ANTECEDENTS IN BUILDING RESILIENCE: EXTENDING CONSERVATION OF RESOURCES THEORY

By

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ABSTRACT

LINDAMARIE WERNTZ COATMAN. Antecedents in Building Resilience: Extending Conservation of Resources Theory. (Under the direction of DR. LAURA STANLEY)

Stress in the workplace is a pertinent factor influencing people's lives and performance at work. Stress creates a cost to employees through their psychological and physical well-being, and it has financial consequences for organizations. One personal resource that has the potential for growth when experiencing stressors in the workplace and can enable employees to manage their stress in the future is resilience. Extant research supports that resilience in the workplace contributes to positive work-related attitudes, performance, and well-being. This dissertation is unique because it proposes and empirically tests an interactive model for studying how stressors in the workplace can influence the development of the sustainable personal resource of resilience. Although previous research supports a relationship between workplace stressors and resilience, this dissertation reexamines this relationship by leveraging the Challenge-Hindrance Framework that distinguishes two types of stressors. This dissertation also considers the moderating effect of how an employee identifies with work (work centrality) and how two contextual personal resources, one generated from experiences outside the organization (external social support) and one generated from experiences within the organization (psychological safety). To conceptually examine these relationships, this dissertation theorizes the interactive effect of the Job Demands Resources model with the Conservation of Resources theory and other theoretical frameworks to support the hypothesized model. Although only one of eight hypotheses is supported in this dissertation, this dissertation offers insights into the Conservation of Resources theory and provides a framework for future research. It also addresses the question, "does stress need to be managed in the workplace?"

DEDICATION

This dissertation is dedicated to my husband, Edgar Lee Coatman, who always supports and encourages me to follow my dreams and embrace all that life offers. As a first-generation college student, this dissertation is also dedicated to my mother and father, Russell and Julia Werntz, who had the foresight to send their daughter to college while always encouraging me not to set boundaries on my aspirations.

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CHAPTER I

INTRODUCTION

Stress is a major factor influencing peoples' lives by affecting their mental and physical health (Stevan E. Hobfoll, 1989). Job stress creates a cost to employees through their well-being and has a financial impact on organizations. A study conducted in Europe showed that 50% to 60% of lost working days had a link to work-related stress (Skakon, Nielsen, Borg, & Guzman, 2010, p. 107). Over the past 100 years, the scholarly interest in stress and well-being has evolved from physical job stress to increase interest in nonphysical and psychological stress in the workplace (Bliese, Edwards, & Sonnentag, 2017).

> *"At one point or another everybody will encounter an adverse experience in the workplace. Individuals must rely on a multitude of characteristics, processes, and social supports to recover and return to their pre-incident level of performance and well-being" (McLarnon & Rothstein, 2013, p. 63).*

Research supports that stress and well-being in the workplace are influenced by societal conditions, such as pandemics, geopolitical unrest, economic uncertainty, and work-family conflict (Bliese et al., 2017). Stress and well-being are also influenced by job characteristics that can cause job strain, burnout, and work disengagement (Bakker & Demerouti, 2007). Stressful conditions are typically not one single event but generally are a sequence of events that occur over time (Stevan E. Hobfoll, Halbesleben, Neveu, & Westman, 2018). An example is the multi-level impact of Covid-19 on families with school-age children. The pandemic caused a health crisis that

resulted in employees working at home. And if an employee had children at home, they were also required to oversee their children during distance learning.

The study of stress is relevant because stress has a direct relationship with employee behaviors and performance at work (Rodell & Judge, 2009). This relationship can be either positive or negative. Stress disrupts the cognitive-emotional-environmental equilibrium caused by external factors (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001; Lazarus & Folkman, 1984; McGrath, 1976). Stressors are demands from the external environment that evoke stress (Selye, 1991). Some stressors in the workplace act as motivational agents to employees, providing space for them to learn and build new capacities that will enable them to grow and develop within a work environment (Jeffery A LePine, Podsakoff, & LePine, 2005). The distinction between positive and negative stress is based on the type of stressor and the degree to which an employee evaluates it as either motivational or impeding (Marcie A Cavanaugh, Boswell, Roehling, & Boudreau, 1998; Lazarus & Folkman, 1984; Jeffery A LePine et al., 2005). Following the Job Demands-Resource (JD-R) model (Demerouti et al., 2001), existing contextual resources should also be considered when studying negative job demands because they have the potential to buffer the negative impact of stress by stimulating personal growth, learning, and development (Bakker, Hakanen, Demerouti, & Xanthopoulou, 2007). The buffering effect alters perception and cognitive processing evoked by stressors which reduces health-damaging consequences to the response of stressors (Bakker & Demerouti, 2007; R. L. Kahn & Byosserie, 1992). Resources are those things that an individual considers desirable and can be utilized to obtain objects, personal characteristics, or energy (Stevan E. Hobfoll, 1989, p. 516). They are considered either external resources (organizational and social) or internal resources (cognitive and action patterns; Demerouti et al., 2001). One potential area for learning and personal development during times of stress is the

development of psychological resilience, which is considered a personal resource and is defined as a capacity involving being able to move forward in a positive way from a negative, traumatic, or stressful experience (Jackson, Firtko, & Edenborough, 2007; Tugade & Fredrickson, 2004, p. 2). The literature suggests that employee experiences with stressors in developing resilience may be a more effective tool in building resilience than employing top-down strategies such as job redesign or formal training programs (Monique F Crane & Searle, 2016).

Studying resilience has become more prevalent in research because of its positive relationship with personal and job effectiveness (Kossek & Perrigino, 2016). Resilience can affect all aspects of our lives, such as dealing with natural disasters and terrorism or every day occurrences such as working with difficult colleagues, remaining positive in demanding environments, or navigating the spillover effect of work to family life (and vice versa) (Kossek & Perrigino, 2016). Resilience outcomes are classified under four categories: more positive performance, mental and physical health (i.e., well-being), work-related attitudes, and change-related attitudes (Hartmann, Weiss, Newman, & Hoegl, 2020). Resilience builds on the ideas of "positive psychology," which focuses on positive human strengths (Hartmann et al., 2020, p. 917; Luthans, 2002; Seligman & Csikszentmihalyi, 2000). Resilience has been a focus of research for years and is expected to remain an important concept in the literature because of the changing demographics of the workforce, the nature of work, technological advancements, changing work-home relationships, and an increase in the pace of work. (Jackson et al., 2007; Kossek & Perrigino, 2016). Recognizing the importance of resilience for the functioning of individuals, teams, and organizations, there continues to be interest in studying it and, more specifically, gaining insights into the distinction between the assessment and the antecedents of resilience when conceptualizing the construct of resilience (Britt, Shen, Sinclair, Grossman, & Klieger, 2016, p. 379). This

dissertation posits that stressors are antecedents to resilience, and some stressors are not antecedents to resilience.

We know that stress in the workplace is related to different attitudinal and behavioral work outcomes depending on the stressors present (Marcie A. Cavanaugh, Boswell, Roehling, & Boudreau, 2000). Because there are many different types of stressors in the workplace, this dissertation leverages a framework that dichotomizes stressors, the *challenge-hindrance framework* (Marcie A Cavanaugh et al., 1998). This framework categorizes stressors into challenge and hindrance stressors, which allows us to study stress without studying the effects of each type of stressor within the two categories (O'Brien & Beehr, 2019). The demand/resource perspective of the challenge-hindrance framework assumes that all jobs have risk factors that are either motivational or cause job stress, which are considered job resources or job demands, respectively (Crawford, LePine, & Rich, 2010). This dissertation examines both the direct relationship of challenge and hindrance stressors to resilience and the moderating effects of the appraisal of the stressors and two external resources, one fostered from within the contextual organizational environment and one created outside the contextual organizational environment, on the stress-resilience relationship.

The appraisal process is an evaluation each individual makes in determining why and to what extent a disruption in their person-environment relationship is stressful (Lazarus & Folkman, 1984). Core self-evaluations are one mechanism that has the potential to influence how individuals adapt to contextual demands (T. A. Judge, Locke, Durham, & Kluger, 1998), which this dissertation posits influences the development of resilience. One such core evaluation is work centrality. How one identifies can influence the amount and type of resources an individual is willing to invest in buffering the impact of a stressor (G. R. Hockey, 1997). This dissertation

considers an individual's identity based on their role as an employee at work. More specifically, this dissertation considers how an employee's self-identification is based on their work role. Work centrality is defined as "the beliefs that individuals have regarding the degree of importance that work plays in their lives" (Paullay, Alliger, & Stone-Romero, 1994, p. 225).

Research supports that resources do not exist in isolation from each other as resources are consequences of the nurturance an individual has received and the adaption one has learned through their life experiences (Stevan E. Hobfoll et al., 2018). Historically scholarly research underemphasized the impact of nonwork influences; however, current research supports that work and nonwork experiences affect conflict and enrichment within the work environment (Greenhaus & Powell, 2006; Kossek & Perrigino, 2016). With this understanding, one resource that may influence building resilience through stress is social support. The literature promotes that social support is a resource that may positively influence well-being and negatively influence the level of strain experienced from a stressor event; therefore, it has the potential to protect individuals from negative stress outcomes (Cohen & Wills, 1985; Greenhaus & Powell, 2006; Manning, Jackson, & Fusilier, 1996; Uchino, 2009). Social support can come from anyone in an individual's network, such as family, friends, or coworkers who could provide social, emotional, or financial support (Harms, Brady, Wood, & Silard, 2018). Although social support has been cited as one of the most valuable resources for alleviating work stress (direct effect), there is mixed evidence on the buffering effect of social support as a moderator in reducing work stress (Mayo, Sanchez, Pastor, & Rodriguez, 2007). Social support can also be considered a reverse buffer to job stress by enhancing the level of stress one experiences (Mayo et al., 2007). As opposed to studying the utilization of social support, this dissertation focuses on the perception of social support received. Perceived social support refers to one's potential access to social support, promoting a positive

sense of self and influencing interpretations and reactions to transactions (Stevan E. Hobfoll, 1989; Uchino, 2009). This dissertation utilizes nonwork domain social support, i.e., external social support, as it is considered more useful in reducing the negative effect of stressors on more general outcomes (Bavik, Shaw, & Wang, 2020). External social support is a resource outside the organization that has the potential to motivate employees (Tims, Bakker, & Derks, 2013). As recommended by Kossek and Perrigino (2016) this dissertation also incorporates the work-nonwork interface of the stressor-resilience relationship by examining a work domain generated resource of psychological safety.

Organizations today seek creative input from employees on organizational processes and practices; however, this may create risk for employees in those new ways of doing things as they may be unsuccessful and may be viewed as a failure and result in employees being seen negatively in the workplace (Bandura & Walters, 1977; Newman, Donohue, & Eva, 2017; Van Dyne & LePine, 1998). However, such risks create individual and organizational learning opportunities, particularly in a psychologically safe working environment (Newman et al., 2017). Psychological safety is the second contextual resource in this dissertation. Edmondson defines a psychologically safe work environment as one in which team members feel safe in interpersonal risk-taking (Edmondson, 1999). Risk-taking "involves the implementation of options that could lead to negative consequences" (Byrnes, Miller, & Schafer, 1999, p. 367). Risk-taking is considered to have a relationship with resilience (Kossek & Perrigino, 2016). Psychological safety is regarded as the number one characteristic of successful, high-performing teams (Newman et al., 2017). It is also an essential factor for organizations to stay competitive (M. L. Frazier, Fainshmidt, Klinger, Pezeshkan, & Vracheva, 2017).

This dissertation focuses on how stressors in the workplace influence the development of resilience. Although extant research supports a relationship between workplace stressors and resilience (Monique F Crane & Searle, 2016), this dissertation looks to extend existing research on this relationship by examining antecedents of resilience, including the level of significance a stressor has on an employee and the influence of two external resources. More specifically, this dissertation considers an employee's work centrality, external social support, and psychological safety as influencers to the development of the psychological resource of resilience. In sum, while existing research examines work-related moderators, this dissertation examines a wider range of work and non-work-related moderators.

Extant research supports that work-role centrality, coping resources (including social and personal), cognitive appraisals, and coping strategies are strongly connected with mental health (well-being; McKee-Ryan, Song, Wanberg, & Kinicki, 2005, p. 68). This dissertation considers previous research that supports resilience to be an antecedent to well-being (Harms et al., 2018) and therefore posits that the study between stressors and resilience has direct application to organizations based on stronger employee performance; more positive work-related attitudes, such as job satisfaction and work happiness; and a higher propensity to effectively deal with change (Hartmann et al., 2020; Youssef & Luthans, 2007). In doing so, this research extends extant research and theory by considering the appraisal of the stressor based on one's self-identification and considers the contextual personal resources of external social support and psychological safety to buffer the effect of the negative demand of stressors. Personal resources are positive self-evaluations and provide individuals the "sense of their ability to successfully control and impact their environment" (Stevan E. Hobfoll, Johnson, Ennis, & Jackson, 2003, p. 632). Personal resource studies suggest various traits and skills support stress resistance (S. Hobfoll, 1985; Stevan

E. Hobfoll, 1989). This dissertation posits that two personal resources of external social support and psychological safety motivate employees to leverage their cognitive resources (learning) to overcome the net effect of depletion of resources from workplace stressors to influence the development of a new personal resource, resilience, to protect one's physical and psychological health (well-being). These relationships are empirically tested and conceptually supported by leveraging the JD-R model and Conservation of Resources (COR) theory.

This research is relevant in addressing several gaps in the literature. First, this research meets a need to understand better how stressor types can enhance resilience (Monique F Crane & Searle, 2016). In doing so, this research considers the role of work centrality in building resilience by considering its moderating effect on both challenge and hindrance stressors to resilience. This dissertation posits that work centrality has the potential to influence the perceived level of magnitude or threat a stressor has on an individual. The perceived magnitude of a stressor is part of the primary appraisal of the significance of the stressor to an individual (Lazarus & Folkman, 1984). A positive identity to one's position is considered a personal resource that has the ability to build employee capacity to endure stress (Jane E Dutton, Roberts, & Bednar, 2010). Although the challenge-hindrance measurement approach is a common research approach in the general stress literature, understanding appraisal using established classifications of stressors can provide helpful information in the generalizability of stress research (Stevan E. Hobfoll, 2001; O'Brien & Beehr, 2019). This dissertation meets a call for research to understand further the relationship between personal meaning and resource loss impact (Stevan E. Hobfoll, 2001). This dissertation posits that the resource loss (demands) that elicit the stress process are moderated by an employee's level of work centrality.

This dissertation also advances theory by examining the relationship between two types of stressors on an outcome. In doing so, this research takes a resource based view using the JD-R model (Demerouti et al., 2001) and COR theory (Stevan E. Hobfoll, 1989) while distinguishing between resources and appraisal. The JD-R model is a stress model that supports working conditions being either job demands that are positively associated with exhaustion, a component of burnout, or job resources, which if lacking to meet job demands, will result in disengagement (Demerouti et al., 2001). COR theory, a resource model, basic tenet is that "people strive to retain, protect, and build resources, and what is considered threatening is the potential or actual loss of their valued resources" (Stevan E. Hobfoll, 1989, p. 513). In addition, by going beyond COR theory and the transactional/appraisal model (Lazarus & Folkman, 1984), this dissertation resolves conflict with competing theories in helping to develop these theories by comparing multiple theoretical frameworks (O'Brien & Beehr, 2019). Transactional theory, an appraisal theory, presumes that the appraisal of stressors depends on the characteristics of the stressor and the individual experiencing the stressor (Ma, Liu, Peng, & Xu, 2021). By incorporating the JD-R model, COR theory, and transactional theory (Lazarus & Folkman, 1987), this dissertation extends COR theory by explaining how these three theoretical frameworks support the cognitive process of building resilience. In doing this, this dissertation theorizes that a process occurs as a response to stressors in the workplace that may enable employees to develop the sustainable protective resource of resilience.

The cause-and-effect processing (McLarnon & Rothstein, 2013) leveraged in this dissertation is not dissimilar from previous research studies; however, the constructs studied and their influence on resilience combined with the heavy theoretical focus on cognitive functioning makes this study unique. More specifically, this dissertation theorizes that when an employee

experiences a stressor, the stressor will evoke an initial response (coping) based upon how the employee experiences the stressor (appraisal) within the work environment. It is theorized that this will arouse a self-regulatory process involving cognitive (positive thinking), affect (e.g., emotion regulation), and behavior (planning) domains that may or may not be intended to overcome the negative affect (well-being) of the stressor. This dissertation leverages insights from other theoretical frameworks, such as the broaden-and-build theory (Fredrickson, 2001), model of compensatory control (G. R. Hockey, 1997), and social learning theory (Bandura & Walters, 1977) to explain how cognitive functioning contributes to person-environment interaction when examining the stress-resilience relationship. Broaden-and-build theory explains the interactive effect between emotions and cognitive functioning (Fredrickson, 2001). The model of compensatory control presents a cognitive-emotional framework for understanding the psychological processing of humans under stress (Schaufeli & Bakker, 2004). Social learning theory's premise is that psychological functioning is a self-regulatory process that results from the reciprocal interaction between behavior and controlling environmental conditions, which determines an individual's behaviors, attitudes, and emotional reactions (Bandura & Walters, 1977). The model of compensatory control and social learning theory support that emotional responses are influenced by cognitive responses and are not directly conjured by conditional stimuli (Bandura & Walters, 1977; G. R. Hockey, 1997). The level of influence over emotions will be contingent on the conditions in which the emotional responses were initially stimulated (Bandura & Walters, 1977).

