting model ($\chi^2 = 152.14$, $df = 20$, $p < .001$; $CFI = .81$; $TLI = .73$; $RMSEA = .18$) but acceptable internal consistency ($\alpha = .82$, $\omega = .82$). Due to poor model fit, the usefulness of negative affectivity as a control variable is debatable.

Brief and colleagues (1988) argued that negative affectivity can inflate correlations between stressor and strain variables, suggesting that researchers should control for negative affectivity to reduce this inflation. Watson and Pennebaker (1989) also assert that self-report measures of stress and health both contain a significant negative affectivity, arguing that correlations between these measures likely overestimate the true association between stress and

health. However, more recent research has viewed negative affectivity in a more complex light. Spector and colleagues argues strongly against the process of partialling as a means of controlling negative affectivity (Spector, Zapf, Chen, & Frese, 2000), Payne (2000) refutes the suggestion that affective content should be removed from job stressor and job strain measures, and Judge, Erez, and Thoresen (2000) argue that negative affectivity as well as other factors, such as self-deception, should be included in the job strain process. In the present sample, I ran analyses both controlling for and not controlling for negative affectivity. Patterns of significance, as well as the magnitude of effect sizes and the overall variance explained, did not change as a result of controlling for negative affectivity. However, these preliminary results should also be interpreted in the context of the poor model fit of the negative affectivity scale in this sample. Due to the lack of change in findings based on the inclusion of negative affectivity, results are reported without including negative affectivity as a control variable.

Mental health stigma. Mental health stigma is a major obstacle to conducting research around mental health, as well as an obstacle to well-being for those who may suffer from poor mental health (Follmer & Jones, 2018; Fox, Earnshaw, Taverna, & Vogt, 2018). Findings from the most recent nationally representative study of public attitudes towards mental health in the U.S. indicated that only 42% of Americans between the ages of 18-24 believe that people with mental health problems can be successful at work (Fox et al., 2018). Therefore, addressing the potential for both public stigma and self-stigma may provide crucial insight for future research initiatives.

A recent review of existing mental health stigma scales identified 140 measures of mental health stigma, distinguishing the numerous approaches to conceptualizing stigma in research literature (Fox et al., 2018). However, a thorough review of the existing scales revealed

that the majority of the scales used wording that was either specific for respondents who were clinically diagnosed with a mental illness, or for people in the general public that had no history of mental illness. Thus, the wording of items in existing scales was not adequate for the scope or goals of the present study. Given the types of samples that the existing scales used, stigma was typically dichotomized as either public stigma or self-stigma, which did not allow for both types of stigma to be assessed. Since my respondents had diverse symptomologies and histories of poor mental health, I felt it was important to use a scale that could be endorsed by a variety of individuals to evaluate both public stigma and self-stigma.

The ADHD Stigma Questionnaire (ASQ; Kellison, Bussing, Bell, & Garvan, 2010) is a 26-item scale that was adapted from an established human immunodeficiency virus (HIV) stigma scale (Berger, Ferrans, & Lashley, 2001) to assess stigma for ADHD. This assessment has three identified factors: disclosure concerns, negative self-image, and concern with public attitudes. Items from disclosure concerns and negative self-image are able to address potential self-stigma, whereas concern with public attitudes addresses public stigma. In the original validation of this measure, an “overall stigma” factor was assessed through a Schmid-Leiman solution (SLS) analysis to explain 48% of the total common variance (Kellison et al., 2010). An SLS analysis allows the direct relationships between variables and higher order factors to be calculated for interpretation of the relative impact of factor levels on variables (Wolff & Preising, 2005). The results of this initial analysis thus ensured that an overall stigma measure would adequately represent the three subscales.

Research has shown that experiences of mental health stigma have led those with mental health problems to try to conceal their problems, as well as fear discrimination (Follmer & Jones, 2018; Wahl, 1999). Thus, respondents who have relatively high scores on a mental health stigma

assessment may be more likely to fake answers in assessments mental health, reducing data quality. To my current knowledge, there is not existing literature that provides recommendations for controlling for mental health stigma in research that examines mental health as an outcome. Existing mental health stigma scales have exclusively been used to study mental health stigma as a predictor or an outcome variable (rather than as a control). However, the acceptable validated factor structure, internal consistency ($\alpha = .93$), two-week test-retest correlations (.71), and evidence of convergent and divergent validity suggest that this measure could be successfully adapted to assess mental health stigma for the scope of the current project. Therefore, this scale adaptation was an exploratory part of my data analyses to assess whether differences arose in the data when mental health stigma was controlled and not controlled for.

The modified version of the ASQ can be found in Appendix K. An example of an item from the original ASQ that was adapted is “Most people are uncomfortable around someone with ADHD” and modified to “Most people are uncomfortable around someone who has mental health problems.” Response options were recorded on a five point-point Likert scale, with 1 being “*Strongly Disagree*” and 5 being “*Strongly Agree*.” An overall stigma score was constructed as an average of the 26 items, as well as subscale scores for each of the three factors as an average of each factor's associated items.

To test the model fit of the mental health stigma assessment in my sample, I first conducted a confirmatory factor analysis on a unidimensional measurement model, where all 26 items were included on a single factor. This model showed poor model fit ($\chi^2 = 947.31$, $df = 299$, $p < .001$; $CFI = .69$; $TLI = .66$; $RMSEA = .10$) but acceptable internal consistency reliability ($\alpha = .91$, $\omega = .91$). I then tested a three-dimensional factor structure of the scale using a confirmatory factor analysis to assess how the proposed three factors fit the data in the present sample. Seven

items were in the disclosure concerns dimension, six items were in the negative self-image dimension, and 13 items were in the concern with public attitudes dimension. This three-factor model also showed poor model fit ($\chi^2 = 803.11$, $df = 296$, $p < .001$; $CFI = .76$; $TLI = .73$; $RMSEA = .09$) but acceptable internal consistency for disclosure concern dimension ($\alpha = .79$, $\omega = .79$), negative self-image dimension ($\alpha = .80$, $\omega = .81$) and concern with public attitudes dimension ($\alpha = .85$, $\omega = .85$).

Given the exploratory nature of including mental health stigma in my analyses, I conducted analyses with and without mental health stigma as a control variable. I initially controlled for mental health stigma as an overall composite score, and then controlled for the three specific dimensions of mental health stigma individually. Patterns of significance, the magnitude of effect sizes, and the overall amount of variance explained did not change by including mental health stigma (as an overall composite or its' individual dimensions) as a control variable. Due to the lack of change in the findings based on the inclusion of mental health stigma, results are reported without including mental health stigma as a control variable.

Attention checks. Attention checks are widely used in survey research to as a method to filter out careless respondents (Gummer, Robmann, & Silber, 2018; Oppenheimer, Meyvis, & Davidenko, 2009; Meade & Craig, 2012). Current research still debates the positive impact of attention checks on scale validity. For example, Yung, Kwok, and Brown (2018) found no evidence that attention checks impact scale validity, whereas Abbey and Meloy (2017) found evidence that attention checks significantly improved fit on both construct and scale validation by isolating and eliminating inattentive respondents. Although there are mixed findings regarding the incremental benefits attention checks have on data quality, researchers have agreed that attention checks do not have systematic negative impacts on scale validity and data quality.

More specifically, even though attention checks may seem tedious, unrelated to the survey content, and/or boring to respondents, they have not been shown to harm data quality.

When the incentive is low for survey takers to provide careful responses (e.g., long surveys, little or no compensation), careless responding tends to be higher (Abbey & Meloy, 2017). In this situation, the use of attention checks allowed me to screen out careless responses, aiming to reduce the likelihood that careless responding may damage data quality (Meade & Craig, 2012). Following recommendations from Abbey and Meloy (2017) to reduce the likelihood of sample loss from attention checks, I used directed queries (sometimes referred to as instructed response items) for attention checks. Directed queries are easy to implement into surveys and high on objectivity, meaning that the researcher does not to be highly involved to assess the outcome of the attention check. Gummer and colleagues (2018) also noted that directed queries do not require much space in a questionnaire, are not cognitively demanding of the respondent, and provide a measure of how thoroughly respondents read items of a grid.

A sample item that was used for an attention check is “For this question, please select *‘Strongly Agree.’*” During the course of the present study, I used three items as attention checks to help ensure data quality. Research on survey methodology and attention check use suggests that several attention checks should be included throughout a survey (Gummer et al., 2018). I inserted directed query items into different existing scales at the beginning, middle, and end of the survey to establish attention through the entirety of the present study.

RESULTS

First, I cleaned my data and ran preliminary analyses to assess the quality of my data and describe my sample. I then tested my proposed hypotheses using Pearson's correlation tests, hierarchical regression analyses, and Welch's independent samples t-tests. Finally, I conducted a plethora of post hoc analyses to assess additional relationships between key variables of interest and to re-examine initially proposed hypotheses with modified versions of variables where appropriate.

Data Cleaning and Preliminary Analyses

Prior to testing any hypotheses, I first cleaned the data and ran preliminary analyses to inspect the quality of the data for missing values and systematic errors, per the recommendations of Kline (2011). I collected 242 responses from women that met the inclusion criteria of working full-time as a faculty member in the United States. Of these 242 responses, 25 missed more than one out of three attention checks, and one spent less than 10 minutes on the survey that took an average of 20-25 minutes to complete (indicating rushing and careless responding), leaving a final sample size of 216 participants. The decision to retain participants who missed one attention check was made for a few reasons. First, there was a large discrepancy in the number of people who passed the third attention check in comparison to the first two attention checks. This was likely due to attrition, as respondents were less likely to complete measures at the end of the survey due to its length. Second, I did not want to drastically reduce the size of my sample. I had 242 women meet eligibility requirements for my survey; retaining only those that passed all three attention checks would have reduced my sample size to 187, whereas including respondents who passed any 2 out of 3 attention checks retained 216 women. Finally, research has suggested that

excluding respondents who fail an instructed response item (Anduiza & Galais, 2016; Gummer et al., 2018) or respondents who speed through surveys (Greszki et al., 2015) does not significantly alter the results of analyses or improve data quality. Although instructed response items can serve as an indicator for respondents who provide questionable data quality, inattentiveness varies across time and surveys.

After removing these 25 cases, the total data frame contained 4.9% of missing data, which falls under the acceptable range of 5-10% (Newman, 2014). However, this percentage is likely an overestimation of missing data, as I included skip-logic patterns for a large proportion of demographic questions in the survey (skip-logic patterns are denoted in Appendix B). Therefore, some of this missing data is missing by design. For example, someone was not asked how many hours per week they provided eldercare to a family member if they previously indicated that they did not have eldercare responsibilities.

At the item level, a few items related to the constructs of interest for this study that had missing data included current mental health history (47%), and previous mental health history (25%). Upon re-inspection of the current and previous mental health history items, I determined that a response option for "None of the above", indicating no mental health history to report, was omitted in the survey. Thus, the large percentage of missing data for these two items is likely attributable to participants not having a mental health history (and not having a response option to indicate so). Alternatively, respondents may have not felt comfortable disclosing information about their mental health diagnoses, or were experiencing survey fatigue, as these were the last two items in the survey. A few work-related characteristics including field of study, percentage of female faculty in the respondent's department, and hours worked per week were also missing small percentages of data (< 3%). These three items required participants to manually enter in

their responses, as opposed to selecting their responses from existing drop-down responses or using a Likert-type scale. These types of items are typically seen as more demanding of participants, which may have impacted participants' willingness to respond to these items. At the scale-variable level, overall general job stress, perceived organizational support, and nonwork support were all missing at completely at random ($< 0.05\%$). Given Newman's recommendations to refrain from maximum likelihood estimation techniques for missing data if the percentage of missing data is not greater than 10%, item-level and scale-level data were not imputed for the present study.

Means, standard deviations, and reliabilities for all study variables are reported in Table 1. Descriptive statistics for personal characteristics and work-related characteristics are reported in Tables 2 and 3. Correlations amongst study variables are reported in Table 4. The assumption of normality necessary for conducting linear regression was met for all study variables by examining skew and kurtosis indices, which were all within acceptable ranges. I did not find any problematic outliers in the data. To assess the potential assumption violations of multicollinearity, non-linearity, and heteroscedasticity, I looked at residual scatter plots, which did not indicate any serious concerns. To determine that the measures used in the present study demonstrated good model fit and acceptable internal consistency, I conducted CFAs for each scale and obtained estimates of Cronbach's alpha (α) and Macdonald's omega (ω). For scales that did not have acceptable model fit or internal consistency, I made changes to improve the overall model fit and internal consistency. I then compared the results that came from using the original measures to the results from using the modified scales/variables. Results are reported using the originally proposed measures, as significant effects and effect sizes did not change based on the use of modified scales for improved model fit and internal consistency. I conducted

Pearson's correlation tests, hierarchical regression analyses, and Welch's independent samples t-tests in RStudio, v. 1.2.5001 to test the outlined hypotheses. Results for each set of analyses are presented below, organized by hypothesis.

Hypothesis Testing

I tested Hypotheses 1a-c, which proposed that job stress in general would be positively related to symptoms of burnout, depression, and anxiety, respectively, by conducting a Pearson's correlation test of significance. Job stress was positively and strongly related to burnout ($r = .73$, $p < .001$), symptoms of depression ($r = .46$, $p < .001$), and symptoms of anxiety ($r = .50$, $p < .001$). Therefore, Hypotheses 1a, 1b, and 1c were fully supported.

I tested Hypotheses 2a-c, which proposed that work interference with personal life (WIPL) would be positively related to symptoms of burnout, depression, and anxiety, respectively, with a Pearson's correlation test of significance. Work interference with personal life was positively and strongly related to burnout ($r = .69$, $p < .001$), symptoms of depression ($r = .46$, $p < .001$), and symptoms of anxiety ($r = .49$, $p < .001$). Therefore, Hypotheses 2a, 2b, and 2c were fully supported.

Hypotheses 3a-c proposed that personal life interference with work (PLIW) would be positively related to symptoms of burnout, depression and anxiety. I tested these hypotheses with a Pearson's correlation test of significance. Personal life interference with work was not related to burnout ($r = -.07$, $p = .33$) or symptoms of depression ($r = -.05$, $p = .48$). PLIW was significantly negatively related to symptoms of anxiety ($r = -.15$, $p = .03$), although the correlation was weak. Therefore, Hypotheses 3a, 3b, and 3c were not supported.

Hypotheses 4a-c proposed that work enhancement of personal life (WEPL) would be negatively related to symptoms of burnout, depression, and anxiety. I tested these hypotheses

with a Pearson's correlation test of significance. Work enhancement of personal life was negatively and strongly related to burnout ($r = -.68, p < .001$), symptoms of depression ($r = -.46, p < .001$), and symptoms of anxiety ($r = -.43, p < .001$). Thus, Hypotheses 4a, 4b, and 4c were fully supported.

I tested Hypotheses 5a-c, which proposed that personal life enhancement of work (PLEW) would be negatively related to symptoms of burnout, depression, and anxiety, with a Pearson's correlation test of significance. Personal life enhancement of work was negatively and moderately related to burnout ($r = -.32, p < .001$), symptoms of depression ($r = -.42, p < .001$), and symptoms of anxiety ($r = -.27, p < .001$). Thus, Hypotheses 5a, 5b, and 5c were fully supported.

Hypotheses 6a-c proposed that perceived organizational support moderated the relationships between general job stress and mental health outcomes (burnout, depression, and anxiety), such that higher overall organizational support would be associated with better mental health outcomes (i.e., less burnout, depressive symptoms, and anxiety symptoms). Hypotheses 7a-c proposed that overall organizational support moderated the relationships between work interference with personal life and mental health outcomes (burnout, depression, and anxiety) in the same direction. Hypotheses 8a-c proposed that overall organizational support moderated the relationships between personal life interference with work and mental health outcomes (burnout, depression, and anxiety) in the same direction. I tested these hypotheses using hierarchical regression analyses. To test each hypothesis, I first mean-centered the predictor and moderator variables to create a meaningful zero-value and to reduce the likelihood of multicollinearity (Cohen, 2008). I then entered the mean-centered predictor and moderator variables into the first step of the regression analysis and regressed them on the mental health outcome of interest to

examine the main effects. Then, I entered the interaction term (occupational stressor*overall organizational support) into the analysis to determine whether the addition of the interaction term increased the variance explained in mental health outcomes (ΔR^2) and if the interaction term was statistically significant, indicating a moderated relationship. The full model output from each proposed hypothesis can be found in Tables 5-13.

To test Hypothesis 6a, overall general job stress and overall organizational support were entered into the first step of the regression analysis and regressed on burnout. In this model, both variables had significant direct effects on burnout. Results from the next step of the regression analysis, where the interaction term was entered, showed that the interaction term was not statistically significant, $\beta = 0.00$ ($SE = .01$), $p = .81$, and the variance explained in burnout did not increase with the addition of the interaction term, $\Delta R^2 = .00$ ($p > .05$). Thus, there was no detectable interaction between general job stress and overall organizational support on burnout, and Hypothesis 6a was not supported.

To test Hypothesis 6b, overall general job stress and overall organizational support were regressed on symptoms of depression. In this model, both variables had significant direct effects on burnout. After adding in the interaction term, the variance explained in symptoms of depression did not increase, $\Delta R^2 = .00$ ($p > .05$), and the interaction term was not statistically significant, $\beta = 0.00$ ($SE = .01$), $p = .91$. There was no detectable interaction between general job stress and overall organizational support on symptoms of depression, and Hypothesis 6b was not supported.

To test Hypothesis 6c, overall general job stress and overall organizational support were regressed on symptoms of anxiety. In this model, both variables had a significant direct effect on symptoms of anxiety. After adding in the interaction term, the variance explained in symptoms

of anxiety did not increase, $\Delta R^2 = .00$ ($p > .05$), and the interaction term was not statistically significant, $\beta = 0.00$ ($SE = .01$), $p = .87$. There was no detectable interaction between general job stress and overall organizational support on symptoms of anxiety, and Hypothesis 6c was not supported.

To test Hypothesis 7a, WIPL and perceived organizational support were regressed on burnout. In this model, both variables had significant direct effects on burnout. After adding the interaction term into the hierarchical regression, the variance explained in burnout did not increase, $\Delta R^2 = .00$ ($p > .05$), and the interaction term was not statistically significant, $\beta = 0.00$ ($SE = .05$), $p = .94$. There was no detectable interaction between WIPL and perceived organizational support on burnout, and Hypothesis 7a was not supported.

To test Hypothesis 7b, WIPL and perceived organizational support were regressed on symptoms of depression. In this model, both variables had significant direct effects on symptoms of depression. After adding in the interaction term, the variance explained in symptoms of depression slightly increased, $\Delta R^2 = .01$ ($p = .05$), and the interaction term was borderline statistically significant, $\beta = -0.09$ ($SE = .05$), $p = .05$. This interaction was probed using the Johnson-Neyman technique, which tests the conditional effects of WIPL at three levels of perceived organizational support; one standard deviation below the mean ($\beta = .27$, $SE = .06$, $p = .00$), at the mean ($\beta = .20$, $SE = .04$, $p = .00$), and one standard deviation above the mean ($\beta = .13$, $SE = .05$, $p = .01$). Figure 1 shows this technique; the difference in the slopes for those who perceived more organizational support or less organizational support shows that perceived organizational support moderates the relationship between WIPL and depressive symptoms. However, Figure 2 shows that when overall perceived organizational support was rated above

4.3 (out of 5), the relationship between WIPL and depressive symptoms became non-significant. Thus, Hypothesis 7b was partially supported.

To test Hypothesis 7c, WIPL and perceived organizational support were regressed on symptoms of anxiety. In this model, both variables had a significant direct effect on symptoms of anxiety. After adding in the interaction term, the variance explained in symptoms of anxiety did not increase, $\Delta R^2 = .00$ ($p > .05$), and the interaction term was not statistically significant, $\beta = -0.04$ ($SE = .05$), $p = .52$. There was no detectable interaction between WIPL and perceived organizational support on anxiety, and Hypothesis 7c was not supported.

To test Hypothesis 8a, PLIW and perceived organizational support were regressed on burnout. In this model, only perceived organizational support had a significant direct effect on burnout. After adding the interaction term into the hierarchical regression, the variance explained in burnout did not increase, $\Delta R^2 = .00$ ($p > .05$), and the interaction term was not statistically significant, $\beta = 0.06$ ($SE = .06$), $p = .34$. There was no detectable interaction between PLIW and perceived organizational support on burnout, and Hypothesis 8a was not supported.

To test Hypothesis 8b, PLIW and perceived organizational support were regressed on symptoms of depression. In this model, only perceived organizational support had a significant direct effect on symptoms of depression. After adding in the interaction term, the variance explained in symptoms of depression did not increase, $\Delta R^2 = .00$ ($p > .05$), and the interaction term was not statistically significant, $\beta = 0.00$ ($SE = .05$), $p = .96$. There was no detectable interaction between PLIW and perceived organizational support on symptoms of depression, and Hypothesis 8b was not supported.

To test Hypothesis 8c, PLIW and perceived organizational support were regressed on symptoms of anxiety. In this model, only perceived organizational support had a significant

direct effect on symptoms of anxiety. After adding in the interaction term, the variance explained in symptoms of anxiety slightly increased, $\Delta R^2 = .01$ ($p > .05$), but the interaction term was not statistically significant, $\beta = -0.08$ ($SE = .06$), $p = .23$. There was no detectable interaction between PLIW and perceived organizational support on symptoms of anxiety. Thus, Hypothesis 8c was not supported.

Results suggest that in this sample, perceived organizational support does not generally moderate the relationship between occupational stressors and mental health outcomes – perceived organizational support is instead directly and negatively related to mental health outcomes.

Hypotheses 9a-c proposed that nonwork support moderated the relationships between job stress and mental health outcomes (burnout, depression, and anxiety), such that higher nonwork support would be associated with better mental health outcomes (i.e., less burnout, depressive symptoms, and anxiety symptoms). Hypotheses 10a-c proposed that nonwork support moderated the relationships between work interference with personal life and mental health outcomes (burnout, depression, and anxiety) in the same direction. Hypotheses 11a-c proposed that nonwork support moderated the relationships between personal life interference with work and mental health outcomes (burnout, depression, and anxiety) in the same direction. I also tested these hypotheses using hierarchical regression analyses. The full model output for each proposed hypothesis can be found in Tables 14-22.

To test Hypothesis 9a, job stress in general and nonwork support were entered into the first step of the regression analysis and regressed on burnout. In this model, only general job stress had a significant direct effect on burnout. Results from the next step of the regression analysis, where the interaction term was entered, showed that the interaction term was not

statistically significant, $\beta = -0.01$ ($SE = .01$), $p = .31$, and the variance explained in burnout did not increase with the addition of the interaction term, $\Delta R^2 = .00$ ($p > .05$). Thus, there was no detectable interaction between job stress in general and nonwork support on burnout, and Hypothesis 9a was not supported.

To test Hypothesis 9b, job stress in general and nonwork support were regressed on symptoms of depression. This model was significant, and both variables had significant direct effects on symptoms of burnout. After adding in the interaction term, the variance explained in symptoms of depression did not increase, $\Delta R^2 = .00$, and the interaction term was not statistically significant, $\beta = -0.01$ ($SE = .01$), $p = .38$. There was no detectable interaction between job stress in general and nonwork support on symptoms of depression; thus, Hypothesis 9b was not supported.

To test Hypothesis 9c, job stress in general and nonwork support were regressed on symptoms of anxiety. This model was significant, and both variables had a significant direct effect on symptoms of anxiety. After adding in the interaction term, the variance explained in symptoms of anxiety did not increase, $\Delta R^2 = .00$, and the interaction term was not statistically significant, $\beta = 0.00$ ($SE = .01$), $p = .99$. There was no detectable interaction between job stress in general and nonwork support on symptoms of anxiety, and Hypothesis 9c was not supported.

To test Hypothesis 10a, WIPL and nonwork support were regressed on burnout. This model was significant, but only WIPL had a significant direct effect on burnout. After adding the interaction term into the hierarchical regression, the variance explained in burnout slightly increase, $\Delta R^2 = .01$ ($p = .03$), and the interaction term was statistically significant, $\beta = -0.10$ ($SE = .05$), $p = .03$. This interaction was probed using the Johnson-Neyman technique, which tests the conditional effects of WIPL at three levels of nonwork support; one standard deviation below

the mean ($\beta = .60, SE = .06, p = .00$), at the mean ($\beta = .52, SE = .04, p = .00$), and one standard deviation above the mean ($\beta = .44, SE = .05, p = .00$). Figure 3 shows this technique; the difference in the slopes for those who perceived more nonwork support or less nonwork support shows that nonwork support moderates the relationship between WIPL and burnout. Figure 4 shows that the slope of WIPL is significantly different at all levels of nonwork support, lending support for Hypothesis 10a.

To test Hypothesis 10b, WIPL and nonwork support were regressed on symptoms of depression; this model was significant, and both variables had significant direct effects on symptoms of depression. After adding in the interaction term, the variance explained in symptoms of depression slightly increased, $\Delta R^2 = .01 (p > .05)$, but the interaction term was not statistically significant, $\beta = -0.05 (SE = .05), p = .25$. There was no detectable interaction between WIPL and nonwork support on symptoms of depression. Hypothesis 10b was not supported.

To test Hypothesis 10c, WIPL and nonwork support were regressed on symptoms of anxiety. This model was significant, and both variables had a significant direct effect on symptoms of anxiety. After adding in the interaction term, the variance explained in symptoms of anxiety did not increase, $\Delta R^2 = .00 (p > .05)$, and the interaction term was not statistically significant, $\beta = -0.03 (SE = .05), p = .61$. There was no detectable interaction between WIPL and nonwork support on symptoms of anxiety. Hypothesis 10c was not supported.

To test Hypothesis 11a, PLIW and nonwork support were regressed on burnout. This model was significant, but only nonwork support had a significant direct effect on burnout. After adding the interaction term into the hierarchical regression, the variance explained in burnout did not increase, $\Delta R^2 = .00 (p > .05)$, and the interaction term was not statistically significant, $\beta = -$

0.01 ($SE = .07$), $p = .94$. Thus, there was no detectable interaction between PLIW and nonwork support on burnout, and Hypothesis 11a was not supported.

To test Hypothesis 11b, PLIW and nonwork support were regressed on symptoms of depression; this model was significant, but only nonwork support had a significant direct effect on symptoms of depression. After adding in the interaction term, the variance explained in symptoms of depression did not increase, $\Delta R^2 = .00$ ($p > .05$), and the interaction term was not statistically significant, $\beta = 0.07$ ($SE = .06$), $p = .24$. There was no detectable interaction between PLIW and nonwork support on symptoms of depression. Hypothesis 11b was not supported.

To test Hypothesis 11c, PLIW and nonwork support were regressed on symptoms of anxiety. This model was significant, and both variables had a significant direct effect on symptoms of anxiety. After adding in the interaction term, the variance explained in symptoms of anxiety slightly increased, $\Delta R^2 = .01$ ($p > .05$), but the interaction term was not statistically significant, $\beta = 0.10$ ($SE = .07$), $p = .13$. There was no detectable interaction between WIPL and nonwork support on symptoms of anxiety. Hypothesis 11c was not supported.

Results suggest that in this sample, nonwork support does not moderate the relationship between occupational stress and mental health outcomes - nonwork support is instead directly and negatively related to mental health outcomes in general.

Hypotheses 12a-c proposed that parents would have higher mean ratings of stressors (job stress in general, WIPL, and PLIW) than non-parents, respectively. I tested these hypotheses using Welch's independent samples t-tests. Welch's t-test is an adaption of Student's t-test and is more reliable when the two samples of interest do not have equal sample sizes and/or variances (Delacre, Lakens, & Leys, 2017). There was not a significant difference in job stress in general for parents ($M = 35.43$) compared to non-parents ($M = 35.60$), $t(208) = 0.16$, $p = .87$.

Additionally, parents ($M = 3.32$) did not have significant differences in their average WIPL ratings compared to non-parents ($M = 3.36$), $t(186) = 0.30, p = .76$. However, parents ($M = 2.39$) did have significantly higher ratings of average PLIW than non-parents ($M = 2.06$), $t(208) = -3.08, p = .00$. Therefore, Hypotheses 12a and 12b were not supported, but Hypothesis 12c was fully supported.

Hypotheses 13 and 14 posited that parents would have higher mean ratings of WEPL and PLEW than non-parents, respectively. I also tested these hypotheses with Welch's independent samples t-tests. Parents ($M = 2.61$) had higher average ratings of WEPL than non-parents ($M = 2.39$), but the difference was not statistically significant, $t(201) = -1.79, p = .07$. There were also not statistically significant differences in parents' average ratings of PLEW ($M = 3.38$) compared to non-parents ($M = 3.36$), $t(182) = -0.15, p = .88$. Thus, Hypotheses 13 and 14 were not supported.

Hypotheses 15a-c proposed that parents would have higher mean ratings of symptoms of burnout, depression, and anxiety than non-parents, respectively. I used Welch's independent samples t-tests to examine these hypotheses as well. There were not statistically significant differences in parents' ($M = 20.64$) and non-parents' ($M = 21.67$) average ratings of burnout, $t(196) = 1.41, p = .16$, or in parents' ($M = 7.01$) and non-parents' ($M = 7.84$) average ratings of anxiety, $t(201) = 1.22, p = .22$. In opposition to Hypothesis 15b, parents had significantly lower average ratings of depressive symptoms ($M = 6.85$) compared to non-parents ($M = 8.52$), $t(192) = 2.50, p = .01$. Accordingly, Hypotheses 15a, 15b, and 15c were not supported.

Post Hoc Analyses

Based on the lack of initial statistically significant findings from the proposed hypotheses, I evaluated several different relationships between key variables from the study. I

also re-ran multiple initially proposed analyses using modified versions of certain measures where appropriate.

Given my initial interest in differences of perceived occupational stress and mental health outcomes between women who were parents and those who were not, I hypothesized that parental status would serve as a moderator between occupational stressors (job stress in general, WIPL, and PLIW) and mental health outcomes (burnout, depression, and anxiety), such that parents would experience stronger, positive relationships between occupational stressors and mental health outcomes compared to non-parents. This resulted in nine additional moderation analyses, none of which were supported ($p > .05$). I then tested how parental status moderated the relationship between the positive interface of work and nonwork (WEPL, PLEW) and mental health outcomes, hypothesizing that parents would see stronger, negative relationships between WEPL/PLEW and mental health outcomes compared to non-parents. This resulted in six additional moderation analyses, none of which were supported ($p > .05$).

Based on the literature that perceived organizational support and nonwork support can mitigate the effect that occupational stressors may have, as well as the negative correlations between overall organizational support and nonwork support with burnout, depression, and anxiety in the present study (see Table 4), I was curious how parental status may relate to the relationship between perceived support and mental health. Thus, I investigated how parental status moderated the relationship between support (overall organizational support and nonwork support) and mental health outcomes, hypothesizing that among participants who were not parents, there would be a slight positive effect of support (both organizational support and nonwork support) on mental health outcomes, but among participants who were parents, the effect would be stronger. I tested these six outlined hypotheses and did not find support for any

of them ($p > .05$).

After analyzing the existing variables of interest in their original states, I re-examined the data to determine if and how multi-dimensional measures could be construed or interpreted differently. Looking at the correlation matrix of the dimensions of the Stress in General Scale with the overall measure, the Stress-Threat dimension had a stronger correlation with the overall measure ($r = .94$) compared to the Stress-Pressure dimension ($r = .82$), and the two dimensions were only moderately correlated with one another ($r = .58$). Additionally, the two-factor measurement model, which had seven items on the pressure factor, and eight items on the threat factor, demonstrated moderate model fit after conducting a confirmatory factor analysis ($\chi^2 = 253.45$, $df = 89$, $p < .001$; $CFI = .84$; $TLI = .81$; $RMSEA = .09$). Cronbach's alpha values were .73 for the pressure dimension and .84 for the threat dimension ($\omega = .74$ and $\omega = .84$, respectively). Therefore, I re-ran all analyses that had used the overall general job stress scale score and replaced the overall score with the individual summed score for the Stress-Threat dimension. The pattern of results regarding statistical significance and effect sizes did not change with this substitution ($p > .05$). For thoroughness, I then used the Stress-Pressure dimension summed score in all analyses that had utilized the general job stress composite score. The pattern of results did not change with this substitution ($p > .05$).

I also examined the overall organizational support scale, which is comprised of perceptions of support from the organization, supervisor, colleagues, and subordinates. The nature of many academic jobs is such that employees have large amounts of autonomy and therefore lack a consistent, direct relationship with a supervisor. More specifically, most academics construe their department chair, who provides an annual review/evaluation, as the most comparable to a supervisor, even though this person does not typically supervise their day-

to-day work. In the present sample, items relating to supervisor support were modified to include "*(my department chair)*" for relevance. Therefore, the support from supervisors may not be as applicable for academics in their perceptions of organizational support. Further, when thinking about how organizational support may mitigate some of the potential stress that comes with combining work and nonwork, support from subordinates (modified to include "*(staff and/or students)*" in the present sample) may not be as influential for academics.

Based on these factors, as well as the poor model fit of the unidimensional measurement model of overall organizational support, I conducted a confirmatory factor analysis to test the four-dimensional structure of the scale. Four items were in the organizational support dimension, seven items were in the supervisor support dimension, three items were in the colleague support dimension, and three items were in the subordinate support dimension. In this sample, the four-factor model had acceptable model fit ($\chi^2 = 521.05$, $df = 113$, $p < .001$; $CFI = .89$; $TLI = .87$; $RMSEA = .13$). Each factor demonstrated good overall consistency reliability as well (Organizational Support: $\alpha = .92$, $\omega = .93$; Supervisor Support: $\alpha = .95$, $\omega = .95$; Colleague Support: $\alpha = .94$, $\omega = .95$; Subordinate Support: $\alpha = .87$, $\omega = .88$). With these factors in mind, I re-ran all analyses that had included the scale score of overall organizational support with the four individual dimensions' scale scores (organizational support, supervisor support, colleague support, and subordinate support). Every moderation analysis was conducted with each dimension's scale score, independent of the other three dimensions. The pattern of results did not change based on these modifications to organizational support ($p > .05$).

I also ran additional Welch's independent samples t-tests to examine if there were mean differences in parents' ratings of overall organizational support, the four dimensions of organizational support, and nonwork support compared to non-parents. Parents had higher

ratings of subordinate support ($M = 3.49$) compared to non-parents ($M = 3.20$), $t(202) = -2.33$, $p = .02$. There were no other differences in average ratings of support between parents and non-parents.

Finally, I looked to personal demographics and work-related characteristics that have previously served as control variables in the occupational stress literature to assess whether my results would change from adding control variables into the hierarchical regressions. Typically, control variables are added into analyses to provide robustness for significant findings. More specifically, the researcher is trying to rule out the possibility that observed relationships of interest are due to the control variables (Spector & Brannick, 2011). Given the lack of significant findings amongst the hypothesized moderations in the present study, the addition of control variables was unlikely to impact findings. However, following recommendations from Spector and Brannick (2011) to conduct comparative tests with and without controls to show whether their addition has an effect on relationships among the substantive variables of interest, I went through an iterative process with multiple demographics and characteristics to assess how their contribution to my analyses would impact my study, if at all.

Control variables were added into the first step of the hierarchical regression analyses, before adding the predictor and moderator variables (Spector & Brannick, 2011). Then, the predictor and moderator variables were added into the regression to assess what incremental variance was explained in the outcome variable that was not previously captured by the control variable. Finally, the interaction term was added into the regression analysis. Changes in R^2 , effect sizes, and statistical significance were all taken into account when considering the impact that control variables had.

Age, race, tenure-track position, tenure-track status, and percentage of female faculty in the department were not significantly correlated with any of the outcome variables (e.g., mental health variables). Additionally, race, tenure-track position, tenure-track status, and percentage of female faculty were not significantly correlated with any of the predictor variables (e.g., occupational stressors). Due to these findings, race, tenure-track position, tenure-track status, and percentage of female faculty were not retained as potential control variables in my analyses.

Related to personal demographics, age had a weak negative correlation with personal life interference with work (PLIW), such that those who were older had lower average scores of PLIW ($r = -.15, p = .02$). Based on this finding, I included age as a control variable for analyses that used PLIW as a predictor variable. However, the pattern of results in these analyses did not change based on including age as a control variable. Next, parental status had a slight negative correlation with depressive symptoms, such that being a parent was slightly negatively correlated with reporting depressive symptoms ($r = -.17, p = .01$). Although these effect sizes were small, I chose to control for parental status in analyses that included depressive symptoms as an outcome. The pattern of results in these analyses did not change by controlling for parental status.

To investigate marital or partnership status in relation to the results and as a possible covariate, I dummy-coded marital status into a new variable, relationship status, to combine marital status and partnership status together and compare them to participants who had a different relationship status. Relationship status had a weak negative correlation with depressive symptoms, such that those who were comparatively "more partnered" (e.g., those living with a partner but not married, and those who were married) were less likely to report depressive symptoms ($r = -.18, p = .01$). Because of this, I chose to control for relationship status in

analyses that included depressive symptoms as an outcome. The pattern of results did not change by controlling for relationship status.

Subjective health was also moderately negatively correlated with all outcomes of interest; those who reported better subjective health were less likely to report burnout ($r = -.29, p < .001$), symptoms of depression ($r = -.47, p < .001$), and symptoms of anxiety ($r = -.35, p < .001$). Controlling for subjective health also did not change the pattern of results. Interestingly, current mental health treatment was only weakly positively related to symptoms of depression ($r = .16, p = .02$) and symptoms of anxiety ($r = .15, p = .03$), and previous mental health treatment was also only weakly positively related to symptoms of anxiety ($r = .17, p = .05$). Mental health treatment (both current and past) did not serve as a significant control variable in my analyses.

Related to work-related characteristics, reported hours of work per week was moderately and positively correlated with burnout ($r = .41, p < .001$), symptoms of depression ($r = .32, p < .001$), and symptoms of anxiety ($r = .33, p < .001$). Additionally, hours of work per week was positively and strongly related to general job stress ($r = .44, p < .001$) and work interference with personal life ($r = .59, p < .001$), and moderately and negatively related to work enhancement of personal life ($r = -.33, p < .001$) and personal life enhancement of work ($r = -.28, p < .001$). However, controlling for hours of work per week did not impact the significant findings from this study.

DISCUSSION

The present study had two main research objectives. Utilizing the job demands-resources model (Bakker & Demerouti, 2007; Demerouti et al., 2001) and the work-home resources model (ten Brummelhuis & Bakker, 2012) as a theoretical framework, my first objective was to understand the relationship between occupational stressors and mental health outcomes among women in academia. I also examined the role that perceptions of support (through organizational support and nonwork support) have on the relationship between stressors and mental health in this population. My second objective was to assess the how the experience of stressors and mental health symptoms differ for female faculty members who are parents compared to those who are not.

In the present study, as expected, I found that job stress in general and work interference with personal life (WIPL) were positively correlated with symptoms of burnout, depression, and anxiety. Conversely, work enhancement of personal life (WEPL) and personal life enhancement of work (PLEW) were both negatively correlated with symptoms of burnout, depression, and anxiety. These findings are consistent with past research and theory; employees who do not have sufficient resources (as a result of, or indicated through, job stress or WIPL) are more likely to experience strain (such as burnout, depressive symptoms, and anxiety symptoms). On the other hand, employees who experience resource gain (through WEPL or PLEW) are less likely to experience strain.