Incorporating these three theories into the model presented in this dissertation fills a gap in the research raised by Hobfoll et al. (2018) in better understanding the explanatory power of COR theory. While examining the explanatory power of COR theory, this dissertation considers two

unique personal resources and how they provide energies (motivation) to build resilience as a long-term sustainable coping strategy against challenge and hindrance stressors. The resources considered in this dissertation that have the potential to offset resource depletion that results from stress (demands) are perceived external social support and psychological safety. More specifically, this research focuses on the buffering effect of the external resource of social support received from family, friends, and significant others. In doing so, this dissertation looks to extend existing research, which often focuses solely on workplace social support. Distinguishing social support sources enables researchers to accurately assess how it shapes individual reactions and outcomes (Bavik et al., 2020). By distinguishing social support outside of the organization from social support within the organization, this research will more accurately examine the influence of this contextual resource. By also considering a personal resource influenced by practices within the organization, psychological safety, this research meets a call to advance the theoretical understanding of how psychological safety influences positive and negative outcomes using COR theory (Newman et al., 2017). It does this by theoretically explaining how employees with greater access to resources are less vulnerable to resource loss (depletion) and are more capable of generating resource gain (investment) by using a resource that is influenced by internal organizational practices to be proactive in moving towards their positive well-being (eustress; Stevan E. Hobfoll, 1989). The role that organizational culture can play in developing, or not developing, individual resources has been a missed opportunity in scholarly research (Stevan E. Hobfoll et al., 2018).

There is also a call for research to explicitly focus on the underlying conceptualization of resilience which has not been common practice in the literature (Hartmann et al., 2020). It is thought that although the findings resulting from resilience research are consistent with the

theoretical understanding of both COR theory and JD-R theory, the research has not leveraged these theories in explaining their findings (Hartmann et al., 2020). All of the relationships described above will be empirically tested as part of this dissertation.

For practical purposes, this dissertation has the opportunity to support the research that stressors provide an opportunity for personal growth and do not necessarily need to be managed or mitigated as is often assumed (M. F. Crane, Searle, Kangas, & Nwiran, 2019). This dissertation's findings can influence talent acquisition strategies and intervention development strategies through formal training programs or less structural training forums (Fisher & Law, 2021). This is possible if hiring practices reflect how self-identification preferences and social networks influence an employee's resilience potential. In addition, understanding how organizational culture, such as the level of risk-taking within the organization, is nurtured to promote problem-solving behaviors can also contribute to building resiliency by employees. Also, as employees are increasingly evaluated, either overtly or inadvertently, for their propensity to be resilient in the workplace, there is an opportunity to integrate this characteristic into the performance appraisal process (Britt et al., 2016; Fisher & Law, 2021). By examing the theoretical contributions of deeper issues using COR theory and by exploring specific resources that may be effective in improving employee well-being, this dissertation has an opportunity to showcase the practicality of COR theory in the workplace (Stevan E. Hobfoll et al., 2018).

This dissertation empirically tests and theoretically examines the influence of two types of stressors on resilience while considering the unique buffering effects of self-identification (work centrality) and two prevalent personal resources in the stress literature – one based on the contextual environment outside the organization (external social support) and one based on the contextual environment within the organizational (psychological safety) to this relationship. This

dissertation posits that the extent to which an employee self-identifies with their work will influence the relationship between stressor (demands) and resilience. The relationship between stressor type and resilience will be further examined by testing the effects of two personal resources linked theoretically to supporting the replenishment of resources to determine if they have different or similar levels of influence in building the personal psychological resource of resilience.

Within the purpose of this dissertation, there are several goals. First, this dissertation examines the interactive effect of the *JD-R model*, a stress model, with *COR theory*, a resource theory, to build resilience from stress occurrences. Second, this research considers four additional theoretical frameworks, *transactional theory*, *broaden-and-build theory*, *model of compensatory control*, and *social learning theory,* to theorize cognitive functioning over emotional reactions to examine the influence of appraisal and the buffering effects of resources on the relationship between stressors and resilience. Cognitive in this context is the knowledge and appraisal of what is occurring in an adaptable occurrence (Lazarus & Smith, 1988). Knowledge is a belief in the way things are and how things work (Lazarus, 1991). Third, this dissertation empirically tests and looks to extend COR theory by leveraging its theoretical framework to explain and test how appraisal can influence the stressor-resilience relationship. In addition, two contextual personal resources, one generated outside and one generated within the organizational environment, are tested to understand the level they may have to motivate an employee to replenish resources to develop resilience. Ultimately, this dissertation examines demands and resources by studying the influence of the person-environment connection to the stressor-resilience relationship when considering work centrality and the perception of external social support and psychological safety.

To achieve these three goals, the remainder of this document is organized in the following manner. Chapter two provides the theoretical framework that supports the model proposed in this dissertation. It also provides a literature review of the challenge-hindrance framework and resilience and identifies gaps in the research. Other theoretical frameworks that have not been as common in the stress and resilience literature are introduced and explored. Finally, a proposed theoretical model is introduced and hypotheses that are intended to advance research. Chapter three discusses the methods employed to test the theoretical model. Chapter four presents the results, and chapter five includes a discussion of the findings, the study's limitations and sets an agenda for future research.

CHAPTER II

LITERATURE REVIEW

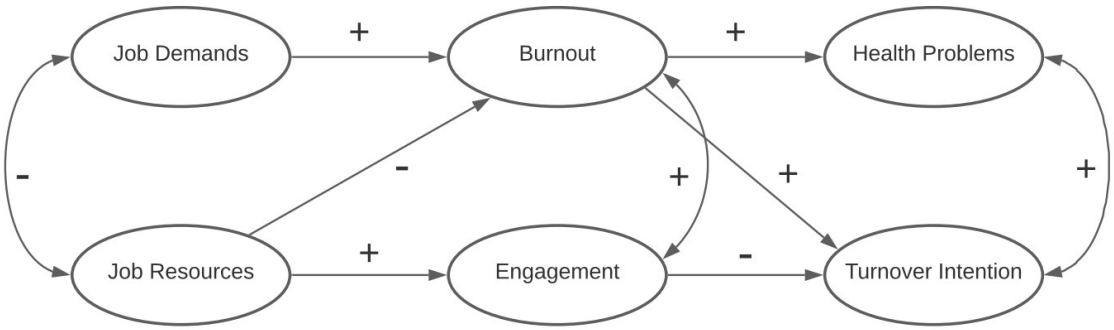
This chapter consists of three sections. The first section reviews the theoretical understanding of stressors and resilience in the literature. The second section reviews the literature on stress and resilience in the workplace and presents relevant research regarding antecedents that may influence the development of being resilient. The third section provides a theoretical model and proposes hypotheses to extend understanding of how resilience can be evaluated and developed in the workplace.

Theoretical Framework

Research concerning stress in the workplace is mixed (Monique F Crane & Searle, 2016). It has been suggested that different stressors have been negatively related to mental health (well-being) outcomes and positively associated with job-related factors such as engagement and motivation (Boswell, Olson-Buchanan, & LePine, 2004; Monique F Crane & Searle, 2016; Jeffrey A. LePine, LePine, & Jackson, 2004; Jeffery A LePine et al., 2005; N. P. Podsakoff, LePine, & LePine, 2007). Research also suggests that depending on the stressor type, stress will influence resilience in different ways (Monique F Crane & Searle, 2016). When studying the relationship between stressors and resilience, much of the research examing this relationship does not consider the influence of the meaning applied to how an employee appraises their stressor (demands) or the context of their environment (Monique F Crane & Searle, 2016, p. 476). Conceptual understanding of the JD-R model provides a framework to understand how appraisal of demands within the environmental context of work interacts with the availability of resources to influence an employee's psychological health either positively (well-being) or negatively (distress).

The JD-R model assumes that every job has its own risk factors associated with motivation or job stress, and these two factors are either job demands or job resources (Bakker & Demerouti, 2007; Bakker, Demerouti, de Boer, & Schaufeli, 2003; Bakker, Demerouti, & Euwema, 2005; Crawford et al., 2010; Demerouti et al., 2001). The JD-R model (Figure 1) encompasses two processes in that job demands exhaust an employee's energy which facilitates burnout and eventually influences a health impairment process, and that job resources initiate an intrinsic motivational process that fosters engagement which influences more positive actionable outcomes such as a lower intent to leave an organization (Bakker, Demerouti, & Sanz-Vergel, 2014; Demerouti et al., 2001; Schaufeli & Bakker, 2004).

Figure 1: Job-Demands Resources Model (Schaufeli & Bakker, 2004)



Under this model, if an employee lacks resources to meet job demands, they will experience mental withdrawal and disengage and, if extended, they may experience negative psychological health and well-being (Demerouti et al., 2001; Schaufeli & Bakker, 2004; Wu, Qiu, Dooley, & Ma, 2020). Job demands have a direct positive relationship with the exhaustion component of burnout and include "physical, social, or organizational aspects of the job that require sustained physical and/or psychological (i.e., cognitive or emotional) effort from an

employee" (Bakker et al., 2007, p. 312; Demerouti et al., 2001). Job demands are stimuli in the work environment that require attention and response (Schaufeli & Bakker, 2004). Job demands considered to have the highest likelihood of predicting burnout are "role ambiguity, role conflict, role stress, workload, and work pressure" (Bakker et al., 2014, p. 392). Many of which are present in the challenge-hindrance framework. To support employees during times of uncertainty, employees require resources (Kniffin et al., 2021).

"Individuals with larger pools of resources can more easily meet demands and protect themselves from the strains of resource depletion (Lee & Ashforth, 1996), whereas individuals with limited resources to meet demands accrue strains that over time result in burnout" (Crawford et al., 2010, p. 836). Burnout refers to an individual experiencing a gradual increase of distress "characterized by reduced productivity, alienation from others, and emotional exhaustion" (Stevan E. Hobfoll, 2001, p. 347; Maslach & Leiter, 1997). Individuals with higher levels of resources are less negatively affected by resource drain during stress occurrences (Stevan E Hobfoll, 2002). However, not all resources are equal. For example, it may be more obvious how stressful events may diminish resources, such as feelings of self-efficacy; however, it may be less obvious how the same stressful occurrence may diminish cognitive resources (Stevan E Hobfoll, 2002). In understanding this dynamic, one must also consider that cognitive resources require a capacity to make an effort and that information processing is costly in terms of diminishing resources and, therefore, will only occur if the reward warrants the effort (expenditure; Gollwitzer & Moskowitz, 1996; Stevan E Hobfoll, 2002; Tversky & Kahneman, 1974). The greater the initiation of effort, the greater the physiological cost is for an individual (Demerouti et al., 2001).

Those who have more resources are considered more capable of solving problems in stressful situations (Stevan E Hobfoll, 2002). Job resources are not only necessary to meet the

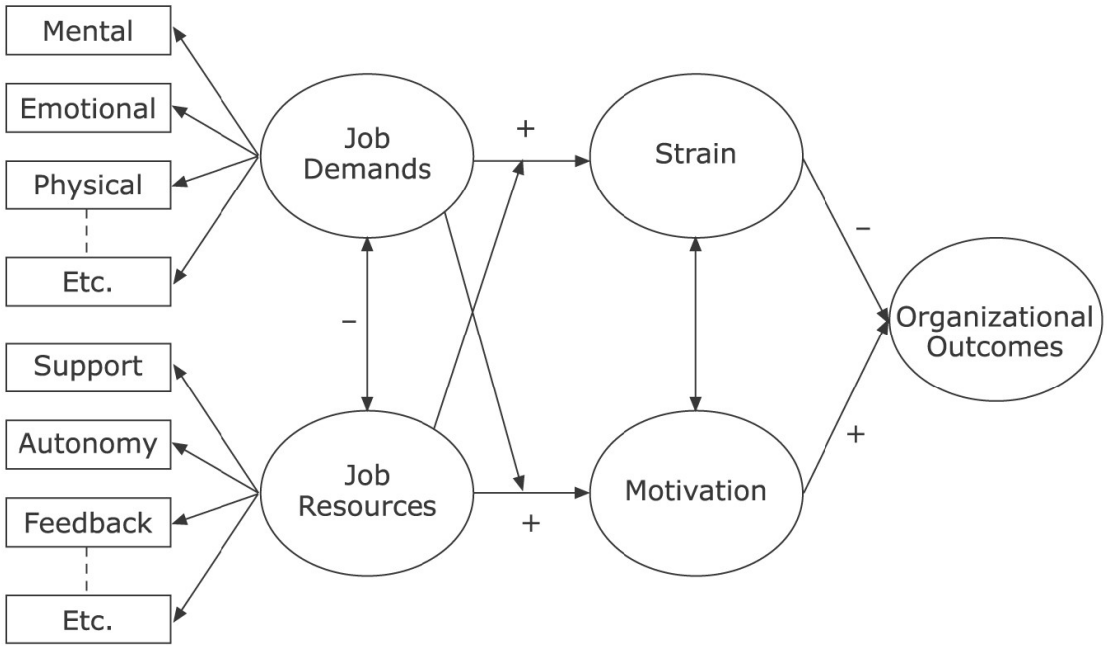
demands of a job but are also those physical, psychological, social, and organizational facets of a job that (1) reduce job demands and their psychological costs; (2) are leveraged in achieving work goals; or (3) foster personal growth, learning, and development (Schaufeli & Bakker, 2004, p. 296). Resources reduce the cost of job demands but acquiring and maintaining resources also comes at a cost that may be replenished if gains received from the investment of resources offset resource cost (Stevan E. Hobfoll, 2001). Resources can be object resources (e.g., physical tools used in the workplace), conditional resources (e.g., employment, tenure, seniority), personal resources (e.g., key skills and personal traits), and energy resources (e.g., time, effort, knowledge, Stevan E. Hobfoll et al., 2018, p. 105). The positive self-evaluation component of personal resources is linked to motivation to pursue positive outcomes from an individual's more positive self-regard (Bakker et al., 2014). Most research has focused on job resources but not personal resources. Extant research tells us that self-evaluation includes traits such as self-esteem, self-efficacy, locus of control, and emotional stability (Timothy A. Judge, Van Vianen, & De Pater, 2004). Job demands and resources also generate different psychological processes, which can be impaired by excess job demands (strain) or positively motivated by job resources (Costa, Passos, & Bakker, 2014).

Bakker and Demerouti (2007) studied the two psychological processes (Figure 2) involved in the development of job strain and motivation (Bakker & Demerouti, 2007). They explain these processes as follows.

> *"In the first health impairment process, poorly designed jobs or chronic job demands (e.g., work overload, emotional demands) exhaust employees' mental and physical resources and may lead to depletion of energy (i.e., a state of exhaustion) and health problems. The second process in the model is motivational where job resources have*

motivational potential and lead to high work engagement, low cynicism, and excellent performance. Job resources play either an intrinsic motivational role because they foster employees' growth, learning and development, or they play an extrinsic motivational role because they are instrumental in achieving work goals" (Bakker & Demerouti, 2007, p. 313). Figure 2 presents the two psychological processes of the JD-Model (Bakker & Demerouti, 2007).

Figure 2: Job Demands-Resources Model Psychological Processes (Bakker & Demerouti, 2007)



The energetic process of the JD-R model has some consistencies with the model of compensatory control (G. R. J. Hockey, 1993). The model of compensatory control advocates that during times of higher contextual environmental demands, additional resources are needed to offset demands, but this new resource allocation comes at a cost; alternatively, stability can be achieved by incurring no additional cost of resources, and performance is sustained but utilizes extra energy through coping and if sustained for more extended periods results in strain (G. R.

Hockey, 1997). This theoretical framework is consistent with the JD-R model, which holds that when employees experience higher demands, they either adapt performance protecting strategies through resource allocation at a cost or do not incur resource cost and experience burnout (Schaufeli & Bakker, 2004). Resources are valued because they have the capacity to buffer job demands. They also have value on their own because they can be leveraged to obtain other resources and can protect the depletion of other valued resources (Bakker & Demerouti, 2007).

Stressors (i.e., demands) in the workplace cause stress to employees, which ultimately results in strains, i.e., outcomes, that are typically categorized into either ill health (psychological or physical) or well-being (O'Brien & Beehr, 2019). Strain is a combination of anxiety and fatigue (G. R. Hockey, 1997). Psychological stress is a reaction to the environment "when there is an actual or perceived (a) threat of a net loss of resources, (b) net loss of resources, or (c) lack of resource gain following the investment of resources" (Stevan E. Hobfoll, 1989, p. 516). Similar to the JD-R model, COR theory supports that psychological stress will occur when resources are lost or threatened or when resource gain does not exceed resource loss (Crawford et al., 2010; S.E. Hobfoll & Shirom, 2000). However, COR theory goes beyond the JD-R model in that it predicts that individuals will strive to minimize net loss of resources (Stevan E. Hobfoll, 1989). COR theory also includes the premise of coping strategies (Stevan E. Hobfoll, 1989). One of COR theory's most significant contributions to stress literature is that it provides a broad framework for understanding the coping process while concurrently making predictions that can be wholly or partially confirmed or rejected (Stevan E. Hobfoll, 2001). COR theory goes beyond Lazarus and Folkman's (1984) coping model because the coping model only specifies the goal of coping to be the reduction of stress (Stevan E. Hobfoll, 1989, p. 517). COR theory considers two types of coping processes, reactive and proactive, which are distinguishable but will often happen simultaneously.