However, the personal life interference with work (PLIW) dimension was unrelated to burnout, depression, or anxiety. It may be the case that respondents felt less bothered by their work being inhibited due to their personal lives; thus, the interference may still be occurring, but

is not appraised as stressful. Alternatively, respondents may actually be experiencing less PLIW in general; participants had higher mean ratings of work interference with personal life than personal life interference with work (see Table 1). This is consistent with existing research which indicates that the prevalence of WIPL is greater than the prevalence of PLIW (Allen, Johnson, Kiburz, & Shockley, 2013; Frone, 2003). The reduced variation associated with PLIW in my study, and in general, may constrain the ability to detect relationships. Personal life interference with work may be less likely in academia, where informal work accommodations to family, such as flexibility in the timing and location of work (Behson, 2002; Rau & Hyland, 2002), are more common. The flexibility and autonomy that many academics have in their work, relative to the flexibility and autonomy in other industries, may reduce the likelihood that PLIW occurs in the first place. Research has shown that employees benefit from flexibility at work; it increases their autonomy, perceptions of work-family balance in general, and decreases occupational stress (Heijstra & Rafnsdottir, 2010; Golden & Veiga, 2005). However, flexibility and autonomy have also been highlighted as potential stressors; in knowledge-based work like academia, the shift from standard to flexible working hours and working location can contribute to blurred boundaries between work and home, leading to work role overload and extensive working hours (Kvande, 2007). Additionally, as working times become more fluid and work/nonwork boundaries are blurred with flexibility, employees spend extra time working and less time with their families (Heijstra & Rafnsdottir, 2010). Additional research is warranted to understand how flexibility and autonomy may impact employees' experiences of PLIW, specifically in academia.

Prior research has also suggested that as an outcome, the construct of family-to-work conflict (comparable to PLIW in the present study) is more difficult to predict than work-to-family conflict. Although a larger number of antecedents have been identified for FWC

compared to WFC (e.g. job involvement, job autonomy, hours spent at work, role stressors such as role overload), they explain a smaller proportion of the variance of FWC than those identified as antecedents for WFC (Byron, 2005; Oomens, Geurts, & Scheepers, 2007). Predictors of WFC can be found in both the work and family domain, but are largely found in the work domain (Byron, 2005). Predictors of FWC also include stressors in the family and work domains, but typically show stronger relationships in the family domain. Some examples include the number of children, ages of children, family climate, and family stress (Byron, 2005; Michel, Kotrba, Deuling, Clark, & Baltes, 2011). It is also plausible that the present study captured PLIW as a mediator in the process between specific stressors in one's personal life that can lead to PLIW and thus, strain (burnout, depressive symptoms, anxiety symptoms). However, the specific sources of stress (e.g., the antecedents to WIPL) were not captured in this study's design; perhaps this lends explanation as to why WIPL was not significantly related to different types of strain.

One interesting finding from this study was that perceived organizational support did significantly moderate the relationship between work interference with personal life (WIPL) and symptoms of depression. The relationship between WIPL and depressive symptoms was positive and significant, and increased perceptions of organizational support weakened this relationship. However, when overall perceived organizational support was rated at high levels (greater than 4.3 out of 5), the relationship between WIPL and depressive symptoms became non-significant. Even though a moderation was successfully detected, the variance explained that was attributable to adding the interaction term to the additive model was very small ($\Delta R^2 = .013$). McClelland and Judd (1993) explain that this is likely to happen in the majority of significant moderations due to the important role of the interaction term in the calculation of effect size. It is important to note that even though a greater R^2 change would have been preferable, explaining as little as one

percent of variance is still of practical importance in applied and field research (Champoux & Peters, 1987; Evans, 1985).

These results indicate that stressors experienced at work, which then affect the personal lives of employees, can potentially be mitigated through overall organizational support. Existing research in other industries has shown that perceived organizational support can be a positive resource for combatting depressive symptoms (Liu, Hu, Wang, Sui, & Ma, 2013). Organizational support may be particularly useful for buffering the effects of work interference with personal life because support from the organization may lessen the extent that job-related stressors create work interference with personal life. Conceptually, receiving support (i.e., resources) from the domain in which stressors are occurring is likely more instrumental in changing an individual's stressors, or even just their perception of the stressors, than receiving resources from a domain that may not have much influence over the stressors in the other domain. For example, if an employee's boss is aware that they have a family obligation on Wednesday evenings, the boss is more likely to have the ability to alter the employee's work schedule that day than the emotional support an employee may receive from their family.

Previous research has supported this idea by showing that support from the domain in which stressors occur (i.e., organizational support to reduce job-related stressors) has buffering effects (Casper, Martin, Buffardi & Erdwins, 2002; Stamper & Johlke, 2003) on work/nonwork conflict. Casper and colleagues (2002) found evidence that POSS moderated the relationship between work-family conflict and organizational commitment. POSS has also been found to attenuate the negative relationship between role ambiguity and job satisfaction (Stamper & Johlke, 2003). Additionally, research has shown that a lack of workplace social support is most likely to impact work/nonwork interference in the direction of the work role interfering with the

nonwork role (i.e., WIPL), as opposed to the nonwork role interfering with the work role (Frone, Russell, & Cooper, 1992).

In the present study, perceived overall organizational support did not reduce the association between job stress in general, WIPL, or PLIW and burnout, contrary to previous research and theory. I initially assessed perceived overall organizational support by looking at a composite average of support across perceptions of support at the organizational (university/college) level, supervisor (department chair) level, colleague level, as well as subordinate (people that you supervise) level. Another way to assess organizational support is to parse out each level of support individually and see how each level uniquely contributes perceptions of support as a buffer. Examining mean ratings of support from different organizational levels in my sample showed that supervisor support and colleague support had the highest ratings compared to those for organizational support, subordinate support, and the overall measure (see Table 1). Thus, I opted to examine how the individual types of support may behave differently in terms of buffering the relationship between occupational stressors and mental health. However, post hoc analyses to assess organizational, supervisor, colleague, and subordinate support separately as individual moderators for these relationships did not reach significance.

McClelland and Judd (1993) offer explanations for why field studies often have difficulty detecting moderator effects or interactions, one of which is that predictor and moderator variables often have low individual variances, which impacts the residual variance of the interaction term. This implicates the statistical power of the moderator parameter estimate, as well as its efficiency. One of the most important factors that can reduce the individual variance of predictor and moderator variables includes the clustering of observations in the center of the

variables' ranges rather than at the extremes (McClelland & Judd, 1993). In my sample, the scores for general job stress, WIPL, PLIW, and organizational support all fell near the center of the variables' ranges, and the data did not contain many observations at the extremes of the scales. Therefore, the ability to detect a moderation effect due to extreme differences in my data was less plausible. Similarly, perceived overall organizational support, as well as its individual factors, did not reduce the association between job stress in general or PLIW and symptoms of depression. Finally, perceived overall organizational support, in addition to its individual factors, was also not a significant moderator between job stress in general, WIPL, and PLIW and symptoms of anxiety. In the present study, overall organizational support, as well as its separate factors, did not fit with prior theory and research as a buffer between occupational stressors and mental health.

One potential explanation for why I did not find support for the proposed hypotheses regarding organizational support may be due to other, unmeasured variables that can impact the strength that organizational support has as a buffer. For example, individuals' situational appraisal of the stressor (e.g., perceived control), may work hand in hand with organizational support, which is consistent with previous research. Specifically, greater perceived situational control, together with high social support, may improve individuals' perceived ability to cope with the stressor at hand (Moeller & Chung-Yan, 2013). Conversely, for stressors with low situational control, individuals who perceive more social support may actually ruminate over their situations more, amplifying negative perceptions of the situation (Moeller & Chung-Yan, 2013; Terry & Jimmieson, 2003). Alternatively, individuals' perceptions regarding the utility of the support could also impact the buffering effects that organizational support can have on the occupational stress process in academia. For example, although faculty members may feel that

their university, department chair, colleagues, and/or students care for their well-being and value their contributions, this may capture more emotional support and informational support rather than instrumental or appraisal support to reduce the strain associated with combining work and nonwork responsibilities (House, 1981). The majority of the items in the POSS scale capture emotional support and informational support, rather than instrumental support, which consists of offering tangible assistance or concrete help (House, 1981). Additional research should consider how mental health outcomes such as burnout, depression, and anxiety may warrant different types of support (i.e., instrumental, appraisal, a combination of multiple types) to experience the same buffering effects of organizational support that other outcomes (e.g., performance, absenteeism) have been shown to receive (Eisenberger et al., 1986). Therefore, researchers should use alternate measure of support that better capture all four types of support outlined by House (1981). Additionally, a meta-analysis by Kossek, Pichler, Bodner, and Hammer (2011) showed that work/family-specific constructs of supervisor support and organizational support are more strongly related to work/family conflict than general supervisor support and organizational support, respectively. Thus, additional research on women in academia would benefit from studying how work/family-specific support can be applied to the four main types of support. This work/family-specific support is likely better-suited as a buffer for work/nonwork interference (compared to to general job stress) and mental health among academics.

This study also provided evidence for the role that nonwork support can have in buffering the relationship between work interference with personal life and symptoms of burnout. The relationship between WIPL and burnout was strong and positive, and increased perceptions of nonwork support weakened this relationship. Nonwork support (i.e., support from family and friends) has been found to predict lower burnout levels in academics in previous research as well

(Otero-López, Mariño, & Bolaño, 2008; Sabagh, Hall, & Saroyan, 2018). Further, research on professors who had existing or previous mental health symptomology showed that academics felt most supported by their spouses/significant others and friends, rather than colleagues or supervisors (Price et al., 2017). Nonwork support may provide resources to counteract the depletion of resources in the work domain, reducing the likelihood that women experience burnout. In my sample, 77% of participants were married, and 7% were living with their partners. Thus, nonwork support from spouses may be particularly prominent in my sample, especially if it reduces the demands that women face in their roles outside of work.

Conceptually, this would be aligned with the patterns of mean ratings of WIPL and PLIW in the present study; my sample experienced greater amounts of WIPL compared to PLIW in general. Additionally, the type of support that spouses can provide is likely important, as they may be the most likely source of instrumental support for demands faced at home. The differences in mean ratings may be attributable to both the role overload that academics often face, as well as the nonwork support they receive at home.

Nonwork support did not reduce the association between job stress in general, or PLIW and burnout. Further, it did not moderate the relationships between job stress in general, WIPL, or PLIW with symptoms of depression or symptoms of anxiety. Instead, nonwork support was directly and negatively related to burnout, symptoms of depression, and anxiety. There are conceptual considerations to take into account when explaining why nonwork support did not serve as a moderator in my sample. Nonwork support can come from many sources, including family, friends, and significant others. The nonwork support scale that was used in the study asked respondents to think of the 2-3 people who were "most important to them," which could include any combination of sources. It may be the case that certain sources of support, in

addition to the types of support they provide, are more important when considering nonwork support as a buffer between occupational stress and mental health. For example, having a partner that provides instrumental support at home likely carries a different weight for buffering the effects of stress compared to a friend who provides emotional support. Future research could examine nonwork support in academia using the Multidimensional Scale of Perceived Social Support (Zimet, Dahlem, Zimet, & Farley, 1988) to assess how different sources of nonwork social support relate to occupational stress and mental health. Nonwork support was also moderately negatively related to job stress in general and WIPL. From a statistical standpoint, these correlations may explain why moderation effects were not found in the present study. When the variables of interest in a moderation are already correlated with one another, it suggests that there is a high degree of shared variance, leaving less unique variance to be explained by a moderation (McClelland & Judd, 1993).

The final set of proposed hypotheses posed in the present study investigated differences among parents and non-parents in their experiences of occupational stressors and mental health. In this study, parents did not have higher mean scores of general job stress or work interference with personal life than non-parents. One explanation for the lack of differences in perceived stress is that work in academia is stressful whether an individual has a child or not. Both parents and non-parents reported working over 40 hours a week (an average of 49.5 hours/week, with reports ranging from 30-75 hours). Regardless of whether someone has children, they will fill their time outside of work, and it was shown that work was more likely to interfere with personal lives. Therefore, future research is needed to look at the specific roles and ways that people spend their time outside of work to make a more holistic comparison regarding how parents and non-parents' experiences of stressors and strains may differ. However, parents did have

differences in their ratings of personal life interference with work than non-parents, such that parents experienced greater levels of PLIW than non-parents. This is not surprising, as demands associated with a parental role are more likely to spill over into the work domain than demands not related to family, such as volunteering or hobbies. An employee likely has more control over the duration and intensity of energy devoted to non-family demands, reducing the likelihood of interference, compared to family-related demands, where a sick family member or dependent child often require more time and energy than an employee can anticipate.

Looking to the positive side of combining work and nonwork responsibilities, parents did not exhibit significantly higher mean scores of work enhancement of personal life or personal life enhancement of work compared to non-parents. In general, respondents indicated higher levels of personal life enhancement of work than work enhancement of personal life (see Table 1). Thus, it seems that in my sample, the personal life domain was more salient, and potentially held greater importance, than the work domain, regardless of parental status. Respondents reported higher levels of interference from their work to their personal lives (compared to the opposite direction), and higher levels of enrichment from their personal lives to their work (compared to the opposite direction). Therefore, the resources that individuals gain from work/nonwork enhancement may not depend on their parental status, but rather where their priorities lie. Future research could investigate this by including role centrality as a variable in the research.

Finally, parents and non-parents did not show differences in their average scores of burnout or anxiety symptoms. This may be attributable to a few things, one of which is the personal and professional characteristics of respondents. In my sample, parents were significantly older than non-parents, and had been at their jobs significantly longer compared to

non-parents. The accumulation of experiences that comes with age and more time on the job may serve as a contextual resource to help parents handle the stressors that come with combining work and nonwork responsibilities, reducing the likelihood that they experience strain through burnout or anxiety. Thus, although parents may experience more personal life interference with work compared to non-parents, they may have other resources, such as time management, conflict resolution, and problem-solving skills, that were not captured in the present study to attenuate stressors before they result in strain. Relatedly, parents did have significantly lower ratings of depressive symptoms compared to non-parents. This is consistent with previous research that has shown that having more social roles is actually related to better mental health, and the positive effect that having a full-time job in combination with having children can have on mental health (Oomens et al., 2007). However, the same research also found that having a partner who does not contribute as much to household duties is related to poor mental health. Therefore, it may be the case that combining multiple roles is beneficial when an employee has a partner who can contribute to the demands in the home domain, reducing the likelihood that working mothers are taking on a full-time second job when they return home from the office.

Mental health is still not without stigma in academia, which also may have impacted the results found in the present study. For example, a recent study on mental health and wellness among academics who self-identified as having mental health problems indicated that many faculty still fear disclosing their mental health histories for fear of losing credibility and respect from their colleagues, being seen as unprofessional, or even threatening their career security (Price, Salzer, O'Shea, & Kerschbaum, 2017). Because academic work requires a sharp, functioning mind, disclosure of mental health concerns potentially carries a different burden, particularly in the context of occupational stress and collecting information regarding work. It

may be the case that my sample was less likely to report issues related to their mental health due to the culture of fear and stigma in academia, regardless of whether or not they were parents.

Theoretical Contributions

Theoretically, this study contributes to the occupational stress literature that has utilized the Job Demands-Resources model by adding research that examines strain outcomes, and in particular, mental health outcomes for faculty members, which have historically received less attention in, Job demands (i.e., occupational stressors) , which were captured as general job stress and work interference with personal life, were significantly and positively related to burnout, symptoms of depression, and symptoms of anxiety. Conversely, resources such as perceived organizational support and nonwork support were significantly and negatively related to burnout, symptoms of depression, and symptoms of anxiety, lending further validity for the theoretical model that resources help to reduce strain (Demerouti et al., 2001). Moreover, the Job Demands-Resources model has not been consistently used in previous research on academic samples. This study provides further evidence that the model is applicable in a variety of occupations and with a variety of employee backgrounds (e.g., differing personal demographics and work-related characteristics).

The findings in this study also provide support for the Work-Home Resources model with the significant and negative relationships found between the work/nonwork enhancement dimensions and mental health outcomes. Theoretically, the work and home resources gained from the work/nonwork enhancement dimensions can increase personal resources, which may serve to counteract mental health problems like burnout, depression, and anxiety (ten Brummelhuis & Bakker, 2012). Although it is unclear what individual resources were gained from the inter-domain enrichment based on the data collected from the present study, a variety of

resources, such as feelings of being valued/appreciated, time management skills, energy boosts, and others, seem to support positive well-being.

Finally, the present study examined how parents' experiences of occupational stress, perceptions of support, and mental health compared to those of non-parents. Results indicated that in general, parents and non-parents experienced comparable levels of occupational stress, perceptions of support, and mental health. Previous occupational health psychology research has disputed whether parents experience worse or better outcomes than non-parents both at work and personally (Cannetto, Trott, Winterrowd, Haruyama, & Johnson, 2017; Dickson, 2018; Sieverding et al., 2018). However, the findings here indicate that it may not be as simple of a discussion as for better or worse. There are likely other factors, captured through the work-home resources model as individual resources, macro resources, and key resources, that relate to the differences previously examined among parents and non-parents. Research from McCutcheon and Morrison (2018) found that workplace culture and norms in academia played a significant role in how well women felt they could manage their work and nonwork lives. Thus, macro-level factors, such as workplace culture and norms, may serve as a positive resource for employees, or potentially exacerbate work and home stressors. Studying other nuanced resources would be beneficial for expanding the literature on women in academia. For example, how do key resources like self-efficacy, as well as individual resources like locus of control or income, relate to experiences of stressors, support, and mental health? Based on the findings from the present study, future research is warranted that utilizes the WHR model to investigate differences among parents and non-parents in multiple occupations.

Practical Implications

There are multiple practical implications that arise from the findings in this study. In the present study, 7% of respondents were at risk for clinical depression, 27% were at risk for clinical anxiety, and 53% were experiencing significant burnout. Additionally, 34% of respondents indicated they were currently receiving mental health treatment, and of those who indicated they were not currently receiving treatment, 58% had indicated they had previously received treatment. As a result, there is clearly a need for mental health initiatives in the academic setting. University-, department-, and supervisor-level interventions are warranted to improve the likelihood of providing support for academic employees, and I call for future intervention studies in a later section. However, the high rates of burnout in my sample warrant specific attention. Existing research has highlighted the positive and negative effects that work flexibility and autonomy can have on employees; it seems likely that the negative effects of flexibility may be more pertinent to this sample. Therefore, it is important to create and leverage other resources for academics to specifically prevent burnout.

One way to reduce the risk of burnout is to focus time and energy in the more meaningful aspects of work. Research has shown that academic employees who spend less than 20% of their time on the activity that is most meaningful to them had comparatively higher rates of burnout (Shanafelt, West, & Sloan, 2009). However, it is broad overgeneralization to implore academics to simply spend more time in the areas of their work that are most meaningful; this would likely only result in additional hours worked per week. Even with high levels of flexibility and autonomy, faculty do not have the luxury to simply ignore the demands in roles that they find less rewarding, such as those for administrative work or handling emails/meetings. Therefore, when possible, faculty should split up their time between tasks that differ in levels of

meaningfulness to receive a "boost" of meaningfulness and intrinsic motivation throughout the day. For example, if a faculty member finds teaching to be particularly meaningful, they should schedule their class after a time when they know they will be tied up with less meaningful work to potentially bolster the cognitive and psychological effects of less enjoyable work. Although individual-level interventions (e.g. effective coping, work management or relaxation techniques) are recommended to help academics deal with both work and home demands, there is also a need for more institutional efforts to deal with faculty burnout. Considering the substantial contribution of occupational factors to burnout levels, interventions that target both individuals as well as the work demands and work resources available are recommended (Maslach, Schaufeli, & Leiter, 2001). The six types of workplace dimensions (workload, control, value, fairness, reward, and community) that are proposed by Maslach and Leiter (1997) are useful areas to target faculty burnout. For example, making administrative changes regarding teaching load requirements and number of students per class will likely serve to protect faculty against burnout. Lackritz (2004) found evidence that these two factors significantly predicted burnout in academic faculty, such that higher teaching loads and increased number of students per class resulted in worse outcomes for faculty.