The difference between these two types of coping strategies is that proactive coping requires a larger investment of resources to develop a sustainable resource so that an individual has the capacity to actively position themselves for future contingencies by investing now in resources for risk minimization and resource maximization in the future (Stevan E. Hobfoll, 2001). An example of proactive coping would be proactively solving problems before they become stressful.

COR theory is an integrative stress theory that assigns relatively equal weight to environmental and internal processes (Stevan E. Hobfoll, 2001). COR theory's premise is that people strive to retain, protect, and build resources to protect those things that are valuable to them (Stevan E. Hobfoll, 1989). Hobfoll (1989) further explains that what is considered threatening is the potential or actual loss of valued resources. This principle is supported by social learning theory, which posits that psychological functioning is a reciprocal interaction between behavior and controlling conditions driven by an individual's participation in their environment to produce valued rewards (Bandura & Walters, 1977). Individuals are more likely to be motivated to employ their psychological functioning if there is an opportunity to create or maintain a personal characteristic, such as resilience (Stevan E. Hobfoll, 1989).

There are four principles, two caravans, and three corollaries of COR theory summarized in Table 1 below. The corollaries enable researchers and leaders to build complex strategies to counteract stressful conditions (Stevan E. Hobfoll et al., 2018). Caravans recognize and support that resources do not exist individually but are typically bundled together because the resources an individual possesses result from the individual's experience and learned adaption based on environmental and developmental conditions that they have experienced (Stevan E. Hobfoll et al., 2018). Resource caravan passageways, such as a culture within an organization, support that

resources exist within environmental conditions that either nurture or limit the creation of other resources (Stevan E. Hobfoll et al., 2018).

Table 1: Principles, Caravans, and Corollaries of Conservation of Resources Theory (Stevan E. Hobfoll et al., 2018)

PRINCIPLES AND COROLLARIES OF CONSERVATION OF RESOURCES THEORY

Basic COR theory tenet: Individuals (and groups) strive to obtain, retain, foster, and protect those things they centrally value.
Principle 1: Primacy of loss principle. Resource loss is disproportionately more salient than resource gain.
Principle 2: Resource investment principle. People must invest resources in order to protect against resource loss, recover from losses, and gain resources.
Principle 3: Gain paradox principle. Resource gain increases in salience in the context of resource loss. That is, when resource loss circumstances are high, resource gains become more important—they gain in value.
Principle 4: Desperation principle. When people's resources are outstretched or exhausted, they enter a defensive mode to preserve the self which is often defensive, aggressive, and may become irrational.

Resource Caravans and Resource Caravan Passageways Principles

Resource caravans: Resources do not exist individually but travel in packs, or caravans, for both individuals and organizations.
Resource caravan passageways: People's resources exist in ecological conditions that either foster and nurture or limit and block resource creation and sustenance.

Corollaries

Corollary 1: Those with greater resources are less vulnerable to resource loss and more capable of resource gain. Conversely, individuals and organizations who lack resources are more vulnerable to resource loss and less capable of resource gain.
Corollary 2: Resource loss cycles. Because resource loss is more powerful than resource gain, and because stress occurs when resources are lost, at each iteration of the stress spiral individuals and organizations have fewer resources to offset resource loss, and these loss spirals gain in momentum as well as magnitude.
Corollary 3: Resource gain spirals. Because resource gain is both of less magnitude and slower than resource loss, resource gain spirals tend to be weak and develop slowly.

Principle 1: Primacy of loss principle refers to the power of resource loss being more powerful than resource gain, and resource loss tends to affect individuals more quickly and for more extended periods (Stevan E. Hobfoll et al., 2018). It also posits that resource gains acquire their salience in conditions in which resources are lost (Stevan E. Hobfoll, 2001). This principle

distinguishes COR theory from Appraisal theory (Lazarus & Folkman, 1984) as COR theory does not consider the magnitude of loss and gain impact on the assessment of the individual's self as COR theory emphasizes the assessment based on the shared cultural nature of the loss and gain (Stevan E. Hobfoll, 2001). Principle 2: Resource investment principle is consistent with the JD-R model in that people invest resources to reduce job demands to avoid burnout. Said another way, individuals must bring in resources to prevent resource loss (S.E. Hobfoll & Shirom, 2000). Investment of resources is strategic, even when speaking to the resource of energy, as the investment of resources has a price which an individual considers to the amount in which adding a resource offsets the cycle of resource loss and contributes to other resource gains (Stevan E. Hobfoll, 2001). No other theory in stress includes the interaction described in Principle 3: Gain paradox principle, as it is considered paradoxical because when resource loss circumstances are high, resource gains become more important and are considered to gain value (Stevan E. Hobfoll et al., 2018). Even though Principle 4, desperation principle, is the least studied principle of COR theory, it has the highest explanatory power (Stevan E. Hobfoll et al., 2018). According to this principle individuals employ a defensive strategy by conserving resources or an exploratory strategy to search for alternative survival or adaption strategies (Stevan E. Hobfoll et al., 2018).

Corollary 1, those that possess more resources are less likely to experience resource loss and better able to experience resource gain. Contrarily, individuals and organizations who possess fewer resources are less able to experience resource gain and more likely to experience resource loss, which asserts that possession of resources or lack thereof is intrinsic to the level of vulnerability and resilience (Stevan E. Hobfoll et al., 2018). Corollary 2 posits that resource loss has a spiraling effect. Since stress exists when there is resource loss and resource loss is considered more powerful than resource gain, loss spirals gain in momentum and magnitude during each

iteration because individuals and organizations have few resources to offset resource loss. COR theory is unique because no other stress theory offers such detailed predictions that have value in application and are testable (Stevan E. Hobfoll et al., 2018, p. 107). Corollary 2 supports the premise of the JD-R model in that those who lack access to resource pools are more likely to experience negative effects (S.E. Hobfoll & Shirom, 2000). The mirror image of Corollary 2 is that those who possess powerful resource pools are more inclined to encounter cycles of resource gain because resource gain facilitates more resource gains (S.E. Hobfoll & Shirom, 2000). This is considered a *Cycle of Gains* as one's positive energy fosters additional resources (S.E. Hobfoll & Shirom, 2000). This is supported by the broaden-and-build theory, where more positive emotions broaden one's thinking to identify new resources (Fredrickson, 2001). Corollary 3 posits that resource gain also has a spiraling effect. As resource gain is considered to be of less magnitude and slower than resource loss, resource gain spirals are typically weaker and develop more slowly. Corollary 2 is similar to Corollary 3 but different because resource gain cycles are typically weaker and take more time to develop. Hobfoll (2001) posits that when an individual invests a significant amount of resources, such as time and energy, immediately following such investment there is typically a lack of resource gain or a continuation of resource loss. A critical proposition of Corollary 3 is that resource gain spirals do gain in saliency in high-loss settings and conditions – meaning that an individual is more likely to be motivated to invest resources to foster a resource gain cycle when they experience higher stress because there is greater value of possible returns from the investment of resources when losses (stressors) are high (Stevan E. Hobfoll et al., 2018, p. 107).

In addition to the three Corollaries mentioned above, a fourth corollary has not been as prevalent in the literature.

> *"When individuals possess strong resource pools, they are more likely to accept or seek opportunities to risk resources in order to obtain resource gain. In contrast, those who lack resources are likely to develop a defensive posture that limits the possibility of further resource loss, but also precludes the opportunities of resource gain" (S.E. Hobfoll & Shirom, 2000).*

An example of this corollary is if an employee is confident in their approval from their manager, they will be more likely to suggest new ideas to improve processes but not necessarily to enhance the manager's approval of themselves. In contrast, if an employee is not confident in their manager's approval, they will be less inclined to suggest new and different approaches and, in doing so, take a low-risk posture when performing processes in the same way (S.E. Hobfoll & Shirom, 2000).

Understanding Stress

The concept of stress in the behavioral sciences literature originated in the field of physics when studying metals that resisted outside forces to alter their state but, under greater pressure, lost their resiliency to remain intact (Stevan E. Hobfoll, 1989). Stress in people was initially studied to understand how environmental factors cause stress that could lead to physiological disruptions (Cannon, 1932; Stevan E. Hobfoll, 1989; Selye, 1936). Selye (1936) introduced the general adaption syndrome (GAS), which describes the body's response to any type of demand. These studies depict a stress process consisting of a context that stimulates a stress alert, a resistance response, and an outcome (Selye, 1991). Stress research in the 1960's evolved by focusing on significant life events which could lead to psychological and physical illness if not moderated by

intrapersonal, interpersonal, and environmental factors (Bliese et al., 2017). A later study by Mullen and Suls suggested that an individual's perceived control over the stimuli, i.e., stressors, would influence the effect of the stressor (Mullen & Suls, 1982). Hobfoll's (1989, p. 516) psychological explanation of stress is that individuals actively aspire to manufacture a contextual environment that provides them pleasure and success.

"One of the most influential theoretical models of psychological stress was the transactional theory presented by Lazarus (Lazarus, 1966) and later expanded by Lazarus and Folkman" (Bliese et al., 2017, p. 391; Lazarus & Folkman, 1984). Lazarus and Folkman (1987) consider stress as a process involving a negative person-environment relationship, cognitive appraisals, and emotional responsive states, which include both positive and negative emotions such as fear, anger, guilt, shame, and positive appraisals such as joy, happiness, pride, love and relief (Lazarus & Folkman, 1987, p. 142). Cognitive appraisal is an evaluation one makes to determine "why and to what extent" an occurrence or a series of occurrences in the person-environment relationship is stressful (Lazarus & Folkman, 1984, p. 19). Transactional theory asserts that individuals appraise stressful occurrences (job demands) in terms of their significance to them in regards to their personal growth, development, or well-being as either potentially challenging or threatening (Lazarus & Folkman, 1984). The appraisal of demands as challenges or hindrances influences outcomes such as emotions and cognitions, influencing how a person copes with demands (Crawford et al., 2010; Lazarus & Folkman, 1984; Jeffery A LePine et al., 2005).

Lazarus and Folkman characterize stress as the primary outcome of personal appraisal and theorize that psychological stress is dependent upon the cognitive appraisal of a stressor which involves the evaluation of harm, threat, and challenge to a person's well-being (Stevan E. Hobfoll, 2001; Lazarus & Folkman, 1984). According to Lazarus, this is considered the *Primary Appraisal*.

Primary appraisal is the act of evaluating the significance and placing personal meaning on an occurrence that is considered for one's well-being based on one's knowledge (Lazarus & Smith, 1988). A challenge in this theoretical framework is a positive, optimistic, mobilized, and eager attitude about overcoming an obstacle (Lazarus, 1990, p. 3). This leverages previous research positing that mobilization is the motivational energy contingent upon the emotions and moods generated from a cognitive appraisal of an adaptable encounter (G. R. Hockey, 1997; Lazarus, 1991; Lazarus & Smith, 1988). The resource category of energy includes time, money, and knowledge that does not have intrinsic value in itself but has value in contributing to the acquisition of other types of resources (Stevan E. Hobfoll, 1989). The concept of motivation enables us to understand what makes an adaptable encounter personally relevant based on one's knowledge and evaluation of their well-being (Lazarus, 1991). Motivation is considered a key resource under COR theory (Stevan E. Hobfoll, 2001).

In addition to the primary appraisal, transactional theory posits a *Secondary Appraisal* which concerns what a person does to manage the stressor. The secondary appraisal entails a coping process to manage the person-environment relationship that stimulates stress (Lazarus, 1990). Coping is the process an individual uses to control the demands within the person-environment dynamic they appraise as stressful and the emotions the context generates (Lazarus & Folkman, 1984, p. 19). According to Lazarus and Folkman (1984), factors in the environment and within the person combine to generate stress and its outcomes (Lazarus & Folkman, 1984). This theoretical framework encompasses the concept of transaction and not interaction when explaining how person and environmental elements connect (Lazarus & Folkman, 1984). Transaction is different from interaction in that the two variables, person and environment, are conjoined and are examined at a new level of analysis, and in doing so, the two variables'

independent identities are forfeited for a new condition or state (Lazarus & Folkman, 1987). Said another way, a transaction is neither part of the environment nor the person but instead manifests the coexistence of an individual who possesses certain motives and beliefs with an environment that comprises harm, threats, or challenges dependent upon an individual's characteristics (Lazarus, 1990, p. 3). COR theory is different from transactional theory in that a stressful event needs to occur and be appraised as stressful before it is recognized as a stressful occurrence (individual appraisal) and COR theory focuses on the objectivity of the stressful nature of events (Stevan E. Hobfoll et al., 2018). An example surrounding social justice and efforts with sexual harassment in the workplace, under transactional theory, the burden of showing the impact of sexual harassment would be placed on the victim on how this impacted them individually instead of the broader impact of cognitive social justice (Stevan E. Hobfoll et al., 2018).

Challenge-Hindrance Framework

The challenge-hindrance framework (Marcie A. Cavanaugh et al., 2000) is unique because it focuses on the negative physical and psychological consequences of stressors (Widmer, Semmer, Kälin, Jacobshagen, & Meier, 2012). The framework posits that self-reported work stressors are related to attitudinal and behavioral work outcomes that can be either positive (challenge stressors) or negative (hindrance stressors), dependent upon how the stressors (demands) are evaluated (Marcie A Cavanaugh et al., 1998; Marcie A. Cavanaugh et al., 2000; Haar, 2006). This framework extends the work of Lazarus (Lazarus & Folkman, 1984) in having a distinction between two types of stressors, although Lazarus and Folkman used the labels "threats" and "challenges."

Job-related stress can have both positive and negative outcomes (Marcie A Cavanaugh et al., 1998). The challenge-hindrance stress framework considers the evaluation of stressors to be

either positive or negative based on the potential net gain or loss of resources (O'Brien & Beehr, 2019). This aligns with COR theory which supports that people strive to retain, protect, and build resources that are valuable to them and are threatened when there is a potential or actual loss of these valued resources (Stevan E. Hobfoll, 1989). Cavanaugh et al. (1998) originally based the challenge-hindrance framework on COR theory; however, more recently (e.g., Cavanaugh et al., 2000), there has been an increased interest in transactional theory (O'Brien & Beehr, 2019).

Challenge stressors are "work-related demands or circumstances that, although potentially stressful, have associated potential gains for individuals" Although challenging demands require extra effort, employees react positively to them because they are considered to result in personal (resource) gain or development when employees are able to master them (Lazarus & Folkman, 1984; Tims et al., 2013). Challenge stressors include demands such as high workload, time pressure, job scope, and level of responsibility and, if overcome, foster learning and performance (Jeffery A LePine et al., 2005). Potential gains from challenge stressors include intrinsic rewards, such as satisfaction, or gains that support work achievements, such as learning, skill development, or opportunity to exhibit competence (Marcie A Cavanaugh et al., 1998), and personal growth (Crawford et al., 2010). Competencies are typically rewarded in the workplace (Crawford et al., 2010). Research suggests that learning and performance will increase to a point, and if exceeding a threshold, challenge stressors will have an inverted U-shape relationship with outcomes such as learning and performance (Jeffrey A. LePine et al., 2004). An example would be when workload reaches a certain level, it will be considered work overload, a hindrance stressor, as it no longer promotes the individual's perception of their growth and well-being. Therefore, when a level of stress is reached for the challenge stressors, they have the potential to become hindrance stressors (O'Brien & Beehr, 2019).

In contrast to challenge stressors, hindrance stressors are those stressors that involve excessive or undesirable constraints that encroach achievement of work and impede potential gains resulting in "negative stress or distress (e.g., excessive worry, anguish, frustration, strain) and negative work outcomes, i.e., decreased job satisfaction, increased job search, and turnover behaviors" (Marcie A Cavanaugh et al., 1998, p. 8). Hindering job demands are considered stressful because they unnecessarily thwart personal growth, learning, goal attainment, and hinder optimal functioning (Crawford et al., 2010; Jeffery A LePine et al., 2005). Therefore, unlike challenge stressors, they do not have a motivational factor in developing a new resource. Employees will initially attempt to withstand hindering demands by investing more resources; however, they require other sustainable coping methods when these demands are experienced for a prolonged period (Tims et al., 2013, p. 231). Hindrance stressors include demands such as role conflict, organizational politics, red tape, role ambiguity, hassles, and unnecessarily impede personal growth and goal attainment (Crawford et al., 2010; Jeffery A LePine et al., 2005). Employees regard these demands as constraints, barriers, or roadblocks that impede progress toward a goal and recognition (Crawford et al., 2010; Lazarus & Folkman, 1984).

Although the challenge-hindrance framework has its roots in the study of eustress, the transactional/appraisal model, and COR theory, it also distinguishes between other categories of stressors, i.e., eustress versus distress, positive versus negative (O'Brien & Beehr, 2019). Positive stress results from events that "produce a state of challenge coupled with disruptive pleasure," which provides an opportunity to have or do what one desires (Bhagat, McQuaid, Lindholm, & Segovis, 1985, p. 203). Conversely, negative stress results in excessive and undesirable constraints and/or demands (Bhagat et al., 1985, p. 203). When considering eustress or distress resulting from job demands or work circumstances, eustress is a positive, motivating force that creates challenge

and feelings of fulfillment or achievement, while distress is considered harmful and produces damaging stress that is not motivational (Selye, 1991). The eustress/distress phenomenon and the resource model of COR theory are not mutually exclusive because eustress feelings are considered a resource that is taken into account when considering resources that are the focus of COR theory (Marcie A Cavanaugh et al., 1998).

In applying COR theory to the challenge and hindrance framework, research suggests that challenge stressors tend to have more positive outcomes because stress occurrences deplete resources that are replaced by resources gained, such as perceived development or increased promotional opportunities that are associated with challenges and results in a net gain of resources (Marcie A Cavanaugh et al., 1998). Unlike challenge stressors, hindrance stressors result in the net loss of resources because the negative stress associated with hindrance demands is not offset by anticipated gains (Marcie A Cavanaugh et al., 1998), and therefore, there is a net loss of resources. COR theory considers four types of resources whose loss or gain results in stress or eustress (i.e., well-being): object resources, conditions, personal characteristics, and energies (Stevan E. Hobfoll, 1989).

Studies examing stressor exposure and well-being suggest that subjection to a small number of life adversities can facilitate learning of coping skills that promote perceptions of self-control which is consistent with COR theory in that experiencing stressors may positively enhance resources" (Monique F Crane & Searle, 2016). This dissertation posits that one such resource that can be developed from engaging with stressors is resilience.

Resilience

Resilience in the workplace is relevant because it will affect how an employee experiences and responds to stressors in the workplace (McLarnon & Rothstein, 2013). Challenge stressors are considered to create opportunities for the development of resilience, and hindrance stressors are considered to deplete resources that are necessary to build resilience; greater understanding is needed in understanding how appraisal of stress occurrence and increases in psychological resources influence these relationships (Monique F Crane & Searle, 2016). Research that focuses on the role of work demands and resources conceptualizes resilience as a state-like capacity that is susceptible to change (Hartmann et al., 2020). Although resilience has been studied for years, a common definition of resilience has proven elusive in the literature (Jackson et al., 2007). Meredith et al. (2011) reviewed the literature on resilience and found 122 definitions of resilience (Meredith, 2011). Resilience can be considered within the individual as a capacity, an ability that enables stable functioning during times of stress, or a process inclusive of growth and positive changes after a stress event (Britt et al., 2016). While others define it based on qualities, traits, or characteristics such as resourcefulness, self-confidence, self-discipline, flexibility, or ability to problem solve (Jackson et al., 2007).

Some definitions of resilience focus on adapting during times of adversity and to enduring job demands (Kossek & Perrigino, 2016). In contrast, other definitions of resilience reference the state-like nature of the construct and describe it as "the capability of individuals to cope successfully in the face of significant change, adversity, or risk, which is enhanced by protective factors within the individual and the environment" (Luthans, 2002, p. 702). This definition of resilience goes beyond simple adaption but does consider human adaptation systems such as attachment, self-regulation, support from others, and motivation to be effective within their

environment (Luthans, 2002). This conceptualization of resilience considers it a developable capacity (Bhamra, Dani, & Burnard, 2011) and refers to the contextual factors in which resilience is present. Another definition that considers the environment is from Jackson et al. (2007, p. 3), who define resilience "as an active process that entails the ability of an individual to adjust to adversity, maintain equilibrium, retain some sense of control over their environment, and continue to move on in a positive manner." This definition infers the desire for self-control. An individual will seek self-control when there is a relative absence of immediate external constraints, and self-control will be evoked when there are two or more response alternatives, different consequences for alternatives, and typically the maintenance of self-controlling actions by longer-term external consequences (Manz & Sims Jr, 1980, p. 362). Extant research supports that numerous meanings of resilience are not mutually exclusive and the context in which resilience occurs should be considered (Kossek & Perrigino, 2016). One general accepted principle of resilience is inherently related to resources that individuals can leverage to overcome adversity (Harms et al., 2018).

This dissertation focuses on psychological resilience, which involves moving on in a positive way after experiencing stressors. Antecedents of individual resilience in the workplace are "(1) personality traits and cultural value orientations, (2) personal resources, (3) personal attitudes and mindsets, (4) personal emotions, and (5) work demands and resources" (Hartmann et al., 2020, p. 929). Following COR theory and JD-R theory, employees are considered more resilient when they have a higher level of resources (Kossek & Perrigino, 2016; McGonagle, Beatty, & Joffe, 2014).

Resilience and adversity are considered to be interdependent as an individual must first encounter adversity to demonstrate resilience (Jackson et al., 2007), and an individual who is resilient will be better able to withstand adversity compared to those that are not resilient (Shin,

Taylor, & Seo, 2012). During an adverse event, normal functionality is considered to be suspended unless the individual has the ability to be resilient, and in being resilient, the individual has the ability to maintain an equilibrium with no loss of normal functioning (Jackson et al., 2007, p. 3). Studies suggest that resiliency is life-enriching when developing resilience a person develops coping mechanisms in response to stressors, adversity, change, or opportunity in a manner that recognizes, builds, and enriches protective factors (Richardson, 2002, p. 308). The copying process has three key features: (1) what the person actually does; (2) how the person responds within the contextual requirements of their environment, including but not exclusive to the behaviors of others in the environment; and (3) what is done, i.e., changes, as the stressful encounter unfolds (Lazarus & Folkman, 1984, p. 297).

Resilience is considered a sustainable personal resource for employees (Fredrickson, 2001). It is also considered a multifaceted construct in response to stress that can be considered a trait (i.e., personality hardiness), process (i.e., appraisal of feedback and experiences with adaption), or capacity (i.e., developing capabilities and coping strategies), or combination of the three and it is determined by the contextual influences (Kossek & Perrigino, 2016). As a trait, resiliency is considered a malleable resource that can evolve over time from experiences and be bolstered by environmental resources, such as social support (Fisher & Law, 2021; Jackson et al., 2007; Tugade & Fredrickson, 2004). Resilience is characterized by developing protective factors and encompasses the increased potential for resilience in the future (M. F. Crane et al., 2019). It is considered a "common phenomenon that results in most cases from the operation of basic human adaptational systems, and if these systems are in good working order, individuals will develop resilience when experiencing adversity" (Masten, 2001). This conceptualization of resilience highlights the premise that individuals will differ in their resilience.

Different types of resilience, i.e., cognitive, emotional, and physical, vary in need, breadth, and importance across occupations – examples include (1) working through a crisis that invokes cognitive, physical, and emotional resilience simultaneously; or (2) creative problem solving which relies on cognitive resilience (Kossek & Perrigino, 2016, pp. 772-773). Similar to Luthans' (2002) definition, cognitive resilience goes beyond simple adaptation and therefore involves going beyond (reactive) coping, i.e., simple adaption, by finding meaning in the disruptive environmental occurrence and finding a developmental opportunity in thriving toward positive well-being (Harms et al., 2018). The conceptualization of resilience is able to cross levels of analysis (Kossek & Perrigino, 2016). In addition to questioning if resilience is a trait, process, or capacity, there is another controversial question in the literature. Must an individual experience positive growth following a stress event, or is adaption enough to propel the development of resilience (Britt et al., 2016; P. Frazier et al., 2009)?

As resilience is considered a sustainable personal resource (Fredrickson, 2001), and resources are considered a learned form of adaption (Stevan E. Hobfoll et al., 2018), this dissertation theorizes that psychological resilience (Jackson et al., 2007) is a sustainable learned form of adaption, beyond reactive coping, and that it has the potential of being developed (personal growth) from certain types of stressors (Linnenluecke, 2017). This premise is consistent with Luthans' (2002) definition of cognitive resilience and previous research that recognizes that disruptive events have the capability to foster the development of new skills that can be utilized in future disruptions (Carver, 1998). This is consistent with COR theory's conceptualization of proactive coping as a sustainable resource that enables individuals to actively position themselves to cope with environmental disruptions in the future (Stevan E. Hobfoll, 2001). This theoretical approach also aligns with social learning theory.

Learning theory predicts that individuals adapt over time to overcome negative events (Stevan E. Hobfoll, 2001; Stevan E. Hobfoll et al., 2018). Social learning is a prominent theory in sustainable resource management research that promotes behavioral change (Muro & Jeffrey, 2008). It is based on the principle that psychological functioning is a continuous reciprocal interaction between behavior and controlling conditions (Bandura & Walters, 1977, p. 2). Its premise is that behavior must first be learned and that overt behaviors rely on three regulatory processes: stimulus, cognitive, and reinforcement control (Bandura & Walters, 1977). Behavior is best explained through a continuous reciprocal interaction between cognitive, behavioral, and environmental determinates (Bandura & Walters, 1977; Davis & Luthans, 1980). Social learning theory posits that the person and the environment are independent of each other, yet they do not function as independent units but function to determine each other in a reciprocal manner (Davis & Luthans, 1980). Essentially all aspects of social learning are considered to be affected by cognitive processing, which is present in social learning theory (Davis & Luthans, 1980). Social learning theory premises that the cognitive function of decision making considers others' influences on the person and self-regulation, which act as motivators that influence behaviors (Bandura & Walters, 1977). Self-regulation refers to the process in which individuals control and direct their actions (Nabavi, 2012). Problem-solving skills are often referred to in the definition of resilience and are considered an attribute of resilience (Luthans, 2002). This dissertation posits that the interactive approach of social learning, which the literature considers fundamental in the decision making and problem-solving process (Muro & Jeffrey, 2008), is relevant in understanding the cognitive functioning of the decision making process in the utilization of resources to meet demands as explained in COR Theory.

Contextual demands are considered to constrain or foster resilience (Kossek & Perrigino, 2016). In considering the broaden-and-build theory (Fredrickson, 2001), this dissertation hypothesizes that an employee's positive experience of a supportive non-workplace generated resource of an external social network and a workplace generated resource of psychological safety will influence the development of resilience. In this dissertation, perceived external social support and perceived psychological safety are considered personal psychological resources. The broaden-and-build theory asserts that experiences with positive emotions and/or context increase positive emotions and broaden thinking (cognitive), enabling flexible and creative thinking to build resilience and influence how employees cope with adversity (Fredrickson, 2001). Resilient-promoting factors such as personal or environmental characteristics can also buffer the negative effects of adversity or foster resilience during adverse occurrences (Hartmann et al., 2020, p. 919). These factors are resources that can potentially promote employee resilience. This is consistent with COR theory, which considers resilience to be a personal resource that can be influenced by social resources, although few studies have referenced this theory when studying resilience (Hartmann et al., 2020). Although the challenge-hindrance framework was initially based on COR theory, it integrates with other theories (O'Brien & Beehr, 2019). It is considered a valuable framework because of the distinction between the two stressor types; however, questions regarding the impact of individual appraisal exist in the literature (O'Brien & Beehr, 2019).

To study these relationships, this dissertation is unique in that it focuses on the theoretical interaction of the JD-R framework with COR theory to explain how the level of resources an employee requires is based on the impact level of the demand (stress). This dissertation posits that this impact is contingent upon the employee's appraisal of the magnitude of their self-identity with their position within an organization. The level of resources available to the employee is contingent

upon the perceived level of external social support and potential of reward within a psychologically safe work environment. Stressors are considered demands that require resources to stimulate an employee's learning, growth, and development in building resilience. This dissertation hypothesizes that this relationship will be moderated by the work centrality of an employee, the perception of the level of external social support, and the perception of the self-identified level of psychological safety, which is contingent upon the perception of the contextual environment in which an individual operates.

Work Centrality

An individual's well-being and behavior are affected by the characteristics they assign to themselves or those they believe others infer about them (J. E. Dutton, Dukerich, & Harquail, 1994). These identities can influence how employees respond to demands within the work environment (T. A. Judge et al., 1998). Callero (1985) supports that individuals have multiple roles they function in every day, and these multiple roles combine, which results in one's self-definition, how they relate with others, and their behaviors.

To most, work is central to their self-definition based on how they define themselves (self-definition) and others in the context of work-based situations and activities (Jane E Dutton et al., 2010, p. 265). Negative events or disruptions will impact individuals differently depending on if an event threatens an identity the individual holds as important to their self-definition versus one they do not consider important to their self-identity (Settles, 2004; Thoits, 1991).

Work centrality is "the extent to which individuals view work as a main component of their life" (Diefendorff, Brown, Kamin, & Lord, 2002, p. 95). It is not deeply influenced by a position within a particular organization and has been cited in the research for its influence on the decision

making process (Schmidt & Lee, 2008). Work centrality is considered a predominantly cognitive construct (Hirschfeld & Feild, 2000).

Identity centrality is the extent to which individuals feel that a specific identity or aspect of the self defines who they are as a person (Earnshaw, Lang, Lippitt, Jin, & Chaudoir, 2015; Quinn & Earnshaw, 2011), such as work centrality. Identity centrality is considered to be consistent across situations and contexts (Szymanski & Lewis, 2016). Identity research suggests that identity centrality may influence an individual's appraisal of stressors in that they will be more sensitive to stressors that are perceived as a threat to their self identification (Leach et al., 2008). This dissertation posits that the appraisal of the magnitude of the stressors' meaning to an employee will depend on the degree to which a stressor threatens their identity of work centrality. There is evidence in the literature that resource loss (COR theory, Principle 1) impact is deeply cognitively rooted and is related to one's identity (Stevan E. Hobfoll, 2001). As referenced earlier, COR theory is based on objective stress occurrences; however, it also suggests that subjective appraisals will have more influence when the appraisal aligns with a person's cognitions central to their identity (Stevan E. Hobfoll, 2001, p. 359).

Identity centrality also influences how individuals identify self-protective factors when (proactively) coping with environmental demands (Szymanski & Lewis, 2016). Some research recognizes that identity centrality aligns with positive, proactive coping strategies and is a resource when building resilience (Earnshaw et al., 2015). This conceptualization aligns with identity theory which explicitly recognizes that consideration for other people's viewpoints and their reactions to oneself can influence motivation and perception of their attributes and behaviors (Murnieks, Cardon, & Haynie, 2020, p. 1). As the social structure in which one operates influences how one identifies (Callero, 1985), social support may also influence the development of resilience. Social

support can lessen feelings of distress when responding to stressors that challenge one's identity (Earnshaw et al., 2015). This dissertation posits that such interpretations will influence an employee's perception of resource availability in meeting job demands when developing resilience.

This dissertation is unique in that it examines the contextual environment and leverages the theoretical premises of the JD-R model and COR theory to theorize how demands in the workplace facilitate the acquisition of resources through the energy depletion effect of stressors to motivate employees to build resilience. It is also unique in that it examines the hierarchical acquisition of resources consistent with Maslow's theory (Maslow, 1968) and, in doing so, looks to extend COR theory in explaining how stress motivation supports the building of the personal psychological resource of resilience and how other personal resources, i.e., external social support and psychological safety, have the motivational power to build the additional personal resource of resilience.

When studying work centrality, it is also relevant to consider personal relationships outside of work. The literature supports that work centrality is shaped by socialization outside of work because individuals learn to value work from their families and friends (Paullay et al., 1994).

External Social Support

The study of social support's relationship with resilience is relevant because there are questions in the literature concerning the influence of external resources beyond the organization's control on resilience (Fisher & Law, 2021). The study of social support emerged during a time of industrialization and urbanization, which was characterized by undesirable working conditions and social disintegration (Bavik et al., 2020). Studies support that social support buffers the effects

between stressors and the consequences of stressors but these relationships can be either positive or negative (Bavik et al., 2020; Ganster, Fusilier, & Mayes, 1986; Rahim, 1995). These differing consequences may be determined by the type of stressor present (Bavik et al., 2020). Routine contacts provide a forum for sharing experiences that can inhibit negative effects and provide opportunities for adaptive social comparisons (Norris & Kaniasty, 1996). Social support can also help regulate emotions and solve problems (Earnshaw et al., 2015). Social learning theory supports this conceptualization in that individuals set their behavioral standards on the observed performance of others (Manz & Sims Jr, 1980). Social support is one of the most well-known situational variables that has been employed as a potential buffer against job strain (Bakker & Demerouti, 2007) and is considered a key resource in engaging in proactive coping (Stevan E. Hobfoll, 2001).