In addition to devoting resources that are specific to preventing burnout, it seems likely that academics need more psychological recovery from work. Jobs that have high interpersonal and emotional demands elicit significant amounts of emotional labor, which has been tied to burnout (Jackson, Schwab, & Schuler, 1986; Jeung, Kim, & Chang; 2018). The nature of academic jobs is such that faculty members are often tasked with the interpersonal needs of colleagues, staff, and students, and these needs are often competing for a faculty member's time and energy. Compared to jobs with more structured working hours, where employees are more

likely to be able to leave work at work until the following day, the interpersonal demands of faculty jobs do not pause after the normal workday hours. Therefore, there is a need for healthy and effective boundary management, as well as boundary-management fit, to improve the process of psychological recovery from work in academia. Boundary management is often described in terms of employees' preferences for integrating or segmenting work and nonwork roles. Boundary management fit can be conceptualized as the congruence between employees' boundary management preferences and the boundary management supplies provided by the work environment (Bogaerts, De Cooman, & De Gieter, 2018).

Work-family studies have shown that family-friendly policies and a culture of integration or segmentation are not universally beneficial to all employees; rather, their effectiveness seems to depend on various individual differences (Foucreault, Ollier-Malaterre, & Ménard, 2016; Rothbard, Phillips, & Dumas; 2005). For example, previous studies have found that organizational culture and formal practices that foster integration (e.g., flextime, taking work home, and replying to colleagues' emails in the evening) appeal to employees desiring integration, but make employees desiring segmentation feel less committed to their organization and less satisfied with their job (Rau & Hyland, 2002; Rothbard et al., 2005). Overall, a workplace environment that fits an employee's boundary management preference has been found to contribute to reduced work-life conflict and stress (Chen, Powell, & Greenhaus; 2009; Kreiner, 2006) as well as improved mental health (Edwards & Rothbard, 1999). Therefore, psychological recovery in academia is more likely to improve from individual and group behavior changes in boundary management that adhere to personal preference, as opposed to an imposed cultural norm of integration or segmentation for an entire department. Simple changes such as not checking email in the evenings or on weekends, setting strict limits for the amount of time spent working on particular

projects, and taking personal days/vacation days when necessary are important ways for academics to practice effective boundary management. However, employees may be less likely to enact these behaviors if they are not in line with the culture and norms of their university or department; teams research has indicated that teams establish group norms that direct and regulate individual behaviors within the team (Hackman, 1992). This highlights the importance that leaders, such as department chairs, program directors, and more senior faculty within a department, have in modeling and advocating for healthy boundary management. It is likely that junior faculty will look to faculty who are more established or have more status for guidance about appropriate behaviors (Byrne, 2015). Creating an academic culture that is receptive to psychological recovery will simultaneously create a culture that improves and advocates for faculty mental health.

Limitations

There are a few noteworthy limitations of this study's design. First, with cross-sectional data, I cannot establish any temporal relationships, so I cannot determine capture the occupational stress process over time. The issue of causality and identifying temporal components is particularly salient in the occupational stress process because one cannot be certain when potential mental health problems developed, or which variables precede the others. For example, I expected that individuals who experience personal life interference with work (PLIW) would report more mental health symptomology, such as higher ratings of burnout. However, I would also expect that a faculty member suffering from burnout may be more likely to perceive their personal life (i.e., their mental health) as interfering with their work. Therefore, I am not able to tease apart which direction the relationships exist. However, considering the way the items are phrased in regard to time (i.e., behavior in general, rather than past behavior or

likelihood of future behavior), I hypothesized the relationships in the direction that is most in line with theory and past research. Further, this research can still provide valuable data to inform future data collections. Future research could examine occupational stress in academia over time through daily diary studies, or specifically focus on stressors that were most strongly related to mental health outcomes in the present study, such as job stress and work interference with personal life (WIPL) with burnout. Alternatively, future research could examine what components of the positive interface between work and nonwork (WEPL, PLEW) are particularly beneficial in reducing burnout, symptoms of depression, and symptoms of anxiety.

Related to the cross-sectional nature of the data, I collected the data during the summer season (e.g., June-August), when faculty are less likely to be balancing full loads of research, teaching, and service. Although many faculty spend their summers working on research and/or preparing classes for the upcoming semesters, they are less likely to have to balance these responsibilities on top of actively teaching and fulfilling service roles for their institutions. Because of this, faculty may have been less likely to perceive their work and nonwork lives as stressful as they would during the academic calendar (i.e., September-May). Particularly important for this study and for the timing that the study was distributed, the wording of the prompts for two of the outcome measures (symptoms of depression and symptoms of anxiety) asked participants to reflect specifically on their feelings during the last week or the last two weeks, respectively. Therefore, the overall endorsement of items related to depressive or anxious symptomology may be lower than what is typically endorsed when balancing more responsibilities during the school year. Thus, this study may have underestimated true effects among the variables I investigated. However, the present study may provide interesting

preliminary data to compare how faculty perceive their work and nonwork lives during academic calendar compared to the summer season.

The underlying assumptions that led to the design of this study may have also contributed to some measurement error in the wording and placement of some items that were included in the study. For example, when hypothesizing how women with children and women without children may experience occupational stress differently, I presumed that parents may experience more stress due to balancing multiple roles as employee, mother, caregiver, etc. However, the sample was heterogenous in terms of their children's ages, and indicated that women were less likely to be the primary caregiver of their children. When asking who in the home was the primary caregiver of children, I did not include a response option for "Children are grown and do not require primary care." Some of my participants made sure I was aware of this in the "Other" response option for this question. Of 124 participants who provided the age of their first-born child, children's ages ranged from 0-47, and 19% indicated that their first-born was over the age of 17. Of 77 participants who provided the age of their second-born child, children's ages ranged from 0-43, and 19% indicated that their second-born child was over the age of 17 as well. Therefore, nearly 20% of my sample (and likely more, when including parents of children who are in their mid-teens) is less likely to be providing time-intensive care to children with regard to supervising, feeding, bathing, etc. With this in mind, I ran additional analyses to re-categorize women with children over the age of 17 as non-parents and examined whether this new grouping resulted in changes of parents' and non-parents' experiences of stressors, strain, and support. However, the patterns of results did not change with this change.

Additionally, when designing this study, I had included the majority of my demographic questions at the end of my study. However, because this study focused specifically on women's

experiences and how those differ as a function of parental status, the demographic items relating to this information should have been moved to the beginning of the survey to gather as much information about my data and retain as many participants as possible.

Finally, the present study is limited in its scope of generalizability due to the sample characteristics and recruitment strategies employed. Most notably, my findings can only be generalized to women, as men were excluded from the present study. The vast majority of my sample included married, white women with PhDs who shared child caregiving responsibilities with their partners and did not report current treatment for mental health problems. Therefore, the experiences of women from diverse backgrounds (e.g., racial/ethnic minorities, different educational attainments, single mothers, pregnant women, those with existing mental health conditions, etc.) were likely not captured in this survey. Relatedly, the detected moderation effects were particularly small in my study. This is likely due to a lack of variability in my sample's responses, and in particular, a lack of extreme responses on either end of measures' response scales. Therefore, self-selection bias may have played a significant role in the context of my study and findings. The women who chose to participate in my survey did not have extremely high levels of stress, as evidenced by the average mean ratings for the stressors and strains measured in the study. Additionally, those individuals who had sufficient time to 1) be on social media (where I did the majority of my recruiting), and 2) spend 20-25 minutes completing my survey, likely have different experiences than those individuals who were not captured in this study (i.e., those that feel too stressed to spend time on activities that are not directly work-related). Future research would benefit from specifically targeting academics in historically underrepresented groups to examine how their experiences of occupational stress, work/nonwork

responsibilities, perceived support, and mental health compare to the findings from the women in this study.

Additionally, my study relied on convenience sampling, snowball sampling, and crowdsourcing information about my study across multiple platforms (e.g, Reddit, Facebook, LinkedIn, etc.) to recruit academics who worked full-time as a professor in the United States. Due to these constraints, a large percentage of my sample (36%) worked in a psychology department compared to other fields of study (where the next largest department made up 5% of the sample). However, I was able to recruit participants from at least 40 different disciplines, which was a strength of the study. Finally, 80% of my sample were in tenure-track positions, and 51% of those respondents had already received tenure; this is not necessarily representative of the overall picture of academia. As of 2013, 70% of faculty members in the United States were employed off the tenure-track (Curtis & Thornton, 2013). Although tenure-track positionality and tenure-track status were not significantly correlated with any of the outcomes in my study, it is not to say that professors in tenure-track positions and those are not on the tenure-track do not experience different stressors and strains, and may rely on different types of support (Reevy & Deason, 2014).

Future Directions

In addition to conducting research using additional study designs to include longitudinal and daily diary studies during the academic school year, devoting more research to the positive interface between work and nonwork responsibilities, and utilizing different types of samples, there are other opportunities to increase our knowledge about occupational stress and mental health within academia, and to use future findings in research and practice.

Future research would benefit from understanding the nuances of work-related stress in addition to the experiences of combining work and nonwork responsibilities. Although the present study examined general job stress through the use of Stanton and colleagues (2001) Stress in General scale, other measures of workplace stress/strain, particularly those that may identify stressors that are more specific and relevant to an academic workplace, will provide further information about where academic employees experience the most burden. For example, identifying work-related stressors specific to academia (e.g., having a large number of students, feeling pressure to publish work in certain journals, lacking the equivalent of a direct supervisor, etc.) would provide another opportunity to study how the stress process unfolds over time in academia. Previous studies have indicated that a large percentage of professors' strain is related to work and job-related stressors, as opposed to the work/nonwork interface (Catano et al., 2007; Gmelch et al., 1984, 1986). Gmelch and colleagues (1984, 1986) created the Faculty Stress Index as a preliminary effort to capture some of these experiences; however, the scale likely warrants updating and revising given the changing nature of the workforce and academia within the last 30 years. More specifically, although I know that academics experience high levels of work interference with personal life and general job stress, I cannot conclude what stressors are leading to these experiences of stress. In the present study, it is likely that I actually captured the work/nonwork interface as a mediator between specific stressors (at both work and home) and strain. Future research should include relevant measures of academic-specific work stressors, as well as stressors from specific personal life demands, to better capture the experiences of occupational stress due to stressors in both domains and how they contribute to stress over time.

Future research should conduct more studies with longitudinal research designs in order to deepen our understanding about what point in time mental health issues arise among faculty.

This is an important question that warrants attention in order to better inform when workplace interventions for mental health could be the most useful (i.e., primary, secondary, tertiary interventions). For example, are individuals coming into new faculty positions with already elevated rates of mental health issues that have carried over from earlier in life? If so, this may warrant an intervention before beginning work as a faculty member to reduce the likelihood of magnifying existing mental health issues. Do the rates of mental health problems increase at any particular point in a faculty position? In the present study, there were not any differences in ratings of occupational stressors or mental health among faculty who were pre- vs. post-tenure. However, these findings may be confounded with other factors such as age, current job time, tenure status, self-efficacy, respect from colleagues, and pay, as well as others. Future research would benefit from parsing apart when the "most stressful" period of an academic career is, and whether it differs depending on particular personal characteristics and/or workplace characteristics. To address these nuanced questions, longitudinal cohort studies of faculty that begin before individuals matriculate into faculty ranks and then follow the cohorts for a long duration of time (e.g., 10 years) would be beneficial for future endeavors in academic research. Primary workplace interventions could then be implemented to impact employees' perceptions of organizational support, which in turn could reduce the probability of poor mental health. In addition to cohort studies, a relatively quick and inexpensive solution that universities could begin to employ to better understand their faculty's experiences would be the use of anonymous surveys to periodically assess mental health. Following the dissemination of surveys, anonymous, digital counseling services could be offered to individuals who flag as symptomatic or at-risk as a gateway to engaging in more intensive counseling. This type of support model is

seen in medical schools such as University of Texas Health at San Antonio, School of Medicine (Feist, 2018).

Intervention research regarding a shift in the culture toward mental health in academia is also needed. This culture shift should incorporate both support and advocacy for mental health disclosure, as well as accessibility (i.e., the actual resources provided). Organizational-level interventions to increase organizational support through resource gain will not likely improve mental health outcomes if there is not a culture of support and advocacy for mental health disclosure to begin with. If faculty have resources available to them at work to help address their mental health (i.e., work flexibility, free or discounted counseling, support groups, workplace committees devoted to mental health initiatives), but are fearful of disclosing their mental health at work, they are less likely to utilize these resources. Anecdotal accounts of mental health in academia (Mcelroy, 2013; Pryal, 2014; Saks, 2012) suggested that certain faculty members feel they are simply not in the position to "volunteer stigmatizing personal information." For employees who are not in tenure-track positions, those who have not received tenure, and those who are at competitive universities where they feel they could be easily replaced, the potential risk of disclosing mental health problems overrides the potential psychological relief that comes with not carrying the burden of mental illness in solidarity. A culture shift that emphasizes that faculty members will not experience punitive action against them (formally or informally) for disclosing mental health problems is at the forefront of academia's needs.

With regard to accessibility, Titchkosky (2011) argued that faculty with disabilities, including those with mental health problems, are "unexpected types" in university culture. That is, the overarching culture of academia in general is not set up to expect them, and so employees with disabilities must individually figure out how to identify relevant resources, such as EAPs,

work accommodations, or subsidized medical care through their university. Many faculty may not have knowledge of the resources available to them through their university (Price & Kerschbaum, 2017), or the resources may not be available at all, reducing the likelihood that they seek treatment. Accessibility should be outlined in terms of a consistent engagement with the campus environment, rather than an isolated effort to fix an individual's problem when it arises. Thus, mental health access should be thought about proactively, and not reactively. Existing research on mental health in academia has not yet examined how a culture shift toward support, advocacy, and accessibility may serve as a macro-level resource to improve the perceived utility of organizational support, as well as mental health outcomes in academics. Price and Kerschbaum (2017) outlined a resource guide and suggestions for practice to promote supportive academic environments for faculty with mental illnesses; however, the application and utility of the recommendations from this guide into a university's curriculum, policies, and practices remain unknown. Following recommendations for more action-based, intervention research in psychology (Greenberg, 2009; Lewin, 1946; Neilsen et al., 2010; Tetrick & Quick, 2011), the research on occupational stress and mental health would benefit from more work to develop and evaluate interventions.

Conclusion

The existing literature on occupational stressors and strains in academia has not addressed what the state of mental health in academia currently is among a broad scope of academics, or how women's experiences in academia may differ as a function of their parental status. In this study, I examined how a few occupational stressors are related to mental health outcomes among women working full-time in academia, how perceived support influences the relationship between occupational stressors and mental health, and how parents' experiences of

occupational stressors and mental health compare to those of non-parents. This study will allow future research to consider how academic employees' experiences of occupational stress and perceived support may differ from employees in other industries, and how occupational stress can still be particularly high in jobs where employees have flexibility and autonomy. Training on mental health and emotional wellness should be made available in a variety of modalities for employees within academia to provide employees with organizational support that is emotional, instrumental, and informational. These trainings should focus not only on the wellness for an individual, but also on how to support others and how to respond to mental health-related events in the department and greater university. My hope is that information from this study can be used for future research and practice to improve workplace support interventions.

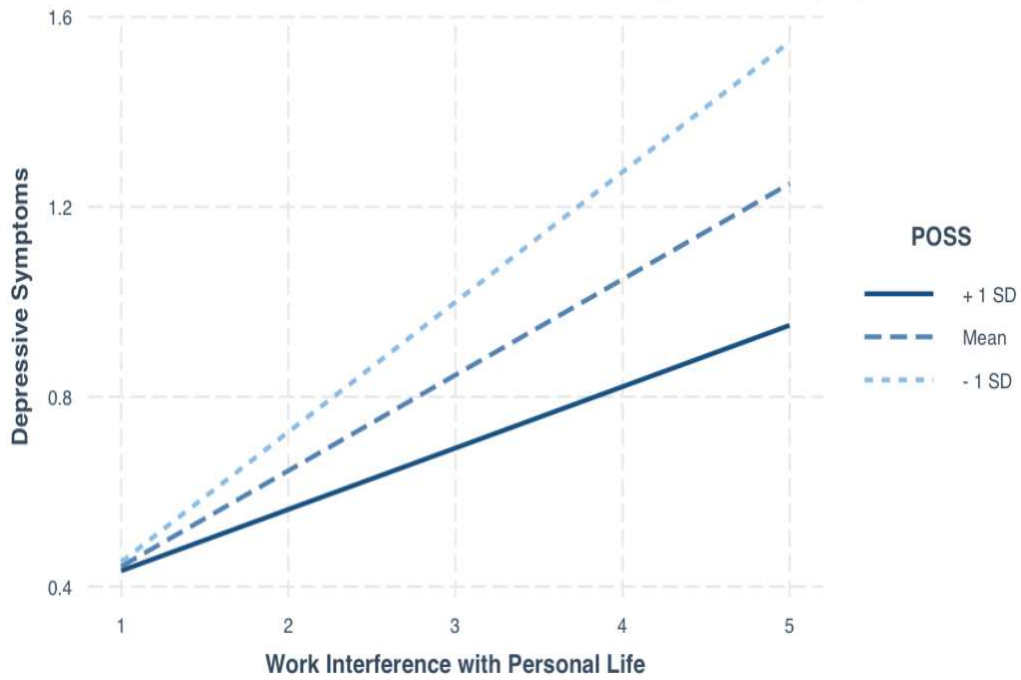


Figure 1. Moderation of work interference with personal life (WIPL) by perceived organizational support (POSS)

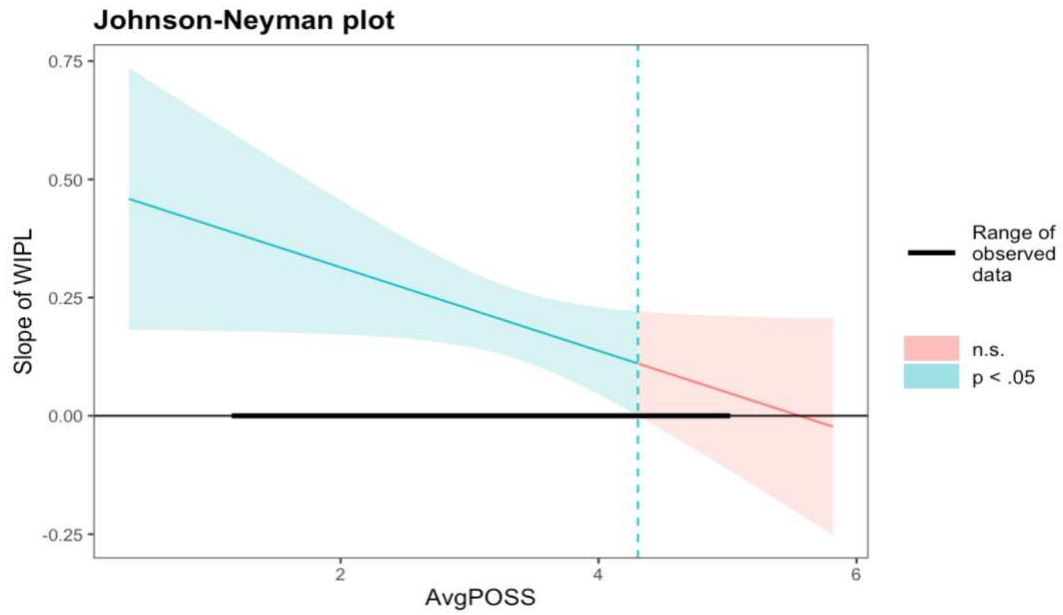


Figure 2. Probing the conditional effects of work interference with personal life (WIPL) and perceived organizational support (POSS)