Social support has been studied to understand its influence and purpose across various domains, such as business, health, and work-family conflict (LaRocco, House, & French Jr, 1980; Manning et al., 1996; Selvarajan, Cloninger, & Singh, 2013; Todt, Weiss, & Hoegl, 2018). According to Maslow (1968), social resources are the second level of resources people seek, followed by physical and psychological, when building resources (Stevan E. Hobfoll, 1989; Maslow, 1968). Social support is a conditional variable that has the potential to influence outcomes of job stress (LaRocco et al., 1980). Transactional theory suggests that cognitive appraisal of stressors and social resources together regulate the effect of stressors on an outcome (Bavik et al., 2020). Some of the direct positive effects of social support are strengthening individuals' coping for some stressors, self-efficacy and innovative behaviors (Bavik et al., 2020; Todt et al., 2018). Other research suggests social support goes beyond strengthening coping capability and proposes that social support can promote energy for personal growth by providing emotional support,

promoting learning, and facilitating a cognitive process of problem-solving (Feeney & Collins, 2015; Todt et al., 2018). Consistent with the broaden-and-build theory and embedded within the definition of resilience is that resilience can also be influenced by positive changes, such as emotions, which may result from positive exposure to people, which supports an individual's positive awareness, which is considered a sustainable resource (Kossek & Perrigino, 2016). There is a growing consensus in the research that social support can come from work and non-work sources (Harms et al., 2018). Kossek and Perrigino (2016) conducted a study on work-family conflict and found that when spouses react negatively to their partner's sharing of work experiences, their partners tend to experience lower career resilience (Kossek & Perrigino, 2016). By distinguishing social support by its source, this dissertation is positioned to more accurately assess how social support outside the work environment shapes individuals' reactions to stressors (Bavik et al., 2020). Consistent with COR theory, external social resources include relationships with family members and friends (Stevan E. Hobfoll, 2001). As this dissertation posits that cognitive functioning proceeds emotional, this dissertation meets a call for research to distinguish between cognitive processes and emotions when examining the influence of a resource intervention controlled outside the organizational context (external social support) to a resource that is controlled for within the internal organization when studying resilience (Fisher & Law, 2021). Extant research supports that community and family may be influential resources in possessing resilience (Britt et al., 2016).

COR theory is considered a motivational theory that explains human behavior based on the need to protect those things valued by acquiring and conserving resources, including personal strengths and social bonds (Stevan E. Hobfoll et al., 2018). Two key resources under COR theory include intimacy with family member(s) and intimacy with at least one friend (Stevan E. Hobfoll,

2001). According to Feeney and Collins (2015, p. 116), external social support serves two positive support functions: enhancing the ability to cope successfully with adversity and participating in opportunities for growth and fulfillment in the absence of adversity. This dissertation posits that both of these functions serve as resources which is consistent with the fundamentals of COR theory.

Research has found that telling a story to others has a psychological component (Stevan E. Hobfoll, 2001; Meichenbaum, 1994). Therefore, the resource of social support is valuable in its own right and also contributes to resource reserves (Stevan E. Hobfoll, 2001). Research supports a crossover effect of experiences outside of work influence resource availability to the employee in the work setting (Stevan E. Hobfoll et al., 2018). Broaden-and-build theory supports that psychological processes (emotional and cognitive) can influence a person's sense of self and further supports that this enables the building of personal resources (Fredrickson, 2001).

Psychological Safety

Psychological safety is considered a unique cognitive state like motivational (energy) construct that considers the broader social and work environment that fosters learning and is concerned with how individuals perceive others and respond to risk-taking behaviors (Carmeli & Gittell, 2009; M. L. Frazier et al., 2017). Environments in which people operate influence the amount of risk someone is willing to take (Byrnes et al., 1999). The construct of psychological safety is considered unique because it encompasses perceptions of risk-taking (M. L. Frazier et al., 2017), which influences workplace problem-solving behaviors (Kossek & Perrigino, 2016). Decisions individuals make during times of uncertainty are considered riskier if expected outcomes are more uncertain, decision goals are more difficult to achieve, or potential outcomes

are perceived to result in extreme consequences (Kossek & Perrigino, 2016). An employee who can effectively solve problems and have affirming experiences in the face of stressors is more likely to acquire knowledge and enhance their psychological resources (Monique F Crane & Searle, 2016, p. 476).

A psychological safe environment facilitates collective learning as this environment alleviates excessive concern about others' reactions to actions that may cause embarrassment or threat, such as one may experience when learning new behaviors (Edmondson, 1999, p. 355). This is consistent with social learning theory. Social learning theory postulates that individuals set their behavioral standards on the observed performance of others (Manz & Sims Jr, 1980). It recognizes that reinforcement contingencies influence employee behaviors, which are "environmental cues that either precede employee behavior or reward subsequent employee behavior" (Manz & Sims Jr, 1980, p. 361). Bandura and Walters (1977) refer to this as anticipatory capacity, which holds that most human behavior is not controlled by immediate external reinforcement but instead is based on prior experiences in that individuals expect that certain actions will result in outcomes they value, will have no effect, or produce undesirable results. Anticipatory capacity enables anticipatory behavior whose prime function is to provide protection against potential threats (Bandura & Walters, 1977). This conceptualization is similar to proactive coping in times of disruption of environmental conditions.

Resource caravan passageways that are part of COR theory support that people's resources exist within conditions that foster and nurture or limit and block resource creation and sustainability; the culture within an organization can influence this process (Stevan E. Hobfoll et al., 2018). The conditions of an environment and the influence of such conditions in the preservation and development of resources, either supportive or undermining, have led to a recent

higher level of interest in leveraging COR theory's passageway effects to understand such dynamics (Stevan E. Hobfoll et al., 2018). A psychologically safe work environment provides a safe space for individual and organizational learning where employees have less concern of embarrassment and threats while learning and, in contrast, feel safe to voice ideas, are willing to seek feedback, provide honest feedback, collaborate, take risks, and experiment to overcome such threats (Newman et al., 2017, p. 521). This conceptual understanding of psychological safety is consistent with the demand-control model that holds that low decision latitude and heavy job demands are associated with higher psychological strain (Karasek, 1979).

The construct of psychological safety was originally grounded in the study of organizational change (Schein & Bennis, 1965), and Kahn (1990) later conceptualized it as an individual's perceptions "to show and employ one's self without fear of negative consequences to self-image, status, or career" (W. Kahn, 1990, p. 708; Newman et al., 2017). Following Kahn's conceptualization of psychological safety, Edmondson (1999) offered a new perspective of psychological safety based on a shared belief held by members of a team (Edmondson, 1999; Newman et al., 2017). The conceptualization of psychological safety, similar to resilience (Kossek & Perrigino, 2016), is able to cross levels of analysis. From this work, Edmondson (1999) developed and validated a 7-item scale that measures the perception of psychological safety within a team (Newman et al., 2017).

This dissertation posits that external social support and psychological safety will influence the relationship between stressors and resilience. This relationship is explained by leveraging COR theory and the JD-R framework. Conceptualization of these two theories supports the positive influence of these two resources on the stressor and resilience relationship in explaining how external social support can empower an employee to leverage risk-taking behaviors, which has the

potential for reward within a psychologically safe working environment. In this context, employees are not fearful of negative consequences when engaging in creative problem-solving. Theory supports this dynamic in fostering an environment where employees are more likely to utilize their cognitive resources to develop resilience when meeting job demands.

Hypothesized Model

Challenge and Hindrance Stressors to Resilience

People are unique, and every employee has a unique array of traits they bring with them to the workplace each day. Traits are a personal resource, and examples of traits that employers may value in the workplace are flexibility, motivation, perseverance, and optimism (Bhamra et al., 2011). When an employee encounters an occurrence at work, their traits are provoked by cognitive functioning, which encompasses their knowledge of the demands, constraints, and resources within their work environment (Lazarus, 1991). This dissertation focuses on resilience as a malleable trait. Understanding how cognitive functioning engages traits and how traits contribute to developing resilience helps in the theoretical understanding of how antecedents enable employees to be resilient. This dissertation leverages social learning theory's premise that psychological functioning will activate motivational traits through self-regulation, which ultimately results in an employee's level of motivation that will influence their attitudes and behaviors when responding to different types of stressors at work (Bandura & Walters, 1977). A disruption at work caused by occurrences will change the contextual environment and impact an employee because the environment no longer aligns with the employee's cognitive functioning, and the employee will experience additional demands, i.e., stressors at work (Demerouti et al., 2001). This dissertation examines the relationship between stressors and resilience. It theorizes how different stressors, appraisal of stressors, and resources may or may not influence an

employee's motivation to build the sustainable resource of resilience so that they have a sense of control of their environment when confronted with stressor disruptions in the future.

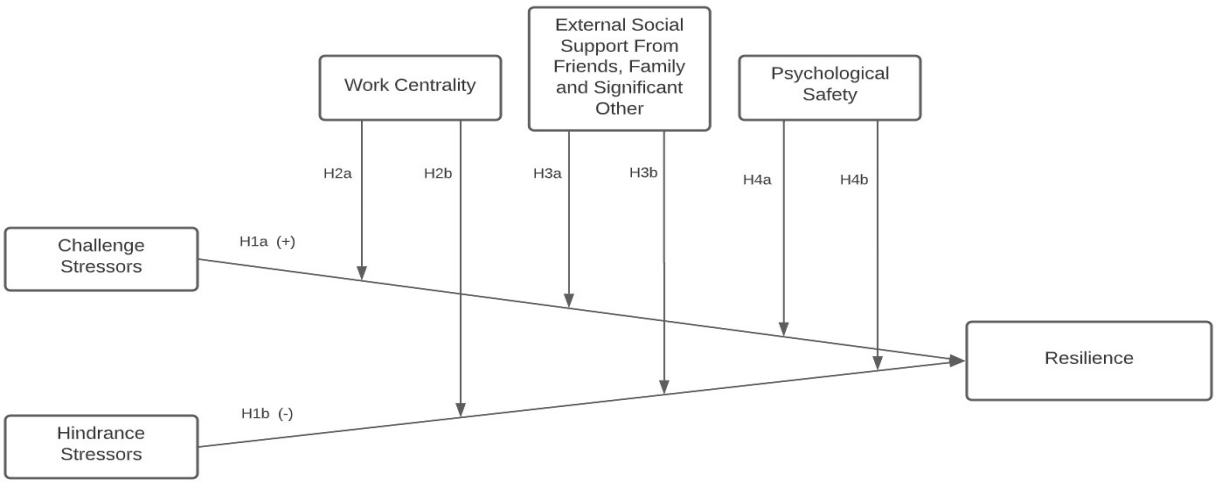
Generally, there are two types of stressors in the workplace related to different attitudinal and behavioral work outcomes (Marcie A. Cavanaugh et al., 2000). The challenge-hindrance framework labels stressors as either challenge stressors or hindrance stressors (Marcie A Cavanaugh et al., 1998). Challenge stressors are work-related demands or circumstances that, although potentially stressful, are considered motivational and provide an opportunity for employees to learn and develop within their work environment (Marcie A Cavanaugh et al., 1998; Jeffery A LePine et al., 2005). In contrast, hindrance stressors are considered not to be motivational and involve undesirable constraints, and are considered stressful because they thwart personal growth, learning, and positive work outcomes (Marcie A Cavanaugh et al., 1998; Crawford et al., 2010; Jeffery A LePine et al., 2005).

Another difference between the two types of stressors is that challenge stressors are considered to foster well-being, and hindrance stressors are considered to preclude the well-being of employees (Sparks, Faragher, & Cooper, 2001). Just as stressors (demands) at work can influence well-being among employees, job resources also have the potential to influence the well-being of employees (Bakker et al., 2007). Job resources support the achievement of work goals, stimulate personal growth and development, and reduce job demands and psychological costs (Crawford et al., 2010; Tims et al., 2013). The JD-R model supports that job demands cost psychological effort while consuming energetic resources, whereas job resources meet psychological needs (Bakker, 2011; Bakker et al., 2014; Deci & Ryan, 2000). The JD-R model also supports the theoretical understanding that job resources can activate personal resources enabling employees to believe that they are more capable of controlling their work environment

(Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2007). One such resource that has the potential reduce job demands and their psychological costs is psychological resilience.

Psychological resilience is considered a personal resource, and it involves being able to move forward in a positive way from a negative, traumatic, or stressful experience (Jackson et al., 2007; Tugade & Fredrickson, 2004, p. 2). Resilience is also considered a developmental capacity that enhances protective factors, proactive coping, and allows one to have a sense of control within one's environment (Bhamra et al., 2011; Jackson et al., 2007; Luthans, 2002). As a personal resource, resilient employees can control occurrences within their environment as it acts as a source of motivational energy enabling employees to accomplish desirable work outcomes (Bakker et al., 2014; Stevan E. Hobfoll et al., 2003). By investing resources to develop the sustainable resource of resilience, employees are more able to manage the current stressor and initiate proactive coping to meet future demands (Stevan E. Hobfoll, 2001). According to COR theory, human motivation is directed toward the maintenance and accumulation of resources, and individuals not only look to protect those things they value, such as their well-being, but also strive to develop resource surpluses to be prepared to offset possible future losses (Bakker & Demerouti, 2007; Stevan E. Hobfoll, 1989, 2001).

Figure 3: Theoretical Model of Proposed Hypotheses



The broaden-and-build theory and social learning theory support that employees confronted with challenge and hindrance stressors will have an emotional response to a disruption in the equilibrium of the person-environment, and such emotions can enhance or retard the broadening of thinking in the fostering of problem-solving decision making (Fredrickson, 2001; G. R. Hockey, 1997; G. R. J. Hockey, 1993). The employee attribute of problem-solving is a prominent attribute of resilience (Luthans, 2002). This emotional reaction will be controlled by the employee's cognitive interpretation of the stressor as either positive or negative, which will evoke self-regulation, ultimately determining how the employee will respond to the stressor, behaviorally and emotionally (Bandura & Walters, 1977; Davis & Luthans, 1980). This dissertation posits that this interactive process is motivational energy (resource) in the problem-solving process, which holds social learning theory's salience in understanding the decision-making process in developing resilience. The model of compensatory control, similar to the JD-R model, advocates that during times of higher environmental demands in the workplace, additional resources will be needed to offset demands, but these resources will come at a cost consisting of time and energy to develop a

new resource (G. R. Hockey, 1997). Or an employee may decide to maintain performance by employing (reactive) coping to the demand, i.e., not developing a new sustainable resource such as resilience, which if experienced for an extended time will result in strain, i.e., negative well-being (G. R. Hockey, 1997; G. R. J. Hockey, 1993).

Initially, employees will look to replace resources in conditions where there is resource loss, i.e., during times of stress, because, according to COR theory Principle 2, employees will replace resources to recover from resource loss to protect against future resource loss (Stevan E. Hobfoll et al., 2018). As job demands consume energetic resources (motivation), and if these demands are considered challenging, the energetic resources (motivation) that were lost will be replaced by the opportunity for development. Understanding that challenge stressors have a motivational factor, which is a positive resource, COR theory Corollary 1 will apply to the positive relationship between challenge stressors and resilience because stronger resource pools are more likely to experience cycles of resource gain and the initial resource gain gives rise to further resource gains (S.E. Hobfoll & Shirom, 2000). Corollary 4 supports the additional level of energy that an employee will invest in building resilience because challenge stressors provide the (motivational) energy resource, and those with greater resource pools are more likely to risk resources to obtain larger resource pools (S.E. Hobfoll & Shirom, 2000). This is consistent with Hobfoll's (1989) assertion that individuals are more likely to be motivated to employ their psychological functioning if there is an opportunity to create or maintain a personal characteristic, such as resilience. This dissertation hypothesizes that when employees experience a higher level of challenge stressors, employees will have a higher level of resilience.

This leads to the following hypothesis:

Hypothesis 1a (H1a): Challenge stressors will be positively related to resilience.

In contrast, to challenge stressors, hindrance stressors are demands that create barriers to goal attainment and are considered to deplete resources and inhibit motivation for personal development opportunities (Marcie A. Cavanaugh et al., 2000). They are considered to thwart personal growth and goal attainment at work by deterring optimal functioning (Jeffery A LePine et al., 2005). Unlike challenge stressors, hindrance stressors result in the net loss of resources because hindrance demands are not offset by anticipated gains (Marcie A Cavanaugh et al., 1998).

Hindrance stressors are considered to possess no or little personal benefit of achievement, such as providing learning or promotional opportunities. This dissertation proposes that they are low on the hierarchical continuum, and employees will be less willing to invest cognitive resources to sustain well-being (G. R. Hockey, 1997). It is expected that employees will raise their level of effort for a short period of time by employing reactive coping mechanisms until such mechanisms become over taxing and at which time, employees will experience more psychological stress (G. R. Hockey, 1997; Schaufeli & Bakker, 2004) and shift to an adaptive role while employing less effort in response to the stressor (G. R. Hockey, 1997).

Although Principle 2 of COR theory supports employees replacing resources to recover from resource loss to protect against future resource loss, when incurring hindrance stressors, employees will have fewer resources to offset resource loss because there are no resource gains such as perceived development or promotion opportunities generated when incurring a hindrance stressor. It is proposed and theorized that this dynamic will create a loss spiral. Corollary 2 refers to resource loss cycles and states that because resource loss is more powerful than resource gain, during adverse events individuals will have less resources to counter resource loss, and therefore, loss spirals will gain momentum and magnitude (Stevan E. Hobfoll et al., 2018). Therefore, the cycle of loss for hindrance stressors will not break because there is no resource gain (motivation)

when resources are depleted. When experiencing hindrance stressors, this methodology aligns with the JD-R model in that those who lack resources to meet job demands will experience burnout (negative well-being; Bakker & Demerouti, 2007; S.E. Hobfoll & Shirom, 2000).