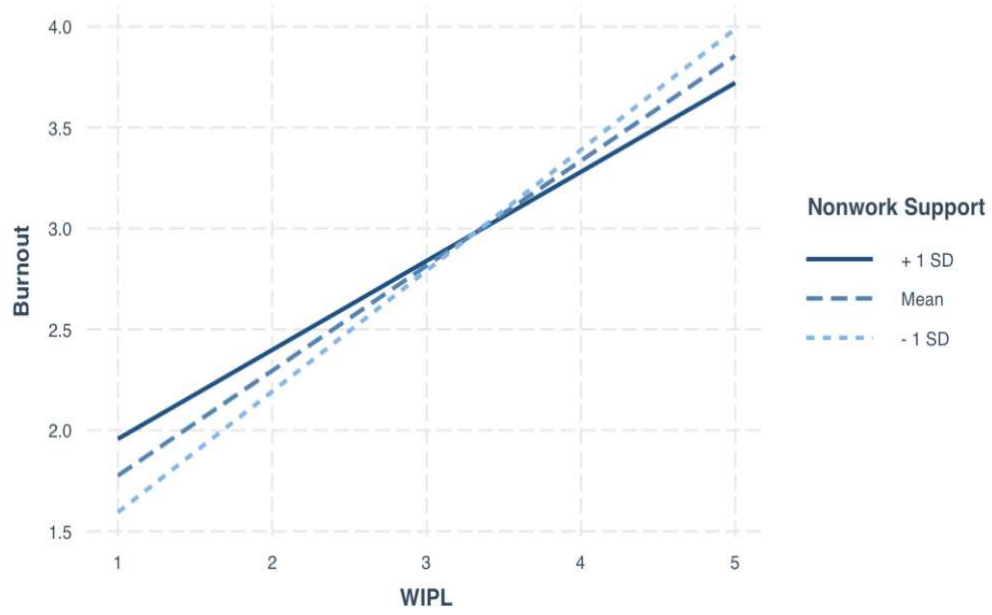


Figure 3. Moderation of work interference with personal life (WIPL) by nonwork support

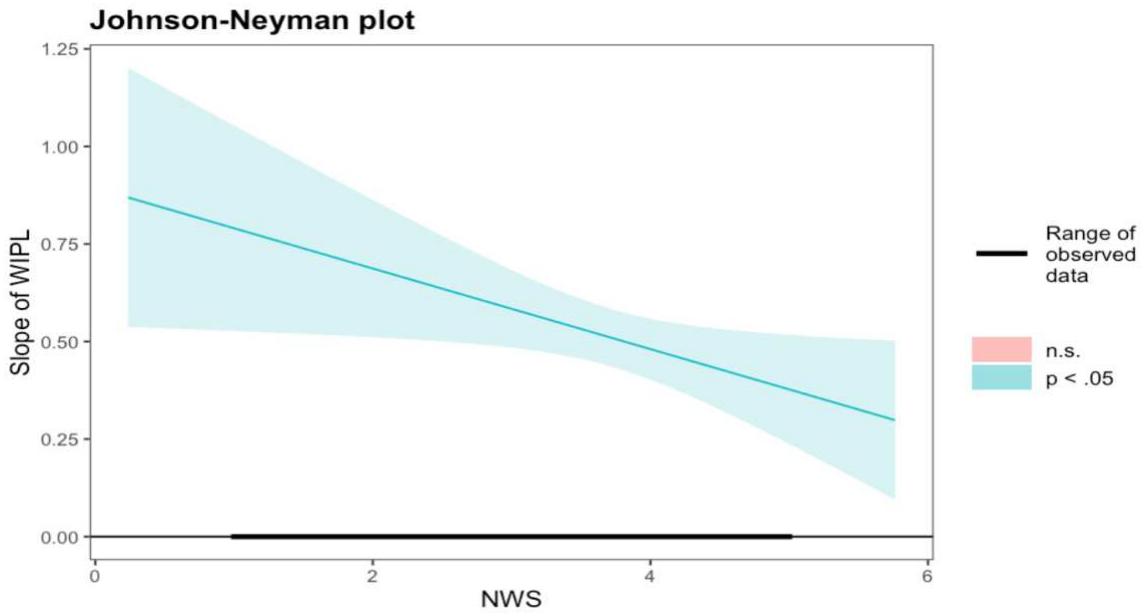


Figure 4. *Probing the conditional effects of work interference with personal life (WIPL) and nonwork support*

Table 1. Descriptive Statistics and Internal Consistency Reliability for Study Variables

Variable	<i>M</i>	<i>SD</i>	Min	Max	Alpha	Omega
Burnout (Average)	3.01	0.76	1	5	.89	.91
Depression (Sum Score)	7.58	4.82	0	21	.84	.84
Anxiety (Sum Score)	7.38	4.99	0	24	.89	.89
General Stress (Sum Score)	35.50	7.50	17	45	.86	.87
Stress-Pressure (Sum Score)	18.47	3.14	7	21	.73	.74
Stress-Threat (Sum Score)	17.00	5.26	8	24	.84	.84
WIPL	3.34	1.03	1	5	.91	.91
PLIW	2.25	0.80	1	5	.83	.84
WEPL	2.51	0.93	1	5	.78	.78
PLEW	3.37	0.93	1	5	.86	.87
Overall POSS	3.27	0.82	1	5	.94	.97
POSS - Organization Support	2.74	0.99	1	5	.92	.93
POSS - Supervisor Support	3.31	1.16	1	5	.95	.95
POSS - Colleague Support	3.81	0.95	1	5	.94	.95
POSS - Subordinate Support	3.36	0.92	1	5	.87	.88
Nonwork Support	3.62	0.76	1	5	.86	.86

Table 2. Descriptive Statistics for Personal Demographics and Work-Related Characteristics

Item	Overall Sample <i>M (SD)</i>	Min	Max	Parents (n = 121)	Non-Parents (n = 95)
Age*	40.24 (8.85)	26	74	41.71	38.30
Number of children*	1.85 (0.82)	0	6	1.85	NA
Hours of eldercare per week	6.52 (7.63)	1	25	4.46	9.88
Subjective health*	3.56 (0.93)	1	5	3.69	3.40
Years at current job*	7.62 (7.09)	0	42	8.60	6.42
Hours worked per week*	49.51 (8.79)	30	75	48.15	51.21
Percentage of female faculty in respondent's department	55.92 (20.44)	10	100	56.08	55.78
Percentage of work time devoted to research	33.44 (21.38)	0	90	34.87	31.68
Percentage of work time devoted to teaching	45.22 (19.74)	0	95	44.09	46.59
Percentage of work time devoted to service	21.34 (14.62)	0	83	21.73	21.03

Note. Items denoted with an asterisk indicate statistically significant differences between parents and non-parents. * $p < .05$, ** $p < .001$

Table 3. Additional Personal Demographics and Work-Related Characteristics

Item	Overall Sample Proportion	Parents (n = 121)	Non-Parents (n = 95)
Race/ethnicity			
White	.89	.88	.92
Black/African American	.01	.01	.00
Hispanic/Latinx	.02	.02	.01
Asian	.04	.03	.05
Other/multiple	.04	.06	.02
Relationship status			
Married	.77	.91	.59
Living with (but not married to) romantic partner	.07	.04	.11
Widowed	.01	.00	.01
Divorced or separated	.04	.04	.04
Single	.12	.01	.25
Highest level of education			
Doctoral degree	.91	.87	.97
Professional graduate degree	.03	.04	.01
Master's degree	.04	.05	.02
Combination/multiple degrees	.02	.04	.00
Currently provides eldercare	.11	.12	.08
Currently receives mental treatment	.34	.31	.38
Has received mental health treatment in the past	.58	.52	.66
Experiencing significant burnout	.53	.53	.54
At risk for clinical depression	.07	.05	.09
At risk for clinical anxiety	.27	.26	.28
Job title			
Assistant Professor	.44	.37	.52
Associate Professor	.27	.32	.21
Professor	.16	.18	.13
Full-time Instructor	.06	.07	.03
Other	.06	.04	.09
Holds a tenure-track position	.80	.79	.81
Has attained tenure	.51	.58	.42

Note. Tenure status is among those in tenure-track positions

Table 4. Correlations Among Study Variables**Table 4.** Correlations Among Study Variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1 Burnout	(.89)															
2 Depression	.61	(.84)														
3 Anxiety	.61	.70	(.89)													
4 General Stress	.73	.46	.50	(.86)												
5 Stress-Pressure	.49	.26	.31	.82	(.73)											
6 Stress-Threat	.75	.51	.53	.94	.58	(.84)										
7 WIPL	.69	.46	.49	.63	.50	.61	(.91)									
8 PLIW	-.07	-.05	-.15	-.04	-.02	-.03	.04	(.83)								
9 WEPL	-.68	-.46	-.43	-.56	-.35	-.59	-.52	.14	(.78)							
10 PLEW	-.32	-.42	-.27	-.27	-.18	-.28	-.36	-.26	.35	(.86)						
11 Overall POSS	-.51	-.46	-.44	-.48	-.27	-.52	-.43	.09	.39	.29	(.94)					
12 POSS-Organization Support	-.55	-.42	-.44	-.52	-.31	-.56	-.49	.11	.48	.23	.79	(.92)				
13 POSS-Supervisor Support	-.37	-.34	-.31	-.35	-.20	-.37	-.30	.07	.23	.21	.89	.54	(.95)			
14 POSS-Colleague Support	-.33	-.40	-.33	-.33	-.16	-.37	-.31	.14	.26	.20	.71	.50	.49	(.94)		
15 POSS- Subordinate Support	-.35	-.28	-.33	-.33	-.16	-.37	-.27	-.08	.34	.29	.56	.45	.27	.38	(.87)	
16 Nonwork Support	-.20	-.28	-.26	-.23	-.18	-.21	-.26	-.09	.17	.45	.31	.24	.22	.29	.28	(.86)

Note. Cronbach's alpha values for the measures are indicated on the diagonal in parentheses.

Table 5.

Summary of Regression Analyses: General Job Stress and Perceived Organizational Support on Burnout

Step	Variables	β	<i>SE</i>	95% CI	<i>F</i>	<i>R</i> ²	ΔR^2	<i>p</i>
1					137.17**	0.57		0.00
	Job Stress in General	0.06**	0.01	[0.05, 0.07]				0.00
	Perceived Organizational Support	-0.19**	0.05	[-0.28, -0.09]				0.00
2					91.06**	0.57	0.00	
	Job Stress in General	0.03**	0.04	[0.05, 0.07]				0.00
	Perceived Organizational Support	-0.22**	0.05	[-0.29, -0.10]				0.00
	Job Stress in General x Perceived Organizational Support	0.00	0.01	[-0.01, 0.01]				0.81

Note. * $p \leq .05$, ** $p < .001$

Table 6.

Summary of Regression Analyses: Work Interference with Personal Life and Perceived Organizational Support on Burnout

Step	Variables	β	SE	95% CI	F	R ²	ΔR^2	p
1					122.39**	0.54		0.00
	WIPL	0.43**	0.04	[0.36, 0.51]				0.00
	Perceived Organizational Support	-0.24**	0.05	[-0.33, -0.14]				0.00
2					81.23**	0.54	0.00	0.00
	WIPL	0.43**	0.04	[0.36, 0.51]				0.00
	Perceived Organizational Support	-0.24**	0.05	[-0.33, -0.14]				0.00
	WIPL x Perceived Organizational Support	0.00	0.05	[-0.09, 0.10]				0.94

Note. * $p \leq .05$, ** $p < .001$

Table 7.

Summary of Regression Analyses: Personal Life Interference with Work and Perceived Organizational Support on Burnout

Step	Variables	β	SE	95% CI	F	R ²	ΔR^2	p
1					36.84**	0.26		0.00
	PLIW	-0.02	0.06	[-0.13, 0.09]				0.71
	Perceived Organizational Support	-0.47**	0.06	[-0.58, -0.36]				0.00
2					24.85**	0.26	0.00	
	PLIW	-0.03	0.06	[-0.14, 0.09]				0.64
	Perceived Organizational Support	-0.24**	0.05	[-0.58, -0.36]				0.00
	PLIW x Perceived Organizational Support	0.06	0.06	[-0.07, 0.19]				0.34

Note. * $p \leq .05$, ** $p < .001$

Table 8.

Summary of Regression Analyses: General Job Stress and Perceived Organizational Support on Symptoms of Depression

Step	Variables	β	SE	95% CI	F	R ²	ΔR^2	p
1					42.04**	0.29		0.00
	Job Stress in General	0.03**	0.01	[0.02, 0.04]				0.00
	Perceived Organizational Support	-0.22**	0.05	[-0.32, -0.13]				0.00
2					27.90**	0.29	0.00	0.00
	Job Stress in General	0.03**	0.04	[0.02, 0.04]				0.00
	Perceived Organizational Support	-0.22**	0.05	[-0.32, -0.13]				0.00
	Job Stress in General x Perceived Organizational Support	0.00	0.01	[-0.01, 0.01]				0.91

Note. * $p \leq .05$, ** $p < .001$

Table 9.

Summary of Regression Analyses: Work Interference with Personal Life and Perceived Organizational Support on Symptoms of Depression

Step	Variables	β	SE	95% CI	F	R ²	ΔR^2	p
1					44.66**	0.30		0.00
	WIPL	0.19**	0.04	[0.12, 0.27]				0.00
	Perceived Organizational Support	-0.23**	0.05	[-0.33, -0.14]				0.00
2					31.46**	0.31	0.01	0.00
	WIPL	0.20**	0.04	[0.13, 0.28]				0.00
	Perceived Organizational Support	-0.22**	0.05	[-0.31, -0.13]				0.00
	WIPL x Perceived Organizational Support	-0.09*	0.05	[-0.18, 0.00]				0.05

Note. * $p \leq .05$, ** $p < .001$

Table 10.

Summary of Regression Analyses: Personal Life Interference with Work and Perceived Organizational Support on Symptoms of Depression

Step	Variables	β	SE	95% CI	F	R ²	ΔR^2	p
1					27.96**	0.21		0.00
	PLIW	-0.01	0.05	[-0.10, 0.09]				0.89
	Perceived Organizational Support	-0.34**	0.05	[-0.43, -0.25]				0.00
2					18.55**	0.21	0.00	0.00
	PLIW	-0.01	0.05	[-0.10, 0.09]				0.89
	Perceived Organizational Support	-0.34**	0.05	[-0.43, -0.25]				0.00
	PLIW x Perceived Organizational Support	0.00	0.05	[-0.10, 0.11]				0.96

Note. * $p \leq .05$, ** $p < .001$

Table 11.

Summary of Regression Analyses: General Job Stress and Perceived Organizational Support on Symptoms of Anxiety

Step	Variables	β	SE	95% CI	F	R ²	ΔR^2	p
1					44.33**	0.30		0.00
	Job Stress in General	0.04**	0.01	[0.02, 0.05]				0.00
	Perceived Organizational Support	-0.22**	0.06	[-0.34, -0.11]				0.00
2					29.43**	0.30	0.00	0.00
	Job Stress in General	0.04**	0.01	[0.02, 0.05]				0.00
	Perceived Organizational Support	-0.22**	0.06	[-0.34, -0.11]				0.00
	Job Stress in General x Perceived Organizational Support	0.00	0.01	[-0.02, 0.01]				0.87

Note. * $p \leq .05$, ** $p < .001$

Table 12.

Summary of Regression Analyses: Work Interference with Personal Life and Perceived Organizational Support on Symptoms of Anxiety

Step	Variables	β	SE	95% CI	F	R ²	ΔR^2	p
1					45.13**	0.30		0.00
	WIPL	0.25**	0.04	[0.17, 0.34]				0.00
	Perceived Organizational Support	-0.24**	0.06	[-0.35, -0.13]				0.00
2					30.14**	0.30	0.00	0.00
	WIPL	0.26**	0.05	[0.17, 0.35]				0.00
	Perceived Organizational Support	-0.24**	0.06	[-0.35, -0.13]				0.00
	WIPL x Perceived Organizational Support	-0.04	0.05	[-0.14, 0.07]				0.52

Note. * $p \leq .05$, ** $p < .001$

Table 13.

Summary of Regression Analyses: Personal Life Interference with Work and Perceived Organizational Support on Symptoms of Anxiety

Step	Variables	β	SE	95% CI	F	R ²	ΔR^2	p
1					26.97**	0.20		0.00
	PLIW	-0.10	0.06	[-0.21, 0.01]				0.07
	Perceived Organizational Support	-0.37**	0.05	[-0.47, -0.27]				0.00
2					18.51**	0.20	0.00	0.00
	PLIW	-0.10	0.06	[-0.20, 0.01]				0.09
	Perceived Organizational Support	-0.37**	0.05	[-0.48, -0.26]				0.00
	PLIW x Perceived Organizational Support	-0.08	0.06	[-0.20, 0.05]				0.23

Note. * $p \leq .05$, ** $p < .001$

Table 14.*Summary of Regression Analyses: General Job Stress and Nonwork Support on Burnout*

Step	Variables	β	SE	95% CI	F	R ²	ΔR^2	p
1					121.69**	0.54		0.00
	Job Stress in General	0.07**	0.01	[0.06, 0.08]				0.00
	Nonwork Support	-0.04	0.05	[-0.13, 0.06]				0.42
2					81.49**	0.54	0.00	0.00
	Job Stress in General	0.07**	0.01	[0.05, 0.07]				0.00
	Nonwork Support	-0.03	0.05	[-0.13, 0.07]				0.56
	Job Stress in General x Nonwork Support	-0.01	0.01	[-0.02, 0.01]				0.31

Note. * $p \leq .05$, ** $p < .001$

Table 15.

Summary of Regression Analyses: Work Interference with Personal Life and Nonwork Support on Burnout

Step	Variables	β	SE	95% CI	F	R ²	ΔR^2	p
1					98.82**	0.48		0.00
	WIPL	0.52**	0.04	[0.45, 0.59]				0.00
	Nonwork Support	0.00	0.05	[-0.33, -0.14]				0.00
2					68.66**	0.49	0.01	0.00
	WIPL	0.43**	0.04	[0.36, 0.51]				0.00
	Nonwork Support	0.00	0.05	[-0.10, 0.10]				0.95
	WIPL x Nonwork Support	-0.10*	0.05	[-0.20, -0.01]				0.03

Note. * $p \leq .05$, ** $p < .001$

Table 16.

Summary of Regression Analyses: Personal Life Interference with Work and Nonwork Support on Burnout

Step	Variables	β	SE	95% CI	F	R ²	ΔR^2	p
1					5.12*	0.05		0.01
	PLIW	-0.08	0.06	[-0.21, 0.5]				0.22
	Nonwork Support	-0.21**	0.07	[-0.34, -0.07]				0.00
2					3.40*	0.05	0.00	0.02
	PLIW	-0.08	0.07	[-0.21, 0.05]				0.22
	Nonwork Support	-0.21**	0.07	[-0.34, -0.07]				0.00
	PLIW x Nonwork Support	-0.01	0.07	[-0.15, 0.14]				0.94

Note. * $p \leq .05$, ** $p < .001$

Table 17.

Summary of Regression Analyses: General Job Stress and Nonwork Support on Symptoms of Depression

Step	Variables	β	SE	95% CI	F	R ²	ΔR^2	p
1					34.71**	0.25		0.00
	Job Stress in General	0.03**	0.01	[0.02, 0.04]				0.00
	Nonwork Support	-0.15**	0.05	[-0.25, -0.06]				0.00
2					23.37**	0.25	0.00	0.00
	Job Stress in General	0.03**	0.01	[0.02, 0.04]				0.00
	Nonwork Support	-0.15*	0.05	[-0.24, -0.05]				0.01
	Job Stress in General x Nonwork Support	-0.01	0.01	[-0.02, 0.01]				0.38

Note. * $p \leq .05$, ** $p < .001$

Table 18.