Principle 4 of COR theory supports the theoretical basis described in this dissertation. Principle 4 supports that an employee will be more likely to employ a defensive posture by conserving resources to preserve their survival of self or an exploratory strategy to search for alternative survival or adaption strategies because the employee's resources are outstretched or exhausted (Stevan E. Hobfoll et al., 2018). This dissertation posits that because hindrance stressors impede development opportunities and act as roadblocks (anticipatory capacity), employees will conserve their resources and adapt a coping strategy without investing in further resources, i.e., reactive coping, as a response to the depletion of resources. When employees encounter hindrance stressors, they experience a net resource loss (Marcie A Cavanaugh et al., 1998), limiting their ability to develop new resources because employees must first invest resources, i.e., incur resource loss, to generate new resources (Stevan E. Hobfoll, 2001). This is consistent with COR theory, Corollary 2, resource loss cycles (Stevan E. Hobfoll et al., 2018). Corollary 4 (S.E. Hobfoll & Shirom, 2000) also supports this theoretical premise as an employee will be more likely to develop a defensive posture that limits the possibility of further resource loss, i.e., reactive coping, and precludes opportunities for resource gain, such as resilience. Reactive coping does not develop sustainable resources, such as resilience (Stevan E. Hobfoll, 2001).

As hindrance stressors deplete resources, they do not create feelings of fulfillment or achievement, resulting in negative job performance(Marcie A Cavanaugh et al., 1998; Selye, 1991). Social learning theory explains that a lack of external reinforcement from the environment does not motivate an employee to develop protective mechanisms (Bandura & Walters, 1977),

which this dissertation proposes will limit an employee's ability to proactively respond to hindrance stressors. Social learning theory's premise is that reinforcement contingencies influence employee behaviors, which are environmental cues that either precede employee behavior or reward subsequent employee behavior (Manz & Sims Jr, 1980, p. 361). This anticipatory capacity (Bandura & Walters, 1977) supports that behavior is not controlled by immediate external reinforcement but instead is based on prior experiences in that individuals expect that certain actions will result in outcomes they value, will have no effect, or produce undesirable results. Anticipatory capacity enables anticipatory behavior whose prime function is to provide protection against potential threats (Bandura & Walters, 1977). Unlike challenge stressors that foster motivation, Corollary 4 does not support the additional level of energy that fosters higher risk-taking when experiencing hindrance stressors as employees will be less likely to invest energy, i.e., they will take a lower risk approach because their resource pool is smaller since hindrance stressors do not provide development or promotional opportunities that replenish motivational energy resources (S.E. Hobfoll & Shirom, 2000). This dissertation posits that employees will not anticipate an outcome they value when confronted with a hindrance stressor. Therefore, they will not be motivated to invest in more resources or engage in anticipatory behaviors against disruptions in their environment, such as proactive coping, which could develop resilience. This dissertation hypothesizes that when employees experience a higher level of hindrance stressors, employees will have a lower level of resilience.

This leads to the following hypothesis:

Hypothesis 1b (H1b): Hindrance stressors will be negatively related to resilience.

The Moderating Effect of Work Centrality

Consistent with the model of compensatory control and the JD-R model, the cost (of resources) that an employee is willing to invest in meeting demands is dependent upon the level of importance (appraisal) that the employee places on the value of the resource being threatened (G. R. Hockey, 1997; Schaufeli & Bakker, 2004). This is because the protection of an individual's goal is viewed as a trade-off between the protection of the goal and the level of cognitive effort needed to protect the goal (G. R. Hockey, 1997).

Although challenge stressors are typically appraised positively (i.e., an opportunity for personal growth) and hindrance stressors are typically appraised negatively, it is recognized that there is variation between how stressors are appraised by each person (Monique F Crane & Searle, 2016; Searle & Auton, 2015; Webster, Beehr, & Love, 2011). The appraisal process is implicit in the challenge-hindrance stressor framework, and studies support the premise that challenge stressors are appraised as challenging and hindrance stressors are appraised as hindering (Marcie A. Cavanaugh et al., 2000; Jeffery A LePine et al., 2005; Rodell & Judge, 2009); however, there are questions how context may influence the magnitude in which the employee experiences the stressor as more or less challenging or hindering (M. A. LePine, Zhang, Crawford, & Rich, 2016, p. 1038). Appraisals may influence the outcomes of stressors, and the contextual circumstances influence the successful (or unsuccessfully) response to stress (Kossek & Perrigino, 2016). The appraisal influenced by an individual's self-defining identity is also considered a source of energy that can motivate an employee to build additional resources (Jane E Dutton et al., 2010). This methodology is consistent with COR theory when resource depletion is met with resource replenishment. Some research contends that COR theory does not consider the fit of personal, social, economic, and environmental resources with the demands which would influence the

direction, the response, and the resulting outcomes of the stress (O'Brien & Beehr, 2019). This dissertation posits that there are similarities and differences between COR theory and transactional theory and will empirically test a personal resource, work centrality, that has the capacity to influence the perceived magnitude of stress considered in the literature to impact the appraisal of a stressor and its influence on stressors to resilience (Monique Frances Crane, Louis, Phillips, Amiot, & Steffens, 2018).

COR theory goes beyond the coping model of transactional theory, as the latter only provides the functionality of coping in that it limits stress (Stevan E. Hobfoll, 1989). However, this dissertation posits that they both offer theoretical insights into how employees experience and react to stressors in the workplace. Transactional theory supports how employees experience stressors and appraise them (Lazarus, 1966). Lazarus and Folkman (1987) expanded on transactional theory to describe how stress is a process involving a negative person-environment relationship followed by cognitive appraisals and emotional response. The cognitive (primary) appraisal is an evaluation of to what extent the negative relationship is considered significant by the employee to impact their well-being (Lazarus & Folkman, 1984). The secondary appraisal involves a coping process to realign the person-environment relationship but does not specify the goal of coping other than to limit stress (Stevan E. Hobfoll, 1989). COR theory is different from transactional theory in that the event needs first to occur and be appraised as stressful before it is recognized as a stressful occurrence (Stevan E. Hobfoll et al., 2018). With its primary premise of protecting and building resources to protect those things that have value combined with its three corollaries, COR theory enables researchers and leaders to strategize how to counteract stressful conditions (Stevan E. Hobfoll et al., 2018). The challenge-hindrance framework was developed based on COR theory, and it is considered a valuable framework because of the distinction between

the two stressor types; however, it does not consider the impact of individual appraisal on the person-environment disruption (O'Brien & Beehr, 2019).

This dissertation posits that one resource that has the potential to influence an employee's appraisal of stressors is work centrality. To the extent an employee identifies to their work role will determine the significance the stressor type has on the employee, and this will influence how the employee interprets the negative environmental conditions associated with stressors which will ultimately influence how the employee responds to the stressors (Lazarus & Smith, 1988; Settles, 2004). This appraisal process is consistent with the basic tenant of COR theory in that individuals strive to obtain, retain, foster, and protect those things they centrally value (Stevan E. Hobfoll et al., 2018). Motivation has a positive relationship with personal relevance based on an employee's evaluation of an adaptable encounter (Lazarus, 1991). Motivation is considered a resource that can be used to build additional resources (Jane E Dutton et al., 2010). Therefore, this dissertation hypothesizes that work centrality will moderate the perceived level of magnitude a stressor has on an individual (Monique Frances Crane et al., 2018). Under COR theory Principle 3, resource gain increases in salience in the context of resource loss when resource loss circumstances are high (Stevan E. Hobfoll et al., 2018). Under this hypothesis, resource gains, such as motivation, will hold greater value when work centrality is higher. Although disruption in the person-work environment relationship will hold more value to an employee, resulting in higher resource loss (high demands), there will also be greater resource gain. However, since motivation has a positive relationship with personal relevance (Lazarus, 1991), this dissertation theorizes that when an employee with higher work centrality is confronted with challenge stressors, which have a positive anticipatory capacity (Bandura & Walters, 1977; Marcie A Cavanaugh et al., 1998) for personal development, the employee will be more motivated to develop the sustainable psychological

resource of resilience because the employee will strive to preserve their self-identity based on their stronger work centrality. Following the model of compensatory control, an employee will be more willing to invest psychological resources in response to challenging demands (G. R. Hockey, 1997). And in accordance with social learning theory, the employee will self-regulation to be more in control of their environmental factors (Bandura & Walters, 1977). This hypothesis aligns with COR theory in that the employee will be incentivized to develop resource surpluses to protect those things they value and strive to develop new resources to offset future losses (Bakker & Demerouti, 2007; Stevan E. Hobfoll, 1989, 2001). This expectation aligns with COR theory Principle 3 that resource gain increases in salience in the context of resource loss; Corollary 1 that those with greater resources are less vulnerable to resource loss and more capable of resource gain; and, Corollary 4 that stronger resource pools are more likely to accept or seek opportunities to risk resources in order to obtain resource gain (Stevan E. Hobfoll et al., 2018; S.E. Hobfoll & Shirom, 2000). This dissertation hypothesizes that the positive relationship between challenge stressors and resilience will be stronger when work centrality is higher.

This leads to the following hypothesis:

> *Hypothesis 2a (H2a): Work centrality will moderate the positive relationship between challenge stressors and resilience, such that the relationship will be stronger when work centrality is higher.*

Unlike challenge stressors, hindrance stressors are considered not to be motivational, create more stress and do not offer development opportunities, and are considered to thwart personal growth (Marcie A Cavanaugh et al., 1998; Crawford et al., 2010; Jeffery A LePine et al., 2005). This dissertation theorizes that when an employee with higher work centrality experiences a hindrance stressor, the stressor will hold greater significance to the employee, and the employee

will have fewer resources to respond to the hindrance stressor. Therefore, there will be a net loss of resources, and the employee will be less likely to invest additional psychological resources to develop resilience. According to Principle 4 of COR theory, an employee will be more likely to adapt a defensive posture by conserving resources or seek alternative survival or adaption strategies because the employee's resources are outstretched or exhausted (Stevan E. Hobfoll et al., 2018). However, if work centrality is higher, the employee will experience a greater loss of resources because of the larger significance of their appraisal based on their self-identification. This is consistent with COR theory, Corollary 1 that states individuals who lack resources are more vulnerable to resource loss, and Corollary 2 in that stress occurs when resources are lost and such loss spirals will gain momentum resulting in the employee having fewer resources to invest for resource gain (Stevan E. Hobfoll et al., 2018). This dissertation hypothesizes that the negative relationship between hindrance stressors and resilience will be stronger when work centrality is higher.

This leads to the following hypothesis:

> *Hypothesis 2b (H2b): Work centrality will moderate the negative relationship between hindrance stressors and resilience, such that the relationship will be stronger when work centrality is higher.*

The Moderating Effect of Personal Resources

Job demands and resources generate two different psychological processes, which can be impaired by excess job demands or positively motivated by job resources (Costa et al., 2014). Resources are valued because they buffer job demands, establish other resources, and have the capacity to protect other valued resources (Bakker et al., 2007). This dissertation considers the

effects of two personal resources on challenge and hindrance stressors in the workplace. Personal resources are unique because they provide an employee with a perception of control and impact within their work environment (Stevan E. Hobfoll et al., 2003). Personal resources contain a positive self-evaluation component linked to motivational energy to pursue positive outcomes at work (Bakker et al., 2014).

While considering two personal resources and how they influence resilience, this dissertation aligns with the concept of COR theory's resource caravans and their passageways which recognize that resources exist together within environmental conditions that can either nurture or limit the creation of other resources (Stevan E. Hobfoll et al., 2018). In applying Principle 2 of COR theory, this dissertation theorizes and empirically tests if bringing in two different external personal resources, one influenced from outside the organizational environment and one influenced from within the organizational environment, have the potential to influence the stressor-resilience relationship and prevent further resource loss, contribute to the recovery of losses, or contribute to resource gains (Stevan E. Hobfoll, 2001; Stevan E. Hobfoll et al., 2018; S.E. Hobfoll & Shirom, 2000).

The Moderating Effect of External Social Support

This dissertation focuses on external personal resources. Extant research supports a positive relationship between job resources and personal resources (Xanthopoulou et al., 2007). Research also supports that personal resources are more resistant to disruptions in the environment if employees who maintain personal resources are confident of their capabilities and are optimistic about their future and, as a result, personal resources can influence the environment for goal attainment (Stevan E. Hobfoll, 1989; Xanthopoulou et al., 2007).

Consistent with the JD-R model, social support is a valued resource that can influence intrinsic motivation and well-being (Ryan & Frederick, 1997). A lack of positive social resources can lead to negative psychological states (Cohen & Wills, 1985). According to the demand/resource perspective of the challenge-hindrance framework, a negative psychological state will result in more stress and not motivation (Crawford et al., 2010). This also aligns with the broaden-and-build theory's conceptualization of resilience in that positive emotions result from positive connections with people, which can foster positive, sustainable resources (Kossek & Perrigino, 2016), such as resilience. Employees learn through social observation, and social learning theory supports that learning is a function of observing others (Manz & Sims Jr, 1980).

Extant research supports that when an employee's external environment lacks resources, the employee is less able to cope with adverse conditions (demands) within the work environment, which results in lower motivation which may influence the employee's ability to employ self-protection mechanisms that can protect them from future frustrations (Demerouti et al., 2001). This can occur because social support is considered a crucial resource in developing protective factors to successfully cope with stressors in the future (Harms et al., 2018). Social support can come from anyone in one's social network, including family, friends, and coworkers (Harms et al., 2018).

Although social support resources can come from work and nonwork domains, there is growing interest in understanding the influence of nonwork relationships (Harms et al., 2018). This dissertation utilizes nonwork domain social support, i.e. external social support, which is considered in the research to be more useful in reducing the negative effect of stressors on more general outcomes than social support within the organization (Bavik et al., 2020). External social resources include relationships with family members and friends (Stevan E. Hobfoll, 2001).

Research supports that resources outside the organization have the capability to motivate employees by positively influencing opportunities for growth and facilitating a cognitive process of problem-solving (Feeney & Collins, 2015; Tims et al., 2013; Todt et al., 2018). Transactional theory supports the premise of social resources influencing the cognitive appraisal of stressors, which is part of the appraisal of stressors that can influence outcomes, such as the coping process (Bavik et al., 2020). As this dissertation also focuses on the appraisal of work centrality, this dissertation has the opportunity to compare the moderating effects of work centrality and external social support on the relationship between stressors and resilience.

In summary, extant research supports that external social resources will positively influence motivation, enabling an employee to engage in self-protective actions that can be leveraged to successfully (proactively) cope with stressors in the future. This theoretical understanding aligns with the argument presented earlier that challenge stressors also enhance motivation, which is hypothesized to build the personal resource of resilience, enabling employees to manage their stress in the future. This dissertation examines if the external resource of social support will influence the stressor-resilience relationship for both challenge and hindrance stressors. In doing so, this dissertation tests COR theory's resource caravan passageways premise if resources nurture or limit resource creation and sustenance (Stevan E. Hobfoll et al., 2018).

COR theory Corollary 1 theoretically supports that since external social support provides motivational energy, a resource, it should strengthen the relationship between challenge stressors and resilience because the initial resource gain of the challenge stressor-resilience relationship will give rise to further resource gains (S.E. Hobfoll & Shirom, 2000). Hobfoll (2001) recognized that social support can contribute to resource reserves. Corollary 4 also supports the hypothesis that external social support will further strengthen the challenge stressor-resilience relationship

because those with greater resource pools are more likely to risk resources to obtain larger resource pools (S.E. Hobfoll & Shirom, 2000). When considering external social support's influence on the challenge stressor-resilience relationship, this dissertation hypothesizes that the positive relationship between challenge stressors and resilience will be further strengthened when perceived external social support is higher.

This leads to the following hypothesis:

Hypothesis 3a (H3a): Perceived external social support will moderate the positive relationship between challenge stressors and resilience, such that the relationship will be stronger when perceived external social support is higher.

A resource outside the organization can also influence the response to demands by influencing how an employee copes with adversity, as social interactions provide an opportunity to experience adaptive social comparisons (Feeney & Collins, 2015; Norris & Kaniasty, 1996). However, there is mixed support for the premise of social support's buffering effect in reducing stress (Mayo et al., 2007).

In considering hindrance stressors, Principle 4 of COR theory holds that when resources are outstretched, employees may either conserve resources or employ an exploratory strategy to search for alternative adaption strategies (Stevan E. Hobfoll et al., 2018). In leveraging Principle 4, this dissertation hypothesizes that a higher level of perceived external social support will disrupt the resource loss cycle of the hindrance stressor-resilience relationship referenced in Corollary 2, and resource gain will give rise to other resource gain. Corollary 4 also supports that stronger resource pools will enable employees to seek out opportunities to risk resources in order to obtain resource gain (S.E. Hobfoll & Shirom, 2000), such as developing resilience. This is consistent with

the premise of the JD-R model in that employees who have resources to counter resource loss will be more motivated and will experience more positive outcomes, i.e., engagement at work and higher performance levels (Bakker & Demerouti, 2007; Bakker et al., 2014; Demerouti et al., 2001; Harms et al., 2018; Schaufeli & Bakker, 2004). When considering external social support's influence on the hindrance stressor-resilience relationship, this dissertation hypothesizes that when perceived external social support is higher, the negative relationship between hindrance stressors and resilience will be less negative.

This leads to the following hypothesis:

Hypothesis 3b (H3b): Perceived external social support will moderate the negative relationship between hindrance stressors and resilience, such that the relationship will be weaker when perceived external social support is higher.

Based on COR theory, Corollary 3, in low-stress conditions, the expected gain experienced from the buffering effect of external social support influencing the relationship between hindrance stressors and resilience may be smaller than the gain experienced from the challenge stressor and resilience relationship because Corollary 3 supports that in low-stress conditions resource gain is of less magnitude and slower than resource loss (Stevan E. Hobfoll et al., 2018). Therefore, this dissertation anticipates that the resource gain from the positive relationship between challenge stressors and resilience will be greater than the buffering effect of external resources on the negative relationship between hindrance stressors and resilience in low-stress conditions.

The Moderating Effect of Psychological Safety

Contextual demands can constrain or foster resilience (Kossek & Perrigino, 2016). The broaden-and-build theory supports that positive emotions and/or context can increase positive

emotions and broaden thinking, fostering creative thinking to build resilience (Fredrickson, 2001). The broaden-and-build theory tells us that experiences with positive emotions and context increase positive emotions and expand cognitive functioning, supporting the creative thinking of employees (Fredrickson, 2001). Work environments that possess multiple resources motivate employees to put forth an effort and leverage their abilities towards their work (Bakker & Demerouti, 2007). When employing resources at work, employees will utilize resources they possess or are able to obtain from their work environment (Stevan E. Hobfoll, 1989). An individual can acquire, retain and possess capabilities for positive performance, but learning will most likely not be applied to performance if there is a possibility that an employee's behavior will be negatively sanctioned or received unfavorably (anticipatory capacity; Bandura & Walters, 1977).

COR theory supports that the organizational environment (culture) will either nurture or block resource creation (Stevan E. Hobfoll et al., 2018). As COR theory is premised on objective circumstances of the environment having the capability of enhancing perceptually based resources (Stevan E. Hobfoll, 2001), this dissertation hypothesizes that the objective circumstance of a psychologically safe environment will enhance the perception of the environmental resources available to influence the stressor-resilience relationship for both challenge and hindrance stressors in different ways.

Psychological safety is based on the premise that employees are concerned about how others perceive them, and this influences how they respond to demands at work which are considered risky occurrences (Carmeli & Gittell, 2009; M. L. Frazier et al., 2017). Demands at work are considered riskier if potential outcomes are perceived to have extreme consequences (Kossek & Perrigino, 2016). Psychological safety is considered a unique cognitive state like motivational construct that considers how others in the workplace will respond to their risk-taking

behaviors, which can influence the problem-solving behaviors they employ at work (Carmeli & Gittell, 2009; M. L. Frazier et al., 2017; Kossek & Perrigino, 2016). Risk factors are a central premise of the JD-R model in that all jobs are considered to have risk factors, considered job demands or job resources, that foster either motivation or job stress (Bakker & Demerouti, 2007; Bakker et al., 2003; Bakker et al., 2005; Crawford et al., 2010; Demerouti et al., 2001). Employees who can effectively solve problems and have affirming experiences when employing problem-solving when confronted with stressors are more likely to develop psychological resources (Monique F Crane & Searle, 2016).

A psychologically safe work environment rewards collective learning, which mitigates employees' concerns about reactions from others based on their behaviors (anticipatory capacity; Edmondson, 1999). This is consistent with social learning theory, as anticipatory capacity involves psychological functioning, and its main function is to protect against potential threats in an employee's environment if the rewards hold value (Bandura & Walters, 1977). Employees are more likely to invest resources for psychological functioning if there is an opportunity to create or maintain a personal characteristic, such as resilience (Stevan E. Hobfoll, 1989). Based on the premise of anticipatory capacity, which is ingrained within social learning theory, future consequences can be current motivators that influence employees' behaviors, attitudes, and emotional reactions (Bandura & Walters, 1977). This dissertation theorizes that the social learning fostered within a psychologically safe work environment will reward employees for risk-taking behaviors and motivate them to acquire new resources that will influence the relationship between stressors and resilience. When considering psychological safety's influence on the challenge stressor-resilience relationship, this dissertation hypothesizes that the positive relationship between challenge stressors and resilience will be further strengthened when perceived

psychological safety is higher. This hypothesized relationship is theoretically supported by COR theory Corollary 1 that psychological safety will provide the resource of motivation, and Corollary 4 that greater resource pools will foster risk taking behaviors to gain larger resource pools.

This leads to the following hypothesis:

Hypothesis 4a (H4a): Perceived psychological safety will moderate the positive relationship between challenge stressors and resilience, such that the relationship will be stronger when perceived psychological safety is higher.

Environmental characteristics can also buffer the negative effects of employee job demands and foster resilience during times of high demands (Hartmann et al., 2020). Unlike challenge stressors, hindrance stressors are not motivational, create more stress and do not offer motivation for development and thwart personal growth (Marcie A Cavanaugh et al., 1998; Crawford et al., 2010; Jeffery A LePine et al., 2005). As a result, this dissertation posits that there is more uncertainty of outcomes when employees experience hindrance stressors because there is no implicit understanding of the preservation of self that can result from hindrance stressors. Decisions individuals make during times of uncertainty are considered riskier if expected outcomes are more uncertain (Kossek & Perrigino, 2016).

As psychological safety mitigates the concern of others' reactions and views risk-taking behaviors in a positive way, this dissertation theorizes that a positive perceived sense of psychological safety is a personal resource that offers a motivational component of problem-solving behaviors. When considering a higher level of perceived psychological safety on the hindrance stressor-resilience relationship, this dissertation hypothesizes that the negative relationship between hindrance stressors and resilience will be less negative because perceived

psychological safety is a motivational resource. This hypothesized relationship is theoretically supported by COR theory Principle 4 that when resources are exhausted, employees will employ exploratory strategies to seek out alternative adaption strategies; Corollary 2 that the resource loss cycle will be disrupted and give rise to resource gain; and, Corollary 4 that stronger resource pools will support employees seeking out opportunities to risk resources to experience resource gain (Stevan E. Hobfoll et al., 2018; S.E. Hobfoll & Shirom, 2000).

This leads to the following hypothesis:

Hypothesis 4b (H4b): Perceived psychological safety will moderate the negative relationship between hindrance stressors and resilience, such that the relationship will be weaker when perceived psychological safety is higher.

In addition, based on COR theory, Corollary 3, in low-stress conditions, the expected gain experienced from the buffering effect of psychological safety influencing the relationship between hindrance stressors and resilience may be smaller than the gain experienced from the challenge stressor and resilience relationship. Corollary 3 supports that in low-stress conditions, resource gain is of less magnitude and slower than resource loss (Stevan E. Hobfoll et al., 2018). Therefore, this dissertation anticipates that the resource gain from the positive relationship between challenge stressors and resilience will be greater than the buffering effect of external resources on the negative relationship between hindrance stressors and resilience in low-stress conditions.

Table 2: Summary of Hypotheses

Hypothesis 1a	Challenge stressors will be positively related to resilience.
Hypothesis 1b	Hindrance stressors will be negatively related to resilience.
Hypothesis 2a	Work centrality will moderate the positive relationship between challenge stressors and resilience, such that the relationship will be stronger when work centrality is higher.
Hypothesis 2b	Work centrality will moderate the negative relationship between hindrance stressors and resilience, such that the relationship will be stronger when work centrality is higher.
Hypothesis 3a	Perceived external social support will moderate the positive relationship between challenge stressors and resilience, such that the relationship will be stronger when perceived external social support is higher.
Hypothesis 3b:	Perceived external social support will moderate the negative relationship between hindrance stressors and resilience, such that the relationship will be weaker when perceived external social support is higher.
Hypothesis 4a	Perceived psychological safety will moderate the positive relationship between challenge stressors and resilience, such that the relationship will be stronger when perceived psychological safety is higher.
Hypothesis 4b	Perceived psychological safety will moderate the negative relationship between hindrance stressors and resilience, such that the relationship will be weaker when perceived psychological safety is higher.

Chapter III

METHODS

This chapter describes the sample, data collection procedure, and measures employed (and their reliabilities) to test the proposed hypotheses. The Institutional Review Board and data storage authorization was approved on February 10, 2022, by the UNC Charlotte IRB (Study: IRB-22-0730) for this dissertation.

Research Approach

Participants

The target population was working adults who are employees of companies. A priori sample size for multiple regression was calculated using G*Power 3.1.9.5 to calculate the appropriate sample size of 201 (Appendix A). The sample size was determined using an effect size of 0.15, a statistical power of 0.80, and a significance level of 0.05 using 35 predictors (2 independent variables, 3 moderators, and 30 controls), resulting in a minimum sample size of 201 participants. The actual sample size exceeded the required minimum. Criteria to participate in the survey included full-time employees over the age of 18 that live and work in the United States. Full-time employees are individuals who, on average, work 35 or more hours a week for their employer ("U.S. Bureau of Labor Statistics,").

Sampling Procedures

Participants for this dissertation were sourced from two sources. Participants from the first data source (Source A) were recruited from a Qualtrics panel. The survey's consent form was

provided to all potential participants (Appendix B). The second set of participants (Source B) were identified and contacted from the primary investigator's personal and professional contacts through snowball sampling. Potential participants were notified about the opportunity to take part in the research through social media platforms such as LinkedIn and Facebook (Appendix C). The social media posts requested that others share the original post with their contacts to request participation in the survey. In addition, the primary investigator sent emails to contacts asking them to participate in the survey (Appendix D). All potential participants from Source B were also provided the consent form mentioned above.

Analytical Procedures

This dissertation was a nonexperimental, cross-sectional design that utilized quantitative methods (Creswell & Creswell, 2017). IBM SPSS Statistics, version 27, was used to analyze the data.

Total responses were 852, including 523 from Source A and 329 from Source B. The average time to complete the survey was 20 minutes. 19 responses were discarded as the participants did not consent to participate in the study. Another 37 responses were discarded as the participants discontinued taking the survey after consenting. An additional filter, time to complete survey, was added to the remaining 796 cases. 153 (152 Source A, 1 Source B) participants that completed the survey in less than five minutes were removed from the sample. This resulted in a final sample size of 643. The end sample size is 643. Within the final sample, there were 26 missing responses within the survey, all of which were control variables. Being considered reasonable based on the sample size, the missing variables were treated as missing values in the data analysis. There were only three gender responses of "other," which were treated as missing values. Missing

data for the control variables were not replaced, and therefore, available data was used in all analyses (J. F. Hair, Anderson, Tatham, & Black, 1998).

Data was collected through an online survey that contained 78 questions drawn primarily from validated scales (Appendix E). As detailed below, some of the scales have been adapted to align with the purpose of this dissertation. All participants were informed that the survey was voluntary, responses would be anonymous, and data would be used only for research purposes. The survey was hosted on the Qualtrics Experience Management (XM)^{TM} platform. Data was sourced from Qualtrics' panels and personal contacts of the primary investigator for 5 and 11 days, respectively.

Common Method Bias

As all survey instrument items were self-reported, common method bias is considered. Common method bias is not an uncommon occurrence in the behavioral literature, and it is of concern in this dissertation as the scales used in the survey are self-reported, and survey responders rated variables at a single point in time (P. M. Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). It is a concern in data collection methods such as the one used in this survey because social desirability bias can occur. Social desirability bias is "viewed as the tendency on the part of individuals to present themselves in a favorable light, regardless of their true feelings about an issue or topic" (P. M. Podsakoff et al., 2003). To account for this bias, this dissertation: (1) clearly stated the anonymity and confidentiality of the survey to all participants: (2) the questionnaire included items from Form C of Reynolds (1982) social desirability scale as a survey item; and (3) the study tested for common method variance once data was collected. Form C of Reynolds (1982) social desirability scale is shown in the research to have an accepted level of validity (Reynolds, 1982).

Significance of Two Data Sources

An independent t-Test was employed to identify possible significance differences ($p<0.05$) between data from Source A and Source B. The t-Test revealed no significant statistical difference between the two samples for Challenge Stressors, Hindrance Stressors, Work Centrality, Psychological Safety, and Social Desirability. There is a significant difference ($p < 0.01$) for Resilience and External Social Support. In addition, all control variables in the two samples are considered significantly different using a *p*-value less than 0.01 except for Industry and Gender. Industry had a *p*-value greater than 0.01 and less than 0.05, which is still considered significantly different. The *p*-value between the two samples for Gender is above the 0.05 threshold and is therefore considered significantly different. As a result of the differences, Data Source was added as a control variable in this dissertation.

Cohen's d was analyzed using a scale of differences in means to evaluate the meaningfulness of differences in Source A and Source B to be considered small at 0.2, medium at 0.5, and large at 0.8 (Pedhazur & Schmelkin, 1991). All meaningfulness of differences were below medium except age, which was above 0.8.

Descriptive Statistics

Descriptive statistics, including means, standard deviations, and correlations, were performed on the data. In addition, the reliability of self-reported items was analyzed using Cronbach's alpha (α) with acceptable reliability being above 0.70 (Pedhazur & Schmelkin, 1991). All variables were above the 0.70 threshold except Social Desirability (0.657). As a result, social desirability was considered a control variable for regression analysis.

No multicollinearity was of concern among any of the variable relationships in the model. A normality test was performed to test for normal distribution of the data, testing for skewness and kurtosis of the independent and dependent variables. Results confirmed the normality of distribution.

Among the participants, 58% were female, and 42% were male. They ranged in age from 18 to 76 years, with a mean of 42 years. 19% of participants were between 18 and 29 years old, 29% between 30 and 39 years old, 18% between 40 and 49 years old, 26% between 50 and 59 years old, and 8% 60 years old or older. Participants worked across a variety of industry sectors, with the highest percentage working in Healthcare (26%), Financials (14%), Industrials (13%), and Information Technology (10%), representing in total 63% of the sample. The remaining industry sectors represented in the sample were Energy (3%), Materials (5%), Consumer Discretionary (8%), Consumer Staples (6%), Real Estate (4%), Communication Services (9%), and Utilities (2%). Tenure at current organization ranged from 1 month to 47 years with a mean of 6 years. 19% of participants worked at their company for less than 1 year, 40% from 1 to 4 years, 20% from 5 to 10 years, and 21% over 10 years. The education level for participants varied, with the largest percentage having the highest level of education of a Bachelor's Degree (41%) or Master's Degree (27%). The remaining participants in the sample had the highest education level of less than high school (less than 0.5%), high school graduate (8.5%), some college but no degree (10%), Associate degree (5.5%), Doctoral degree (3.5%), professional degree (4%). The participants performed at varying levels within their organization, not a manager or supervisor (36%), lower-level manager/supervisor (15%), mid-level manager/supervisor (28%), top-level manager/supervisor (21%).

Measures

Independent Variables

Challenge-Hindrance Stressors: The Challenge Stressor-Hindrance Stressor scale included 11 items, six challenge items, and five hindrance items (Marcie A. Cavanaugh et al., 2000). Employees were asked to indicate the extent to which the statements produced stress on a 5-point Likert scale ranging from (1) *no stress* to *(5) a great deal of stress* (Haar, 2006; Wallace, Edwards, Arnold, Frazier, & Finch, 2009). Challenge Stressors and Hindrance Stressors had an acceptable Cronbach's alpha of 0.879 and 0.792.

Dependent Variable

Resilience: The Brief Resilience Scale (BRS) was used in its original form to measure resilience and consists of three positively worded questions and three negatively worded questions (Smith et al., 2008). The six items assessed the ability to bounce back or recover from stress, and it is considered a reliable measure of assessing resilience (Smith et al., 2008). A 5-point Likert scale was used for each measure ranging from (1) strongly disagree to (5) strongly agree. Resilience had an acceptable Cronbach's alpha of 0.808.

Moderators

Work Centrality*:* Work centrality was measured using Paullay et al.'s (1994) 12-item measure of work centrality (Paullay et al., 1994). The scale consists of 12 items which include four negatively worded questions. Respondents were asked to indicate the extent to which they agree using a 5-point Likert scale ranging from (1) *strongly disagree* to *(5) strongly agree (Dalal, Baysinger, Brummel, & LeBreton, 2012; Schmidt & Lee, 2008)*. Work Centrality had an acceptable Cronbach's alpha of 0.821.

External Social Support: External Social was measured using the Multidimensional Scale of Perceived Social Support (Zimet, Dahlem, Zimet, & Farley, 1988). Respondents were asked to indicate the extent to which they agree using a 5-point Likert scale ranging from (1) *strongly disagree* to *(5) strongly agree.* External Social Support had an acceptable Cronbach's alpha of 0.921.