Summary of Regression Analyses: Work Interference with Personal Life and Nonwork Support on Symptoms of Depression

Step	Variables	β	SE	95% CI	F	R ²	ΔR^2	p
1					33.91**	0.24		0.00
	WIPL	0.24**	0.04	[0.17, 0.31]				0.00
	Nonwork Support	-0.14*	0.05	[-0.24, -0.04]				0.01
2					23.09**	0.25	0.01	0.00
	WIPL	0.25**	0.04	[0.18, 0.32]				0.00
	Nonwork Support	-0.13*	0.05	[-0.23, -0.03]				0.01
	WIPL x Nonwork Support	-0.05	0.05	[-0.14, 0.04]				0.25

Note. * $p \leq .05$, ** $p < .001$

Table 19.

Summary of Regression Analyses: Personal Life Interference with Work and Nonwork Support on Symptoms of Depression

Step	Variables	β	SE	95% CI	F	R ²	ΔR^2	p
1					9.93**	0.09		0.00
	PLIW	-0.05	0.05	[-0.15, 0.05]				0.29
	Nonwork Support	-0.23**	0.05	[-0.33, -0.13]				0.00
2					7.11**	0.09	0.00	0.00
	PLIW	-0.05	0.05	[-0.15, 0.05]				0.34
	Nonwork Support	-0.23**	0.05	[-0.33, -0.13]				0.00
	PLIW x Nonwork Support	0.07	0.06	[-0.04, 0.18]				0.24

Note. * $p \leq .05$, ** $p < .001$

Table 20.

Summary of Regression Analyses: General Job Stress and Nonwork Support on Symptoms of Anxiety

Step	Variables	β	SE	95% CI	F	R ²	ΔR^2	p
1					38.59**	0.27		0.00
	Job Stress in General	0.04**	0.01	[0.03, 0.06]				0.00
	Nonwork Support	-0.15*	0.06	[-0.26, -0.04]				0.01
2					25.60**	0.27	0.00	0.00
	Job Stress in General	0.04**	0.01	[0.03, 0.06]				0.00
	Nonwork Support	-0.15*	0.06	[-0.26, -0.03]				0.01
	Job Stress in General x Nonwork Support	0.00	0.01	[-0.02, 0.02]				0.99

Note. * $p \leq .05$, ** $p < .001$

Table 21.

Summary of Regression Analyses: Work Interference with Personal Life and Nonwork Support on Symptoms of Anxiety

Step	Variables	β	SE	95% CI	F	R ²	ΔR^2	p
1					36.51**	0.26		0.00
	WIPL	0.31**	0.04	[0.23, 0.40]				0.00
	Nonwork Support	-0.13*	0.06	[-0.24, -0.02]				0.02
2					24.34**	0.26	0.00	0.00
	WIPL	0.31**	0.04	[0.23, 0.40]				0.00
	Nonwork Support	-0.13*	0.06	[-0.24, -0.01]				0.03
	WIPL x Nonwork Support	-0.03	0.05	[-0.13, 0.08]				0.61

Note. * $p \leq .05$, ** $p < .001$

Table 22.

Summary of Regression Analyses: Personal Life Interference with Work and Nonwork Support on Symptoms of Anxiety

Step	Variables	β	SE	95% CI	F	R ²	ΔR^2	p
1					11.14**	0.10		0.00
	PLIW	-0.15*	0.06	[-0.27, -0.04]				0.01
	Nonwork Support	-0.26**	0.05	[-0.38, -0.13]				0.00
2					8.27**	0.11	0.01	0.00
	PLIW	-0.15*	0.06	[-0.26, -0.03]				0.01
	Nonwork Support	-0.25**	0.06	[-0.37, -0.13]				0.00
	PLIW x Nonwork Support	0.10	0.07	[-0.03, 0.23]				0.13

Note. * $p \leq .05$, ** $p < .001$

REFERENCES

- Aarons-Mele, M. (2018, November 1). *We need to talk more about mental health at work*. Retrieved from <https://hbr.org/2018/11/we-need-to-talk-more-about-mental-health-at-work>
- Abbey, J. D., & Meloy, M. G. (2017). Attention by design: Using attention checks to detect inattentive respondents and improve data quality. *Journal of Operations Management*, *53*, 63-70.
- Åkerlind, G. S. (2005). Academic growth and development – How do university academics experience it? *Higher Education*, *50*(1), 1-32.
- Albert, P. R. (2015). Why is depression more prevalent in women? *Journal of Psychiatry & Neuroscience*, *40*(4), 219-221.
- Aldwin, C. M., Sutton, K. J., Chiara, G., & Spiro, A. (1996). Age differences in stress, coping, and appraisal: Findings from the normative aging study. *The Journals of Gerontology: Series B*, *51B*(4), 179-188.
- Allison, P. D. (2003). Missing data techniques for structural equation modeling. *Journal of Abnormal Psychology*, *112*(4), 545-557.
- Americans With Disabilities Act of 1990, Pub. L. No. 101-336, 104 Stat. 328. (1990).
- Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin*, *103*, 411-423.
- Anduiza, E. & Galais, C. (2016). Answering without reading: IMCs and strong satisficing in online surveys. *International Journal of Public Opinion Research*. doi:10.1093/ijpor/edw007.

Anonymous Academic. (2014, March 1). *There is a culture of acceptance around mental health issues in academia*. Retrieved from <https://www.theguardian.com/higher-education-network/blog/2014/mar/01/mental-health-issue-phd-research-university>

Antoniou, A. S., Polychroni, F., & Vlachakis, A. N. (2006). Gender and age differences in occupational stress and professional burnout between primary and high-school teachers in Greece. *Journal of Managerial Psychology*, *21*(7), 682-690.

Arnold, K. A., Turner, N., Barling, J., Kelloway, E. K., & McKee, M. C. (2007). Transformational leadership and psychological well-being: The mediating role of meaningful work. *Journal of Occupational Health Psychology*, *12*, 193–203.

Bakker, A. B. & Demerouti, E. (2007). The job-demands resources model: State of the art. *Journal of Managerial Psychology*, *22* (3), 309-328.

Barber, L. K., & Santuzzi, A. M. (2015). Please respond ASAP: Workplace telepressure and employee recovery. *Journal of Occupational Health Psychology*, *20*(2), 172–189.

Barling, J., & Cloutier, A. (2017). Leaders' mental health at work: Empirical, methodological, and policy directions. *Journal of Occupational Health Psychology*, *22*(3), 394–406.

Barnett, R. C., & Hyde, J. S. (2001). Women, men, work, and family. *American Psychologist*, *56*, 781–796.

Beehr, T. A. (1995). *Psychological stress in the workplace*. London: Routledge.

Beehr, T. A. (1998). Research on occupational stress: An unfinished enterprise. *Personnel Psychology*, *51*, 835-844.

Beehr, T.A. and Newman, J.E. (1978). Job stress, employee health and organizational effectiveness: A facet analysis, model and literature review. *Personnel Psychology*, *31*, 665-699.

- Beehr, T. A., Glaser, K. M., Canali, K. G., & Wallwey, D. A. (2001). Back to basics: Re-examination of the demands-control theory of occupational stress. *Work and Stress, 15*, 115-130.
- Behson, S. J. (2002). Coping with family-to-work conflict: The role of informal work accommodations to family. *Journal of Occupational Health Psychology, 7*(4), 324-341.
- Bellas, M. L. (1999). Emotional labor in academia: The case of professors. *The ANNALS of the American Academy of Political and Social Science, 561*(1), 96–110.
- Bennett, S. K. (1982). Student perceptions of and expectations for male and female instructors: Evidence relating to the question of gender bias in teaching evaluations. *Journal of Educational Psychology, 74*, 170-179.
- Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin, 107*(2), 238-246.
- Berger, B. E., Ferrans, C. E., & Lashley, F. R. (2001). Measuring stigma in people with HIV: Psychometric assessment of the HIV stigma scale. *Research in Nursing & Health, 24*, 518-529.
- Birnbaum, H. G., Kessler, R. C., Kelley, D., Ben-Hamadi, R., Joish, V.N., & Greenberg, P. E. (2010). Employer burden of mild, moderate, and severe major depressive disorder: Mental health services utilization and costs, and work performance. *Depression and Anxiety, 27*, 78–89.
- Bogaerts, Y., De Cooman, R., & De Gieter, S. (2018). Getting the work-nonword interface you are looking for: The relevance of work-nonword boundary management fit. *Frontiers in Psychology, 9*, 1-12.

- Borritz, M., & Kristensen, T. S. (2001). Copenhagen Burnout Inventory: Normative data from a representative Danish population on Personal Burnout and results from the PUMA study on Personal Burnout, Work Burnout, and Client Burnout. Copenhagen: National Institute of Occupational Health.
- Box-Steffensmeier, J. M., Cunha, R. C., Varbanov, R. A., Hoh, Y. W., Knisley, M. L., & Holmes, M. A. (2015). Survival analysis of faculty retention and promotion in the social sciences by gender. *PLoS ONE*, *10*(11), e0143093.
<https://doi.org/10.1371/journal.pone.0143093>
- Boyd, S., & Wylie, C. (1994). *Workload and Stress in New Zealand Universities*. Wellington: New Zealand Council for Educational Research and the Association of University Staff of New Zealand.
- Brauchli, R., Schaufeli, W. B., Jenny, G. J., Füllemann, D., & Bauer, G. F. (2013). Disentangling stability and change in job resources, job demands, and employee well-being: A three-wave study on the job-demands resources model. *Journal of Vocational Behavior*, *83*, 117–129.
- Brett, J. F., Brief, A. P., Burke, M. J., George, J. M., & Webster, J. (1990). Negative affectivity and the reporting of stressful life events. *Health Psychology*, *9*, 57-68.
- Brief, A. P., Burke, M. J., George, J. M., Robinson, B. S. & Webster, J. (1988). Should negative affectivity remain an unmeasured variable in the study of job stress? *Journal of Applied Psychology*, *73*, 193-198.
- Brody, E. M. (2004). *Women in the middle: Their parent-care years* (2nd ed.). New York, NY: Springer Publishing Company.

- Byron, K. (2005). A meta-analytic review of work-family conflict and its antecedents. *Journal of Vocational Behavior, 67*(2), 169-198.
- Bureau of Labor Statistics (BLS). (2017). Postsecondary teachers. *Occupational Outlook Handbook*. U.S. Department of Labor. Retrieved from <http://www.bls.gov/ooh/education-training-and-library/postsecondary-teachers.htm>
- Burke, P. J. (1991). Identity processes and social stress. *American Sociological Review, 56*, 836-849.
- Byrne, B. M. (2013). Structural equation modeling with EQS: Basic concepts, applications, and programming. Lawrence Erlbaum Associates Publishers.
- Byron, K. (2005). A meta-analytic review of work-family conflict and its antecedents. *Journal of Vocational Behavior, 67*(2), 169-198.
- Carlson, D. S., Hunter, E. M., Ferguson, M., & Whitten, D. (2014). Work-family enrichment and satisfaction: Mediating processes and relative impact of originating and receiving domains. *Journal of Management, 40*(3), 845-865.
- Casper, W. J., Martin, J. A., Buffardi, L. C., & Erdwins, C. J. (2002). Work-family conflict, perceived organizational support, and organizational commitment of employed mothers. *Journal of Occupational Health Psychology, 7*(2), 99–108.
- Center for Disease Control and Prevention. (2018, January 26). *Learn about mental health: Fast facts*. Retrieved from <https://www.cdc.gov/mentalhealth/learn/index.htm>
- Chen, Z., Powell, G. N., and Greenhaus, J. H. (2009). Work-to-family conflict, positive spillover, and boundary management: a person-environment fit approach. *Journal of Vocational Behavior, 74*, 82–93. doi: 10.1016/j.jvb.2008.10.009

- Chen, P. Y. & Spector, P. E. (1991). Negative affectivity as the underlying cause of correlations between stressors and strains. *Journal of Applied Psychology, 76*, 398-407.
- Clark, M. A., Rudolph, C. W., Zhdanova, L., Michel, J. S., & Baltes, B. B. (2017). Organizational support factors and work–family outcomes: Exploring gender differences. *Journal of Family Issues, 38*(11), 1520-1545.
- Clement, S., Schauman, O., Graham, T., Maggioni, F., Evans-Lacko, S., Bezborodovs, N., ... Thornicroft, G. (2015). What is the impact of mental health-related stigma on help-seeking? A systematic review of quantitative and qualitative studies. *Psychological Medicine, 45*(1), 11-27.
- Cohen, B. H. (2008). *Explaining psychological statistics*. John Wiley & Sons.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Earlbaum Associates.
- Conti, D. J., & Burton, W. H. (1994). The economic impact of depression in a workplace. *Journal of Occupational Medicine, 36*, 983-988.
- Cooper, J., Manusco, S. G., Borland, R., Slade, T., Galletly, C., & Castle, D. (2012). Tobacco smoking among people living with a psychotic illness: The second Australian survey of psychosis. *Australian and New Zealand Journal of Psychiatry, 46*, 851-863.
- Cordes, C. L., & Dougherty, T. W. (1993). A review and integration of research on job burnout. *Academy Of Management Review, 18*(4), 621-656.
- Curtis, J. W., & Thornton, S. (2013). *Here's the News: The Annual Report on the Economic Status of the Profession, 2013-2013*. Washington, DC: American Association of University Professors.

- Delacre, M., Lakens, D., & Leys, C. (2017). Why psychologists should by default use Welch's *t*-test instead of student's *t*-test. *International Review of Social Psychology*, *30*(1), 92–101.
- Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. (2001). The job demands-resources model of burnout. *Journal Of Applied Psychology*, *86*(3), 499-512.
doi:10.1037/0021-9010.86.3.499
- Dewa, C. S., Borbière, M., Durand, M. J., & Hensel, J. (2012). Challenges related to mental health in the workplace. In R. J. Gatchel & I. Z. Schutlz (Eds.), *Handbook of occupational health and wellness* (pp. 105-129). New York: Springer.
- Dewe, P. J., O'Driscoll, M. P., & Cooper, C. L. (2002). Theories of psychological stress at work. In R. J. Gatchel & I. Z. Schultz (Eds.), *Handbook of occupational health and wellness* (pp.23-36).New York: Springer.
- Dey, E. L. (1994). Dimensions of faculty stress: A recent survey. *The Review of Higher Education*, *17*(3), 305-322.
- Doyle, C., & Hind, P. (2002). Occupational stress, burnout, and job status in female academics. *Gender, Work, & Organization*, *5*(2), 67-82.
- Dunn, J. C., Whelton, W. J., & Sharpe, D. (2006). Maladaptive perfectionism, hassles, coping, and psychological distress in university professors. *Journal of Counseling Psychology*, *53*(4), 511-523.
- Duxbury, L. E., & Higgins, C. A. (1991). Gender differences in work-family conflict. *Journal of Applied Psychology*, *76*, 60-74.
- Eagly, A. H. (1987). *Sex Differences in Social Behavior: A Social-role Interpretation*. Hillsdale, NJ: Lawrence Erlbaum.

- Eagly, A. H., & Steffen, V. J. (1984). Gender stereotypes stem from the distribution of women and men into social roles. *Journal of Personality and Social Psychology*, *46*, 735-754.
- Edwards, J. R., & Rothbard, N. P. (1999). Work and family stress and well-being: an examination of person-environment fit in the work and family domains. *Organizational Behavior and Human Decision Processes*, *77*, 85–129.
- Faul, F., Erdfelder, E., Buchner, A., & Lang, A.-G. (2009). Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods*, *41*, 1149-1160.
- Fidell, L. S. (1970). Empirical verification of sex discrimination in hiring practices in psychology. *American Psychologists*, *25*, 1094-1098.
- Fisher, S. (1994). *Stress in Academic Life: The Mental Assembly Line*. Buckingham: Open University Press.
- Fisher, G. G., Bulger, C. A., & Smith, C. S. (2009). Beyond work and family: A measure of work/nonwork interference and enhancement. *Journal of Occupational Health Psychology*, *14*(4), 441-456.
- Fiske, D. W. (1982). Convergent–discriminant validation in measurements and research strategies. In D. Brinbirg & L. H. Kidder (Eds.), *Forms of validity in research* (pp. 77–92). San Francisco: Jossey-Bass.
- Foucreault, A., Ollier-Malaterre, A., & Ménard, J. (2016). Organizational culture and work–life integration: A barrier to employees' respite? *International Journal of Resource Management* *5192*, 1–21.
- Fox, A. B., Earnshaw, V. A., Taverna, E. C., & Vogt, D. (2018). Conceptualizing and measuring mental illness stigma: The mental illness stigma framework and critical review of

- measures. *Stigma and Health*, 3(4), 348-376.
- Friend, K. (1982). Stress and performance: Effects of subjective work load and time urgency 1. *Personnel Psychology*, 35(3), 623-633.
- Fry, R. (2018). Millennials are the largest generation in the U.S. labor force. *Pew Research Center*. Retrieved from <http://www.pewresearch.org/fact-tank/2018/04/11/millennials-largest-generation-us-labor-force/>
- Ganster, D. C. (2008). Measurement challenges for studying work-related stressors and strains. *Human Resource Management Review*, 18(4), 259-270.
- Ganster, D. C., & Rosen, C. C. (2013). Work stress and employee health: A multidisciplinary review. *Journal of Management*, 39(5), 1085-1122.
- Gillespie, N. A., Walsh, M., Winefield, A. H., Dua, J., & Stough, C. (2001). Occupational stress in universities: Staff perceptions of the causes, consequences and moderators of stress. *Work & Stress*, 15(1), 53-72.
- Goetzel, R. Z., Roemer, E. C., Hollingue, C., Fallin, M. D., McCleary, K. Eaton, W., ... Mattingly, C. R. (2018). Mental health in the workplace: A call to action proceedings from the Mental Health in the Workplace-Public Health Summit. *Journal of Occupational and Environmental Medicine*, 60(4), 322-330.
- Greenberg, J. (2009). Everybody talks about organizational justice, but nobody does anything about it. *Industrial and Organizational Psychology*, 2, 181-195.
- Greenberg, P. E., Sisitsky, T., Kessler, R.C., Finkelstein, S. M., Berndt, E. R., Davidson, J., ... Fyer, A. (1999). The economic burden of anxiety disorders in the 1990s. *Journal of Clinical Psychiatry*, 60(7), 427-435.

- Greenberg, P. E., Stiglin, L. E., Finkelstein, S. M., Berndt, E. R., & Ernst, R. (1993). The economic burden of depression in 1990. *Journal of Clinical Psychiatry, 54*(11), 405-418.
- Grewal, R., Cote, J. A., & Baumgartner, H. (2004). Multicollinearity and measurement error in structural equation models: Implications for theory testing. *Marketing Science, 23*(4), 519-529.
- Greszki, R., Meyer, M., & Schoen, H. (2015). Exploring the effects of removing 'too fast' responses and respondents from web surveys. *Public Opinion Quarterly, 79*(2), 471-503. doi:10.1093/poq/nfu058.
- Griffin, M. A., & Clarke, S. (2011). Stress and well-being at work. In S. Zedeck (Ed.), *APA handbook of industrial and organizational psychology, 3*, 359-397. Washington, DC: American Psychological Association.
- 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.
- 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.
- Gummer, T., Robmann, J., & Silber, H. (2018). Using instructed response items as attention checks in web surveys: Properties and implementation. *Sociological Methods & Research, 1-27*.
- Hackman, J. R. (1992). Group influences on individuals in organizations. In M. D. Dunnette & L. M. Hough (Eds.), *Handbook of industrial and organizational psychology* (pp. 199-267). Palo Alto, CA, US: Consulting Psychologists Press.

- Hair Jr., J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis*. Upper Saddle River, NJ: Pearson Education.
- Hakanen, J. J., Schaufeli, W. B., & Ahola, K. (2008). The Job Demands-Resources model: A three-year cross-lagged study of burnout, depression, commitment, and work engagement. *Work & Stress, 22*, 224-241.
- Harvard Health (2011, May). Women and depression. Retrieved from <https://www.health.harvard.edu/womens-health/women-and-depression>
- Harvey, B. (2018, December 18). *What companies can do to help employees address mental health issues*. Retrieved from <https://hbr.org/2018/12/what-companies-can-do-to-help-employees-address-mental-health-issues>
- Helmreich, R. L., Spence, J. T., Beane, W. E., Lucker, G. W., & Mathews, K. A. (1980). Making it in academic psychology: Demographic and personality correlates of attainment. *Journal of Personality and Social Psychology, 39*, 896-908.
- Higginbottom, K. (2018, September 14). *Poor mental health is widespread in the workplace*. Retrieved from <https://www.forbes.com/sites/karenhigginbottom/2018/09/14/poor-mental-health-widespread-in-the-workplace/#94205fa72f8a>
- Hughes, R. E. (2001). Deciding to leave but staying: Teacher burnout, precursors and turnover. *The International Journal of Human Resource Management, 12*(2), 288-298.
- Jackson, S. E., Schwab, R. L., & Schuler, R. S. (1986). Toward an understanding of the burnout phenomenon. *Journal of Applied Psychology, 71*(4), 630-640.
- Jerome, G. J., Rohm-Young, D., Dalcin, A., Charleston, J., Anthony, C., Hayes, J., & Daumit, G. L. (2009). Physical activity levels of persons with mental illness attending psychiatric rehabilitation programs. *Schizophrenia Research, 108*, 252-257.

- Jeung, D. Y., Kim, C., & Chang, S. J. (2018). Emotional labor and burnout: A review of the literature. *Yonsei Medical Journal*, *59*(2), 187-193.
- Jick, T. D., & Mitz, L. F. (1985). Sex differences in work stress. *Academy of Management Review*, *10*(3), 408-420.
- Johnson, J. W. (2000). A heuristic method for estimating the relative weight of predictor variables in multiple regression. *Multivariate Behavioral Research*, *35*, 1–19.
- Judge, T. A., Erez, A., & Thoresen, C. J. (2000). Why negative affectivity (and self-deception) should be included in job stress research: Bathing the baby with the bath water. *Journal of Organizational Behavior*, *21*, 101-111.
- Kahn R., Wolfe D., Quinn R., Snoek J., & Rosenthal R. (1964). *Organizational stress: Studies in role conflict and ambiguity*. New York, NY: Wiley.
- Kaminski, D., & Geisler, C. (2012). Survival analysis of faculty retention in science and engineering by gender. *Science*, *335*, 864–866.
- Karasek, R. A. (1979). Job demands, job decision latitude and mental strain: Implications for job redesign. *Administrative Science Quarterly*, *24*, 285-308.
- Karasek, R. A. (1985). *Job Content Questionnaire and User's Guide*.
- Kaschak, E. (1978). Sex bias in student evaluations of college professors. *Psychology of Women Quarterly*, *3*, 235-243.
- Kellison, I., Bussing, R., Bell, L., & Garvan, C. (2010). Assessment of stigma associated with attention-deficit hyperactivity disorder: Psychometric evaluation of the ADHD Stigma Questionnaire. *Psychiatry Research*, *178*, 363-369.
- Keyes, C. L. (2002). The mental health continuum: From languishing to flourishing in life. *Journal of Health and Social Behavior*, *43*(2), 207-222.

- Keyes, C. L. (2005). Mental illness and/or mental health? Investigating anxious of the complete state model of health. *Journal of Consulting & Clinical Psychology, 73*(3), 539-548.
- Keyes, C. L. (2007). Promoting and protecting mental health as flourishing: A complementary strategy for improving national mental health. *American Psychologist, 62*(2), 95-108.
- Kinman, G. (1998). *Pressure points: A survey into the causes and consequences of occupational stress in UK academic and related staff*. London, England: Association of University Teachers.
- Kinman, G., & Jones, F. (2008). A life beyond work? Job demands, work-life balance, and wellbeing in UK academics. *Journal of Human Behavior in the Social Environment, 17*, 41-60.
- Kirsh, B., & Gewurtz, R. (2012). Promoting mental health within workplaces. In R. J. Gatchel & I. Z. Schutlz (Eds.), *Handbook of occupational health and wellness* (pp. 243-265). New York: Springer.
- Kline, R. B. (2011). *Principles and practice of structural equation modeling*. New York: Guilford Press.
- Kraha, A., Turner, H., Nimon, K., Zientek, L. R., & Henson, R. K. (2012). Tools to support interpreting multiple regression in the face of multicollinearity. *Frontiers in Psychology, 3*, 44.
- Kreiner, G. E. (2006). Consequences of work-home segmentation or integration: a person-environment fit perspective. *Journal of Organizational Behavior, 27*, 485-507.
- Kung, F. Y H., Kwok, N., & Brown, D. J. (2018). Are attention check questions a threat to scale validity? *Applied Psychology: An International Review, 67*(2), 264-283.
- Lackritz, J. R. (2004). Exploring burnout among university faculty: Incidence, performance, and

- demographic issues. *Teaching and Teacher Education*, 20(7), 713-729.
- Lazarus, R. S., & Folkman, S. (1984). Coping and adaptation. In W.D. Gentry (Ed.), *The handbook of behavioral medicine* (pp. 282-325). New York, NY: Guilford.
- Lease, S. H. (1999). Occupational role stressors, coping, support, and hardiness as predictors of strain in academic faculty: An emphasis on new and female faculty. *Research in Higher Education*, 40(3), 285-307.
- Leung, T., Siu, O., & Spector, P. E. (2000). Faculty stressors, job satisfaction, and psychological distress among university teachers in Hong Kong: The role of locus of control. *International Journal of Stress Management*, 7(2), 121-138.
- Lorenzo-Seva, U., Ferrando, P. J., & Chico, E. (2010). Two SPSS programs for interpreting multiple regression results. *Behavioral Research Methods*, 42, 29–35.
- Lucia, D. (2016, February 1). *Pulling back the curtain: Mental health in academia*. Retrieved from <http://www.lateralmag.com/articles/issue-7/pulling-back-the-curtain-mental-health-in-academia>
- MacNell, L., Driscoll, A., & Hunt, A. N. (2015). What's in a name: Exposing gender bias in student ratings of teaching. *Innovative Higher Education*, 40(4), 291-303.
- Mamiseishvili, K. (2012). Thriving in academia: Understanding and managing the complexities of faculty work. *Perspectives on Issues in Higher Education*, 15(2), 77-84.
- Maslach, C., & Leiter, M. P. (1997). *The Truth About Burnout: How Organizations Cause Stress and What to Do about It*. San Francisco: Jossey-Bass
- Maslach, C., Schaufeli, W. B., & Leiter, M. P. (2001). Job Burnout. *Annual Review of Psychology* 52(1), 397–422.
- Mayo Clinic (2019, January 29). “Depression in women: Understanding the gender gap.”

Retrieved from <https://www.mayoclinic.org/diseases-conditions/depression/in-depth/depression/art-20047725>

- McClelland, G. H., & Judd, C. M. (1993). Statistical difficulties of detecting interactions and moderator effects. *Psychological Bulletin*, *114*(2), 376-390.
- Meade, A.W., & Craig, S.B. (2012). Identifying careless responses in survey data. *Psychological Methods*, *17*(3), 437–455. <http://doi.org/10.1037/a0028085>
- Meijman, T.F. & Mulder, G. (1998). “Psychological aspects of workload”, in Drenth, P.J., Thierry, H. and de Wolff, C.J. (Eds), *Handbook of Work and Organizational Psychology*, 2nd ed., Erlbaum, Hove, pp. 5-33.
- Melchior, M., Caspi, A., Milne, B. J., Danese, A., Poulton, R., & Moffitt, T. E. (2007). Work stress precipitates depression and anxiety in young, working women and men. *Psychological Medicine*, *37*(8), 1119–1129.
- Mental Health America. (2019). *The state of mental health in America*. Retrieved from <http://www.mentalhealthamerica.net/issues/state-mental-health-america>
- Mesmer-Magnus, J. R., & Viswesveran, C. (2005). Convergence between measures of work-to-family and family- to-work conflict: A meta-analytic investigation. *Journal of Vocational Behavior*, *67*, 215–232.
- Michel, J., Kotrba, L., Deuling, J., Clark, M., & Baltes, B. (2011). Antecedents of work–family conflict: A meta-analytic review. *Journal of Organizational Behavior*, *32*, 689 - 725.
- Mishra, P. (2015). A grounded theory study on family-to-work enrichment. *South Asian Journal of Global Business Research*, *4*(1), 45-67.
- Mitchell, K. M. W., & Martin, J. (2018). Gender bias in student evaluations. *Political Science & Politics*, *51*(3), 648-652.

- Moeller, C., & Chung-Yan, G. A. (2013). Effects of social support on professors' work stress. *International Journal of Educational Management, 27*(3), 188-202.
- 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*(3), 325-348.
- Murray, C. J. L., & Lopez, A. D. (1996). *The global burden of disease: A comprehensive assessment of mortality and disability from diseases, injuries, and risk factors in 1990 and projected to 2020*. Cambridge, MA: Published by the Harvard School of Public Health on behalf of the World Health Organization and the World Bank.
- Narayanan, L., Menon, S., & Spector, P. E. (1999). Stress in the workplace: A comparison of gender and occupations. *Journal of Organizational Behavior, 20*(1), 63-73.
- National Center for O*NET Development (O*NET). (2018a). *Political Science Teachers, Postsecondary* (O*Net Report No. 25-1065.00). Retrieved from <https://www.onetonline.org/link/summary/25-1056.00>
- National Center for O*NET Development (O*NET). (2018b). *Psychology Teachers, Postsecondary* (O*Net Report No. 25-1066.00). Retrieved from <https://www.onetonline.org/link/summary/25-1066.00>
- National Institute for Mental Health. (2017, November). *Mental illness statistics*. Retrieved from <https://www.nimh.nih.gov/health/statistics/mental-illness.shtml>
- National Institute of Occupational Health and Safety. (2015, November 6). *Total worker health*. Retrieved from <https://www.cdc.gov/niosh/twh/perspectives.html>
- Neumann, A. (2006). Professing passion: Emotion in the scholarship of professors at research universities. *American Educational Research Journal, 43*(3), 381-424.

- O’Laughlin, E. M., & Biscoff, L. G. (2005). Balancing parenthood and academia: Work/family stress as influenced by gender and tenure status. *Journal of Family Issues*, 26(10), 79-106.
- Oomens, S., Geurts, S., & Scheepers, P. (2007). Combining work and family in the Netherlands: Blessing or curse for one’s mental health? *International Journal of Law and Psychiatry*, 30(4), 369-384.
- Otero-López, J., M., Mariño, M. J. S., & Bolaño, C. C. (2008). An integrating approach to the study of burnout in university professors. *Psicothema*, 20(4), 766-772.
- Parasuraman, S., & Greenhaus, J. H. (2002). Toward reducing some critical gaps in work–family research. *Human Resource Management Review*, 12, 299–312.
- Parletta, N., Aljeesh, Y., & Baune, B. T. (2016). Health behaviors, knowledge, life satisfaction, and wellbeing in people with mental illness across four countries and comparisons with normative Sample. *Frontiers in Psychiatry*, 7, 145.
- Patterson, T. L., & Mausbach, B. T. (2010). Measurement of functional capacity: A new approach to understanding functional differences and real-world behavioral adaptation in those with mental illness. *Annual Review of Clinical Psychology*, 6, 139-154.
- Payne, R. L. (2000). Comments on ‘Why negative affectivity should not be controlled in job stress research: don’t throw out the baby with the bath water’. *Journal of Organizational Behavior*, 21, 97-99.
- Perreira, K., Deeb-Sossa, N., Harris, K., & Bollen, K. (2005). What are we measuring? An evaluation of the CES-D across race/ethnicity and immigrant generation. *Social Forces*, 83(4), 1567-1601.
- Peterson, N. G., Mumford, M. D., Borman, W. C., Jeanneret, P. R., Fleishman, E. A., Levin, K.

- Y., ... & Gowing, M. K. (2001). Understanding work using the Occupational Information Network (O* NET): Implications for practice and research. *Personnel Psychology*, *54*(2), 451-492.
- Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, *88*(5), 879–903.
- Price, M., & Kerschbaum, S. (2017). Promoting supportive academic environments for faculty with mental illnesses: Resource guide and suggestions for practice. *Temple University Collaborative*. Retrieved from: tucollaborative.org/wp-content/uploads/2017/05/Faculty-with-Mental-Illness.pdf
- Price, M., Salzer, M. S., O’Shea, A. M., & Kerschbaum, S. L. (2017). Disclosure of mental disability by college and university faculty: The negotiation of accommodations, supports, and barriers. *Disability Studies Quarterly*, *37*(2), 1-27.
- Puranova, R. K., & Muros, J. P. (2010). Gender differences in burnout: A meta-analysis. *Journal of Vocational Behavior*, *77*(2), 168-185.
- Rafnsdóttir, G. L., & Heijstra, T. M. (2013). Balancing work-family life in academia: The power of time. *Gender, Work, and Organization*, *20*(3), 283-296.
- Radloff, L. S. (1977). A self-report depression scale for research in the general population. *Applied Psychological Measurement*, *1*(3), 385-401.
- Rau, B. L., & Hyland, M. M. (2002). Role conflict and flexible work arrangements: The effects on applicant attraction. *Personnel Psychology*, *55*(1), 111–136.
- Raykov, T., & Marcoulides, G. A. (2011). *Introduction to psychometric theory*. New York: Taylor & Francis.

- Reevy, G. M., & Season, G. (2014) Predictors of depression, stress, and anxiety among non-tenure track faculty. *Frontiers in Psychology, 5*, 1-17.
- Rothbard, N. P. (2001). Enriching or depleting? The dynamics of engagement in work and family roles. *Administrative Science Quarterly, 46*, 655-684.
- Rothbard, N. P., Phillips, K. W., and Dumas, T. L. (2005). Managing multiple roles: Work-family policies and individuals' desires for segmentation. *Organizational Science, 16*, 243–258.
- Sabagh, Z., Hall, N. C., & Saroyan, A. (2018). Antecedents, correlates and consequences of faculty burnout. *Educational Research, 60*(2), 131-156.
- Sanders, K., Willemsen, T. M., & Millar, C. C. J. M. (2009). Views from above the glass ceiling: Does the academic environment influence women professors' careers and experiences? *Sex Roles, 60*(5-6), 301-312.
- Schaufeli, W. B., Bakker, A. B., & Van Rhenen, W. (2009). How changes in job demands and resources predict burnout, work engagement, and sickness absenteeism. *Journal of Organizational Behavior, 30*, 893-917.
- Schuldt, B. A., & Totten, J. W. (2008). An exploratory study: Business faculty and the faculty stress index. *Allied Academies International Conference, Proceedings of the Allied Academies, 15*(20), 128-133.
- Shaw, C., & Ward, L. (2014, March 6). *Dark thoughts: Why mental illness is on the rise in academia*. Retrieved from <https://www.theguardian.com/higher-education-network/2014/mar/06/mental-health-academics-growing-problem-pressure-university>
- Shockley, K. M., Shen, W., DeNunzio, M. M., Arvan, M. L., & Knudsen, E. A. (2017). Disentangling the relationship between gender and work–family conflict: An integration

- of theoretical perspectives using meta-analytic methods. *Journal of Applied Psychology*, 102(12), 1601-1635.
- SIOP Administrative Office. (2016, December 20). *SIOP announces top 10 workplace trends for 2017*. Retrieved from http://www.siop.org/article_view.aspx?article=1610
- SIOP Administrative Office. (2018, January 25). *SIOP announces top 10 workplace trends for 2018*. Retrieved from http://www.siop.org/article_view.aspx?article=1766
- Smith, E. (1995). The multiple sources of workplace stress among land-grant university faculty. *Research in Higher Education*, 36, 261-282.
- Smith, E., & Witt, S. (1996). A comparative study of occupational stress among African American and White university faculty: A research note. In C. Turner, M. Garcia, A. Nora, & L. Rendon (Eds.), *Racial and ethnic diversity in higher education*, ASHE Reader Series. Needham Heights, MA: Simon & Schuster Custom Publishing.
- Smith, C. S., Tisak, J., Hahn, S. E., & Schmieder, R. A. (1997). The measurement of job control. *Journal of Organizational Behavior*, 18, 225-237.
- Sowislo J. F., & Orth, U. (2013). Does low self-esteem predict depression and anxiety? A meta-analysis of longitudinal studies. *Psychology Bulletin*, 139, 213–240.
- Spector, P. E., & Brannick, M. T. (2011). Methodological urban legends: The misuse of statistical control variables. *Organizational Research Methods*, 14(2), 287-305.
- Spector, P. E., & Jex, S. M. (1998). Development of four self-report measures of job stressors and strain: Interpersonal conflict at work scale, occupational constraints scale, quantitative workload inventory, and physical symptoms inventory. *Journal of Occupational Health Psychology*, 3, 356-367.

- Spector, P. E., Rosen, C. C., Richardson, H. A., Williams, L. J., & Johnson, R. E. (2017). A new perspective on method variance: A measure-centric approach. *Journal of Management*, 0149206316687295.
- Spector, P. E., Zapf, D., Chen, P. Y., & Frese, M. (2000). Why negative affectivity should not be controlled in job stress research: don't throw out the baby with the bath water. *Journal of Organizational Behavior*, 21, 79-95.
- Spitzer, R. L., Kroenke, K., Williams, J. B. W., & Löwe, B. (2006). A brief measure for assessing generalized anxiety disorder: The GAD-7. *Archives of Internal Medicine*, 166(10), 1092-1097. doi:10.1001/archinte.166.10.1092
- Stake, J. E. (1979). The ability/performance dimension of self-esteem: Implications for women's achievement behavior. *Psychology of Women Quarterly*, 3, 365-377.
- Stamper, C. L., & Johlke, M. C. (2003). The impact of perceived organizational support on the relationship between boundary spanner role stress and work outcomes. *Journal of Management*, 29(4), 569-588.
- Stansfeld, S., & Candy, B. (2006). Psychosocial work environment and mental health – a meta-analytic review. *Scandinavian Journal of Work, Environment & Health*, 32(6), 443-462.
- Stansfeld, S. A., Shipley, M. J., Head, J., & Fuhrer, R. (2012). Repeated job strain and the risk of depression: Longitudinal analyses from the Whitehall II study. *American Journal of Public Health*, 102, 2360-2366.
- Steger, M. F., Dik, B. J., & Duffy, R. D. (2012). Measuring meaningful work: The work and meaning inventory (WAMI). *Journal of Career Assessment*, 20(3), 322-337.

- Stetz, T. A., Stetz, M. C., & Bliese, P. D. (2006). The importance of self-efficacy in the moderating effects of social support on stressor-strain relationships. *Work & Stress, 20*(1), 49-59.
- Stynen, D., Jansen, N. W., & Kant, I. J. (2015). The impact of depression and diabetes mellitus on older workers' functioning. *Journal of Psychosomatic Research, 79*(6), 604-613.
- ten Brummelhuis, L. L., & Bakker, A. B. (2012). A resource perspective on the work-home interface: The work-home resources model. *American Psychologist, 67*(7), 545-556.
- Terrill, A. L., Garofalo, J. P., Soliday, E., & Craft, R. (2012). Multiple roles and stress burden in women: A conceptual model of heart disease risk. *Journal of Applied Biobehavioral Research, 17*(1), 4-22.
- Tetrick, L. E., & Buffardi, L. C. (2006). Measurement issues in research on the work-home interface. In F. Jones, R. J. Burke, & M. Westman (Eds.), *Work-life balance: A psychological perspective* (pp. 90 –114). New York: Psychology.
- Thoits, P. A. (1991). On merging identity theory and stress research. *Social Psychology Quarterly, 54*, 101-110.
- Thompson, C. J., & Dey, E. L. (1998). Pushed to the margins: Sources of stress for African American college and university faculty. *The Journal of Higher Education, 69*(3), 324-345.
- Thorsen, E. J. (1996). Stress in academe: What bothers professors? *Higher Education, 31*(4), 471-489.
- Titchkosky, T. (2011). *The question of access: Disability, space, meaning*. Toronto: University of Toronto Press.

- UN Chronicle. (2010, July). *Why no one talks about non-communicable diseases*. Retrieved from <https://unchronicle.un.org/article/why-no-one-talks-about-non-communicable-diseases>
- U.S. Department of Health and Human Services (USDHHS). (1999). *Mental Health: A Report of the Surgeon General*. Rockville, MD: U.S. Department of Health and Human Services; Substance Abuse and Mental Health Services Administration, Center for Mental Health Services, National Institutes of Health, National Institute of Mental Health.
- U.S. Equal Employment Opportunity Commission. (2008). *Fact Sheet on the EEOC's Final Regulations Implementing the ADAAA*. Retrieved from https://www.eeoc.gov/laws/regulations/adaaa_fact_sheet.cfm.
- Van den Broeck, A., Elst, T. V., Baillien, E., Sercu, M., Schouteden, M., De Witte, H., & Godderis, L. (2017). Job demands, job resources, burnout, work engagement, and their relationships: An analysis across sectors. *Journal of Occupational and Environmental Medicine*, 59(4), 369-376.
- Van de Velde, S., Levecque, K., & Bracke, P. (2009). Measurement equivalence of the CES-D 8 in the general population in Belgium: A gender perspective. *Archives of Public Health*, 67(1), 15–29.
- Viswesvaran, C., Sanchez, J. I., & Fisher, J. (1999). The role of social support in the process of work stress: A meta-analysis. *Journal of Vocational Behavior*, 54(2), 314-334.
- Voydanoff, P., & Donnelly, B. W. (1989). Work and family roles and psychological distress. *Journal of Marriage and the Family*, 51, 923-932.
- Wahl, O. F. (1999). Mental health consumers' experience of stigma. *Schizophrenia Bulletin*, 25(3), 467-478.

- Walker, E. R., McGee, R. E., & Druss, B. G. (2015). Mortality in mental disorders and global disease burden implications: A systematic review and meta-analysis. *JAMA Psychiatry*, 72(4), 334-341.
- Wang, J., Schmitz, N., Dewa, C., & Stansfeld, S. (2009). Changes in perceived job strain and the risk of major depression: Results from a population-based longitudinal study. *American Journal of Epidemiology*, 169, 1085-1091.
- Watanabe, M., & Falci, C. D. (2014). A demands and resources approach to understanding faculty turnover intentions due to work-family balance. *Journal of Family Issues*, 37(3), 393-415.
- Watson, D., Clark, L. E., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology*, 54(6), 1063-1070.
- Watson, D. & Pennebaker, J. W. (1989). Health complaints, stress, and distress: exploring the central role of negative activity. *Psychological Review*, 96, 234-254.
- Watts, W. D., & Short, A. P. (1990) Teacher drug use: A response to occupational stress. *Journal of Drug Education*, 20, 47-65.
- Warr, P. (1990). The measurement of well-being and other aspects of mental health. *Journal of Occupational Psychology*, 63, 193-210.
- Weingarten, K. (1978). The employment pattern of professional couples and their distribution of involvement in the family. *Psychology of Women Quarterly*, 3, 43-52.
- Williams, L. J. & Anderson, S. E. (1994). An alternative approach to method effects by using latent variable models: Applications to organizational behavior research. *Journal of Applied Psychology*, 79, 323-334.

- Williams, L. J., & McGonagle, A. K. (2015). Four research designs and a comprehensive analysis strategy for investigating common method variance with self-report measures using latent variables. *Journal of Business and Psychology, 31*(3), 1-21.
- Winefield, H. R., Winefield, A. H., & Tiggemann, M. (1992). Social support and psychological well-being in young adults: The multi-dimensional support scale. *Journal of Personality Assessment, 58*(1), 198-210.
- Wolff, H. G. & Preising, K. (2005). Exploring item and higher order factor structure with the Schmid-Leiman solution: Syntax codes for SPSS and SAS. *Behavioral Research Methods, 37*(1), 48-58.
- World Health Organization. (2012, October). *Depression*. Retrieved from <http://www.who.int/en/news-room/fact-sheets/detail/depression>
- World Health Organization. (2018, March 30). *Mental health: Strengthening our response*. Retrieved from <http://www.who.int/news-room/fact-sheets/detail/mental-health-strengthening-our-response>
- Zeigler-Hill V. (2011). The connections between self-esteem and psychopathology. *Journal of Contemporary Psychotherapy, 41*, 157–164.
- Zimet, G. D., Dahlem, N. W., Zimet, S. G., & Farley, G. K. (1988). The multidimensional scale of perceived social support. *Journal of Personality Assessment, 52*, 30-41.

Appendix A: Research Recruitment Posting

Email, Facebook Group Pages, Reddit, LinkedIn

Hi all!

My name is Rebecca Clancy and I am second year graduate student in the Psychology Department at Colorado State. I am currently working on my Master's thesis, and would love to hear from you in my research!

I am recruiting for a study about occupational stress and work/life experiences, specifically among professors in college and university settings. I would really appreciate having your input. The online survey is entirely voluntary and anonymous, and your responses will be kept private. You may withdraw from the survey at any time. The survey should take 20- 25 minutes to complete. You must be employed as a full-time faculty member at a college or university in the United States to participate. If you are not eligible for the survey, please feel free to share this post with anyone who may be eligible! If you have questions or concerns about this project, please contact Rebecca Clancy at rebecca.clancy@colostate.edu. If you have any questions about your rights as a volunteer in this research, please contact the CSU IRB at RICRO_IRB@mail.colostate.edu; 970-491-1553.

To access the survey, click the link below:

Appendix B: Demographics and Work-Related Characteristics

1. Are you currently employed in the U.S.?
 - a. Yes
 - b. No

2. Are you currently employed at a university or college as a full-time faculty member?
 - a. Yes
 - b. No

3. Please select your role/position title at your current primary job:
 - a. Assistant Professor
 - b. Associate Professor
 - c. Professor
 - d. Clinical Professor
 - e. Full-time Instructor
 - f. Adjunct Instructor
 - g. Other (please specify):

4. Are you in a tenure-track position?
 - a. Yes
 - b. No

5. Have you received tenure? **
 - a. Yes
 - b. No

6. What is your gender?
 - a. Male
 - b. Female
 - c. Other (please specify):
 - d. Prefer not to say

7. What is your age?

8. What is your race/ethnicity? Check all that apply.
 - a. African American or Black
 - b. Caucasian or White (non-Hispanic)
 - c. Hispanic or Latinx
 - d. Asian American/Asian/Asian Pacific Islander

- e. Native American/American Indian/Alaska Native
 - f. Other (please specify):
9. Which of the following best describes your current marital/relationship status?
- a. Married
 - b. Living with (but not married to) your romantic partner
 - c. In a domestic partnership
 - d. Separated or divorced
 - e. Widowed
 - f. Single (never married)
10. Overall, how would you rate your health?
- a. Poor
 - b. Fair
 - c. Good
 - d. Very Good
 - e. Excellent
11. What is your highest level of education completed?
- a. Some high school
 - b. High school diploma
 - c. Some college
 - d. 4-year college degree (BA/BS)
 - e. Master's degree (MA/MS/MBA)
 - f. Doctoral degree (PhD)
 - g. Professional graduate degree (JD/MD)
 - h. Other (please specify):
12. Are you currently pregnant? **
- a. Yes
 - b. No
13. What is your parental status?
- a. I have one child
 - b. I have multiple children
 - c. I do not have children
 - d. Other (please specify):
14. How many children do you have? **
15. How old are your children? Please answer in years. **

16. Please choose which response best represents your family situation: **
- I am the member of my family with the primary responsibility for caring for or arranging care for my child/children.
 - My spouse/partner and I share child caregiving responsibilities equally.
 - My spouse/partner has primary responsibility for caring for or arranging care for our child/children.
 - Other (please explain):
17. Are you currently responsible for providing informal (i.e., not paid) care to an elderly family member, neighbor, or friend?
- Yes
 - No
18. How is/are the care recipient(s) related to you? Please check all that apply (e.g., if you care for one of your parents and one of your parent-in-laws, please select both options). **
- Spouse
 - Parent
 - Both parents
 - Parent-in-law
 - Both parent-in-laws
 - Other relative
 - Friend
 - Other (please specify):
19. On average, how many hours per week do you spend providing eldercare?
Examples of providing eldercare include: 1) assistance with personal care activities such as dressing, grooming, toileting, preparing meals, or getting in and out of bed, 2) assistance with instrumental activities such as shopping, cooking, managing medications, managing finances, doing housework, or doing laundry, or 3) providing transportation to doctor's appointments or other activities.**
20. Please choose which response best describes your current eldercare situation: **
- I am the member of my family with the primary responsibility for eldercare or for arranging care for the elder.
 - My spouse/partner and I share eldercare responsibilities equally.
 - My siblings and I share eldercare responsibilities equally.
 - Although I provide eldercare, my spouse/partner has primary responsibility for caring for or arranging eldercare.
 - Although I provide eldercare, my sibling(s) or another relative has primary responsibility for caring for or arranging eldercare.
 - Other (please specify):
21. If you are not currently responsible for providing informal eldercare, have you ever been responsible for providing this type of care? **
- Yes

- b. No
22. How many years have you been at your current job? If you have been at your current job for less than 1 year, please answer 0.
23. What is your field of study?
24. How would you describe the percentage of work time that you spend on research/teaching/service? Please make sure that your total time adds up to 100.
- a. Research:
 - b. Teaching:
 - c. Service:
25. On average, how many hours do you work per week?
26. What percentage of your department is female?
27. To help us understand your previous mental health history, please select any of the following that you have ever experienced in the past:
- a. Panic attacks
 - b. Mania/Hypomania
 - c. ADD/ADHD
 - d. Psychosis
 - e. Depression
 - f. General Anxiety or Phobias
 - g. Obsessions or Compulsions
 - h. Eating Disorder
 - i. PTSD
 - j. Anxiety in Pregnancy
 - k. Depression in Pregnancy
 - l. Postpartum Depression
 - m. Postpartum Psychosis
 - n. Postpartum Anxiety
 - o. Other (please specify):
28. To help us understand your current mental health, please select any of the following that you are currently experiencing:
- a. Panic attacks
 - b. Mania/Hypomania
 - c. ADD/ADHD
 - d. Psychosis
 - e. Depression
 - f. General Anxiety or Phobias
 - g. Obsessions or Compulsions
 - h. Eating Disorder
 - i. PTSD

- j. Anxiety in Pregnancy
- k. Depression in Pregnancy
- l. Postpartum Depression
- m. Postpartum Psychosis
- n. Postpartum Anxiety
- o. Other (please specify):

29. Are you currently receiving professional treatment for your mental health? This can include therapy, counseling, taking medication, etc.

- a. Yes
- b. No

30. If you are not currently receiving treatment for your mental health, have you received any treatment in the past (including therapy, counseling, taking medication, etc.)? **

- a. Yes
- b. No

Note. ** Indicates that the question was only shown to participants if their previous responses met skip-logic requirements to present the question.

Appendix C: General Job Stress Scale
(Stanton et al., 2001)

What is your job like most of the time?

1. Demanding
2. Pressured
3. Hectic
4. Calm (R)
5. Relaxed (R)
6. Many things stressful
7. Pushed
8. Irritating
9. Under control (R)
10. Nerve-racking
11. Hassled
12. Comfortable (R)
13. More stressful than I'd like
14. Smooth running (R)
15. Overwhelming

Note. Items were rated on a 1 to 3 scale where 0 = No, 1.5 = ?/Not sure, 3 = Yes. Items 1-7 belong to the Pressure dimension; items 8-15 belong to the Threat dimension. (R) indicates reverse scoring.

Appendix D: Work/Nonwork Interference and Enhancement Scale
(Fisher et al., 2009)

Please indicate the extent to which you agree with the following statements:

1. I come home from work too tired to do the things I would like to do.
2. My job makes it difficult to maintain the kind of personal life I would like.
3. I often neglect my personal needs because of the demands of my work.
4. My personal life suffers because of my work.
5. I have to miss out on important personal activities due to the amount of time I spend doing work.
6. My personal life drains me of the energy I need to do my job.
7. My work suffers because of everything going on in my personal life.
8. I would devote more time to work if it weren't for everything I have going on in my personal life.
9. I am too tired to be effective at work because of things I have going on in my personal life.
10. When I'm at work, I worry about things I need to do outside of work.
11. I have difficulty getting my work done because I am preoccupied with personal matters at work.
12. My job gives me energy to pursue activities outside of work that are important to me.
13. Because of my job, I am in a better mood at home.
14. The things I do at work help me deal with personal and practical issues at home.
15. I am in a better mood at work because of everything I have going for me in my personal life.
16. My personal life gives me energy to do my job.
17. My personal life helps me relax and feel ready for the next day's work.

Note. Items were rated on a 1 to 5 scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neither Agree nor Disagree, 4 = Agree, 5 = Strongly Agree. Items 1-5 belong to the work interfering with personal life dimension; items 6-11 belong to the personal life interfering with work dimension; items 12-14 belong to the work enhancing personal life dimension; items 15-17 belong to the personal life enhancing work dimension.

Appendix E: Copenhagen Burnout Inventory
(Kristensen et al., 2005)

Please indicate the extent to which you agree with the following statements:

1. Is your work emotionally exhausting?
2. Do you feel burned out because of your work?
3. Does your work frustrate you?
4. Do you feel worn out at the end of the working day?
5. Are you exhausted in the morning at the thought of another day at work?
6. Do you feel that every working hour is tiring for you?
7. Do you have enough energy for family and friends during leisure time?

Note. Items 1-3 were rated on a 1 to 5 scale where 1 = To a very low degree, 2 = To a low degree, 3 = Somewhat, 4 = To a high degree, 5 = To a very high degree. Items 4-7 were rated on a 1 to 5 scale where 1 = Never/Almost Never, 2 = Seldom, 3 = Sometimes, 4 = Often, 5 = Always.

Appendix F: Center for Epidemiological Studies Depression Inventory
(Radloff, 1977)

Please think about the past two weeks and the feelings you have experienced. Please indicate if each of the following statements was true for you much of the time during the past two weeks:

1. You felt depressed
2. You felt that everything you did was an effort
3. Your sleep was restless
4. You were happy (R)
5. You felt lonely
6. You enjoyed life (R)
7. You felt sad
8. You could not get going

Note. Items were rated on a 0 to 3 scale where 0 = Rarely or none of the time (less than 1 day), 1 = Some or a little of the time (1-2 days), 2 = Occasionally or a moderate amount of time (3-4 days), 3 = Most or all of the time (5-7 days).

Appendix G: Generalized Anxiety Disorder Scale
(Spitzer et al., 2006)

In the last two weeks, how often have you been bothered by the following problems?

1. Feeling nervous, anxious, or on edge
2. Not being able to stop or control worrying
3. Worrying too much about different things
4. Trouble relaxing
5. Being so restless that it's hard to sit still
6. Becoming easily annoyed or irritable
7. Feeling afraid as if something awful might happen

Note. Items were rated on a 0 to 3 scale where 0 = Not at all, 1 = Several days, 2 = Over half the days, 3 = Nearly every day.

Appendix H: Perceived Organizational Support Scale
(Eisenberger et al., 1986)

Please indicate the extent to which you agree with the following statements:

1. Help is available from my organization (university/college) when I have a problem.
2. My organization (university/college) really cares about my well-being.
3. My organization (university/college) shows a lot of concern for me.
4. My organization (university/college) strongly considers my goals and values.
5. My supervisor (department chair) really cares about my well-being.
6. Help is available from my supervisor (department chair) when I have a problem.
7. My supervisor (department chair) shows a lot of concern for me.
8. My supervisor (department chair) sometimes can be irritating. (R)
9. My supervisor (department chair) is sometimes difficult to work with. (R)
10. My supervisor (department chair) sometimes makes me upset. (R)
11. My relationship with my supervisor (department chair) sometimes causes me distress.
12. Help is available from my work peers when I have a problem.
13. My work peers really care about my well-being.
14. My work peers show a lot of concern for me.
15. Help is available from my subordinates when I have a problem.
16. My subordinates really care about my well-being.
17. My subordinates show a lot of concern for me.

Note. Items were rated on a 1 to 5 scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neither Agree nor Disagree, 4 = Agree, 5 = Strongly Agree. Items 1-4 belong to the organizational support dimension; items 5-7 belong to the supervisor support dimension; items 8-11 belong to the ambivalent leadership dimension; items 12-14 belong to the peer support dimension; items 15-17 belong to the subordinate support dimension.

Appendix I: Nonwork Support Scale
(Winefield et al., 1992)

Think about your family and close friends, especially the 2-3 who are most important to you. Thinking about the last month...:

1. How often did they really listen to you when you talked about your concerns or problems?
2. How often did you feel that they were really trying to understand your problems?
3. How often did they try to take your mind off your problems by telling jokes or chatting about other things?
4. How often did they really make you feel loved?
5. How often did they help you in practical ways, like doing things for you or lending you money?
6. How often did they answer your questions or give you advice about how to solve your problems?
7. How often could you use them as examples of how to deal with your problems?

Note. Items were rated on a 1 to 5 scale where 1 = Never, 2 = Sometimes, 3 = Often, 4 = Usually, 5 = Always.

Appendix J: Negative Affectivity Scale
(Watson et al., 1988)

Please indicate the extent to which you feel this way in general:

1. Distressed
2. Upset
3. Guilty
4. Scared
5. Hostile
6. Irritable
7. Ashamed
8. Nervous
9. Jittery
10. Afraid

Note. Items were rated on a 1 to 5 scale where 1 = Very slightly or not at all, 2 = A little, 3 = Moderately, 4 = Quite a bit, 5 = Extremely.

Appendix K: Modified Mental Health Stigma Scale
(ASQ; Kellison et al., 2010)

Please indicate the extent to which you agree with the following statements:

1. People who have mental health problems feel guilty about it.
 2. People's attitudes about mental health may make persons with mental health problems feel worse about themselves.
 3. Someone who has mental health problems would think it's risky to tell other about it.
 4. People with mental health problems lose their jobs when their employers find out.
 5. People with mental health problems work hard to keep it a secret.
 6. Someone with mental health problems feels that they aren't as good a person as others because they have mental health problems.
 7. People with mental health problems are treated like outcasts.
 8. People with mental health problems feel damaged because of it.
 9. After learning they have mental health problems, a person may feel set apart and isolated from the rest of the world.
 10. Most people think that a person with mental health problems is damaged.
 11. A person with mental health problems feels that they are bad because of it.
 12. Most people with mental health problems are rejected when others find out.
 13. People who have mental health problems are very careful about who they tell.
 14. Some people who learn of another person having mental health problems grow distant.
 15. After learning they have mental health problems, people worry about others discriminating against them.
 16. Most people are uncomfortable around someone with mental health problems.
 17. People with mental health problems worry that others may judge them when they learn that they have mental health problems.
 18. People with mental health problems regret having told some people that they have mental health problems.
 19. As a rule, people with mental health problems feel that telling others that they have mental problems was a mistake.
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20. People don't want someone with mental health problems around their children once they know that person has mental health problems.
21. Some people act as though it's the person's fault that they have mental health problems.
22. People with mental health problems have lost friends by telling them that they have mental health problems.
23. People with mental health problems have told others close to them to keep the fact that they have mental health problems a secret.
24. The good points of people with mental health problems tend to be ignored.
25. People seem afraid of a person with mental health problems once they learn they have mental health problems.
26. When people learn that someone has mental health problems, they look for flaws in their character.

Note. Items were rated on a 1 to 5 scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neither Agree nor Disagree, 4 = Agree, 5 = Strongly Agree. Items 3, 5, 13, 14, 18, 19, 23 belong to the disclosure concerns dimension; items 1, 2, 6, 8, 9, 11 belong to the negative self-image dimension; items 4, 7, 10, 12, 15, 16, 17, 20, 21, 22, 24, 25, 26 belong to the concern with public attitudes dimension.