Psychological Safety: Perceived psychological safety was measured using an adapted version of Edmondson's 7-item Psychological Safety Questionnaire (PSQ; Edmondson, 1999) by changing "of this team" to "my organization" as this dissertation did not survey multiple members of the same team (Carmeli & Gittell, 2009; Kirk-Brown & Van Dijk, 2016). The PSQ is a validated scale and is considered the most widely used scale when measuring psychological safety (Newman et al., 2017). A 5-point Likert scale was used for each measure ranging from *(1) strongly disagree* to *(5) strongly agree* (Carmeli & Gittell, 2009). Psychological Safety had an acceptable Cronbach's alpha of 0.763.

Control Variables

Gender: Consistent with previous research, gender was a control variable in this dissertation (Marcie A Cavanaugh et al., 1998; J. L. Xie, 1996; Jia Lin Xie & Johns, 1995). Gender was coded 0 = male and 1 = female. Research supports that different stress factors and the severity and frequency of stress are different between men and women (Marcie A Cavanaugh et al., 1998; Spielberger & Reheiser, 1994; Jia Lin Xie & Johns, 1995). Research suggests that these differences result from differences in the perception of job demands (Hochwarter, Perrewe, & Dawkins, 1995) and appraisal of job stressors (Marcie A Cavanaugh et al., 1998; Geller & Hobfoll, 1994). In addition, gender can also impact motivation, emotional responses, and propensity for risk-taking

(Byrnes et al., 1999; Murnieks et al., 2020). Males and females often face pressure to demonstrate behaviors that align with their stereotypical roles (Murnieks et al., 2020). Research suggests that gender also has a relationship with social support (Bavik et al., 2020).

Education: As suggested by previous research, this dissertation controlled for educational levels when studying stress (M. A. LePine et al., 2016). Education level may also influence behaviors within a psychologically safe environment (Amabile, 1998; Kark & Carmeli, 2009; Tierney & Farmer, 2004) and levels of social support (Bavik et al., 2020) which could influence resilience. Therefore, education level was a control in this dissertation as a categorical variable and was coded as 1 = less than high school, 2 = high school graduate (high school diploma or equivalent including GED), 3 = some college but no degree, 4 = Associate degree in college (2-year), 5 = Bachelor's degree in college (4-year), 6 = Master's degree, 7 = Doctoral degree, 8 = Professional degree (J.D., M.D.).

Industry Type: The research suggests that industry sector may influence resilience (Kossek & Perrigino, 2016; Linnenluecke, 2017). Evidence suggests that some industries are more sensitive to work-family issues and support a more positive work-life relationship (Kossek & Perrigino, 2016). A positive work-life relationship (i.e., balance) is considered to foster resilience as time away from work provides time to replenish resources (Hartmann et al., 2020). Bavik et al. (2020) suggest that networks may influence the role of social support on outcomes of stressors. Industry type is a control variable in this dissertation. Respondents were asked to select the industry that most closely matches the one they are currently working in. To include the industry sector (categorical control variable) as part of the analysis, the industry sector was dummy coded (Pedhazur & Schmelkin, 1991). Utilities Sector was used as the reference group. All other sectors were coded as 1.

Professional Level: The literature suggests that hierarchy levels may influence the relationship between stress and resilience (Kossek & Perrigino, 2016). Kossek and Perrigino (2016) provide the example of managers who are more likely to feel the pressure to take risks in their role. The expectation to deliver innovative solutions is more prevalent at this level. They also recognize that managers' responsibilities include additional stress associated with enforcing human resources policies and that their roles may be highly administrative (Kossek & Perrigino, 2016). Consistent with extant research, this dissertation considers professional level a control variable (Kark & Carmeli, 2009; M. A. LePine et al., 2016). Respondents were asked to select the professional level that best describes their role within an organization. Position level was coded as 1 = not a manager or supervisor, 2 = lower-level manager or supervisor, 3 = mid-level manager or supervisor, 4 = top-level manager or supervisor.

Tenure: Tenure reflects domain expertise and influences innovative thinking as part of psychological safety (Tierney & Farmer, 2004). This dissertation controlled for tenure as a continuous variable by asking respondents to indicate how many months they had been with their current employer.

Age*:* Risk-taking is an important form of human behavior, and the research supports that it is influenced by age (Byrnes et al., 1999). Consistent with prior studies on challenge and hindrance stressors, psychological safety, social support, and resilience, this dissertation controlled for age in years as a continuous variable (Hon, Chan, & Lu, 2013; Kark & Carmeli, 2009; LaRocco et al., 1980; Wallace et al., 2009). Age was controlled for as a continuous variable.

Analytics

Hierarchical multiple regression analysis was employed to analyze the data. Multiple regression analysis is considered useful in research because it maintains the necessary levels of statistical power and statistical significance across a broad range of sample sizes, and it is considered useful when studying a moderation model (J. F. Hair et al., 1998). Pairwise was selected for the handling of missing variables.

Chapter IV
RESULTS

This chapter provides data testing results. Descriptive statistics, including correlations, means, and standard deviations, were performed and the findings are discussed below. This chapter concludes by describing the analytical procedures performed as part of hierarchical regression analysis, presenting findings from such analysis.

Test of the Research Model

Descriptive statistics and bivariate correlations are presented in Table 3. Prior to testing the hypothesized model, data diagnostic procedures were conducted to assess survey completion time, missing data, normality of the data, and multicollinearity. Confirmatory Factor Analysis (CFA) was performed to ensure that the measures (factors) used were distinguishable. Varimax rotation was utilized to identify the main factors (Loehlin & Beaujean, 2001). CFA results include ten extracted factors (components) that account for 62% of the variance, which all have an eigenvalue greater than 1 (Loehlin & Beaujean, 2001). Factor loadings with rotation aligned with the variables being studied in this dissertation. The moderators were z-scored before generating the interactive variables (J. F. Hair, Black, W., Babin, B. and Anderson, R., 2018). VIF and tolerance scores were also examined. The results from the analysis demonstrate that VIF scores were less than 10, and tolerance scores were above 0.10 (J. F. Hair, Black, W., Babin, B. and Anderson, R., 2018). Table 3 provides descriptive statistics of the independent, control, and dependent variables included in this dissertation.

Table 3: Descriptive Statistics and Correlations

	Mean	Std. Dev.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1. Data Source	0.423	0.494	--																							
2. Social Desirability Bias (0=No, 1=Yes)	0.599	0.207	.109**	--																						
3. Age	42.437	12.996	.460**	.238**	--																					
4. Gender (0=male, 1=Female)	0.582	0.494	0.072	-0.042	-.088*	--																				
5. Education Level	4.928	1.413	.239**	-0.029	0.061	-0.006	--																			
6. Professional Level	2.341	1.168	.196**	0.061	.178**	-.152**	.217**	--																		
7. Tenure	73.793	87.232	.196**	.103**	.420**	-0.031	0.043	0.053	--																	
8. Industry – Energy	0.028	0.165	-0.050	-0.004	-.104**	-0.067	-.145**	0.015	-0.064	--																
9. Industry – Materials	0.048	0.214	-.105**	-0.025	-0.057	0.002	-.081*	0.034	-0.051	-0.038	--															
10. Industry – Industrials	0.131	0.337	-.080*	-0.034	-0.051	-.079*	-.096*	-0.030	-0.035	-0.066	-.087*	--														
11. Industry – Consumer Disc.	0.078	0.268	-.084*	-0.007	-0.002	.085*	-.098*	-0.025	-0.044	-0.049	-0.065	-.113**	--													
12. Industry – Consumer Staples.	0.064	0.245	-.120**	-0.005	-0.011	-0.024	-.127**	-0.033	.082*	-0.044	-0.059	-.101*	-0.076	--												
13. Industry – Healthcare	0.258	0.438	.193**	0.038	0.073	.146**	.144**	-0.038	0.071	-.100*	-.133**	-.229**	-.171**	-.154**	--											
14. Industry – Financials	0.140	0.347	.163**	0.044	0.057	-0.017	.119**	0.024	0.034	-0.068	-.091*	-.156**	-.117**	-.105**	-.238**	--										
15. Industry – IT	0.103	0.304	-0.020	-0.036	0.033	-.099*	.086*	0.020	-0.015	-0.057	-0.076	-.131**	-.098*	-.088*	-.200**	-.136**	--									
16. Industry – Real Estate	0.039	0.193	0.072	0.028	0.030	-0.058	0.005	.141**	-0.046	-0.034	-0.045	-.078*	-0.058	-0.052	-.119**	-.081*	-0.068	--								
17. Industry – Communication	0.087	0.282	-.108**	0.002	-0.068	0.045	0.008	-0.048	-0.021	-0.052	-0.070	-.120**	-.090*	-.081*	-.182**	-.125**	-.104**	-0.062	--							
18. Industry – Utilities	0.023	0.151	-0.070	-0.045	0.009	-0.057	-0.021	0.025	0.011	-0.026	-0.035	-0.060	-0.045	-0.040	-.091*	-0.062	-0.052	-0.031	-0.048	--						
19. Challenge Stressors	3.053	0.868	0.010	-.141**	-.115**	0.012	.105**	.181**	-0.051	-0.005	0.003	0.061	0.009	-0.046	-0.021	-0.008	0.003	-0.001	0.008	-0.011	--					
20. Hindrance Stressors	2.453	0.926	-0.029	-.198**	-.103**	-0.004	0.042	.089*	-.153**	.088*	.081*	-0.021	-0.022	0.002	-0.058	-0.013	0.045	-0.024	-0.018	0.056	.462**	--				
21. Work Centrality	2.573	0.610	0.001	-0.002	0.017	-.137**	0.051	.334**	-.082*	0.043	0.021	-0.056	-0.071	0.021	-0.037	0.036	0.049	0.054	-0.015	0.021	0.017	-0.009	--			
22. External Social Support	3.948	0.754	.216**	.097*	0.074	0.019	.164**	0.053	.101*	-.111**	-.107**	0.004	0.003	-0.026	0.053	0.030	0.021	0.048	-0.016	0.000	-0.049	-.142**	-.099*	--		
23. Psychological Safety	3.352	0.693	0.051	.219**	0.050	-0.078	0.009	0.069	0.069	-0.036	-0.071	-0.008	-0.036	-0.034	0.003	0.049	0.070	0.009	0.024	-0.049	-.275**	-.499**	0.015	.280**	--	
24. Resilience	3.434	0.731	.216**	.304**	.200**	-.154**	0.052	.203**	.137**	-0.058	-0.051	0.024	-.108**	-0.043	-0.009	0.069	-0.015	.113**	0.049	-0.005	-.211**	-.303**	.118**	.264**	.332**	--

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Correlation Results

The dependent variable, resilience, was negatively correlated with both independent variables, challenge stressors (r = - 0.211, $p < 0.01$) and hindrance stressors (r = -0.303, $p < 0.01$). Resilience was positively correlated with the three moderating variables: work centrality (r= 0.118, $p < 0.01$), external social support (r = 0.264, $p < 0.01$), and psychological safety (r = 0.332, $p<0.01$). Age (r = 0.200, $p < 0.01$), tenure (r = 0.137, $p < 0.01$), and professional level (r = 0.203, $p < 0.01$) were also positively correlated with resilience. In addition, social desirability (r = 0.304, $p < 0.01$) had a positive correlation with resilience indicating that those with higher resilience were less likely to present themselves in a favorable light. Data source (r = 0.216, $p < 0.01$) also has a positive correlation with resilience indicating that Source B participants were more likely to be resilient. There was a negative correlation between resilience and gender (r = - 0.154, $p < 0.01$) suggesting that males are more likely to be resilient. In regard to industry sector, resilience was positively correlated with real estate (r = 0.113, $p < 0.01$) and negatively correlated with consumer discretionary (r = - 0.108, $p < 0.01$).

The independent variable challenge stressors was negatively correlated with the moderating variable of psychological safety (r = - 0.275, $p < 0.01$). It was not significantly correlated with the other two moderating variables of work centrality and external social support. Challenge stressors were positively correlated to educational level (r = 0.105, $p < 0.01$) and professional level (r = 0.181, $p < 0.01$). However, challenge stressors were negatively correlated with age (r = - 0.115, $p < 0.01$) and social desirability (r = - 0.141, $p < 0.01$). Challenge stressors had no correlation with any industry sector.

The independent variable hindrance stressors was negatively correlated with external social support (r = - 0.142, $p < 0.01$) and psychological safety (r = - 0.499, $p < 0.01$). It was not correlated

with work centrality. Hindrance stressors was also negatively correlated with age (r = - 0.103, p<0.01), tenure (r = - 0.153, p < 0.01), and social desirability (r = - 0.198, p < 0.01). It also had a positive correlation with the energy (r = 0.088, p < 0.05) and materials (r = 0.081, p < 0.05) industry sectors. In addition, hindrance stressors was positively correlated with challenge stressors (r = 0.462, p < 0.01) indicating that there is a significant relationship between the two types of stressors.

Work Centrality was positively correlated with professional level (r = 0.334, p < 0.01) and negatively correlated with gender (r = - 0.137, p < 0.01) and tenure (r = - 0.082, p < 0.05). It was not correlated with psychological safety. It was negatively correlated with external social support (r = - 0.099, p < 0.05). External social support and psychological safety were positively correlated (r = 0.280, p < 0.01). External social support was also positively correlated with data source (r=0.216, p < 0.01), education level (r = 0.164, p < 0.01), tenure (r = 0.101, p < 0.05), and social desirability (r = 0.097, p < 0.05). However, it was negatively correlated with the energy (r =-0.111, p < 0.01) and materials (r = - 0.107, p < 0.01) industry sector.

Test of Hypotheses

Hierarchical regression analysis is utilized in this dissertation because it enables the study of multiple variables to explain the statistically significant amount of variance in a dependent variable (Pedhazur & Schmelkin, 1991). Table 4 presents the results of the hierarchical regression analysis. When utilizing hierarchical linear regression, variables are added in steps that enable a better understanding of whether the additional variables added to the model significantly improve the model's ability to predict the dependent variable and investigate the moderating effect(s) of other variables (George & Mallery, 2019).

Table 4: Hierarchical Regression Analysis Findings

	Coefficients			
	Model 1 β	Model 2 β	Model 3 β	Model 4 β
Step 1: Controls				
Data Source	0.152 **	0.160 **	0.127 **	0.105 **
Social Desirability	0.262 **	0.211 **	0.187 **	0.189 **
Industry - Energy	-0.067	-0.057	-0.043	-0.042
Industry - Materials	-0.043	-0.036	-0.019	-0.013
Industry - Industrials	0.014	0.006	0.011	0.022
Industry - Consumer Discretionary	-0.089	-0.100	-0.092	-0.087
Dum Consum Staples	-0.044	-0.051	-0.048	-0.046
Industry - Healthcare	-0.046	-0.069 *	-0.061	-0.055
Industry - Financials	0.003	-0.011	-0.010	-0.001
Industry - IT	-0.031	-0.035	-0.047	-0.046
Industry - Real Estate	0.058	0.041	0.042	0.039
Industry - Communication	0.055	0.044	0.046	0.047
Tenure	0.069	0.043	0.040	0.040
Age	0.003	-0.018	0.007	0.021
Professional Level	0.133 **	0.177 **	0.136 **	0.133 **
Education Level	-0.028	-0.012	-0.028	-0.021
Gender	-0.123 **	-0.118 **	-0.106 **	-0.102 **
Step 2: Independent Variables				
Challenge Stressors		-0.120 **	-0.107 **	-0.112 **
Hindrance Stressors		-0.207 **	-0.132 **	-0.123 **
Step 3: Moderators				
Work Centrality			0.074 *	0.071
External Social Support			0.159 **	0.167 **
Psychological Safety			0.118 **	0.113 **
Step 4: Interaction Variables				
Challenge Stressors * Work Centrality				0.009
Challenge Stressors * External Social Support				-0.014
Challenge Stressors * Psychological Safety				0.056
Hindrance Stressors * Work Centrality				-0.039
Hindrance Stressors * External Social Support				-0.072
Hindrance Stressors * Psychological Safety				0.010
R^2	0.195	0.268	0.309	0.318
Adjusted R^2	0.173	0.245	0.284	0.286
ΔR^2	0.195	0.073	0.041	0.009
F	8.747 **	11.769 **	12.363 **	10.024 **
ΔF	8.747 **	30.336 **	12.074 **	1.309

* Statistically significant at $p < .05$

** Statistically significant at $p < .01$

Model 1

As indicated in Table 4, model 1 includes the control variables: data source, social desirability, industry sector, tenure (at current organization), age, professional level, education level, and gender. The results from the regression suggest that data source ($\beta = 0.152$, $p < 0.01$), social desirability ($\beta = 0.262$, $p < 0.01$), professional level ($\beta = 0.133$, $p < 0.01$), and gender ($\beta = -0.123$, $p < 0.01$) were significant in the model. These results indicate that men and more senior managers are more likely to be resilient. The model was statistically significant ($p < 0.01$). The data suggests that variables in this model are predictors of resilience and explain 17.3% of the variance in resilience based on an adjusted R^2 of 0.173.

Model 2

Model 2 includes all control variables from Model 1 and the independent variables challenge stressors and hindrance stressors. The results from the regression suggest that challenge stressors ($\beta = -0.120$, $p < 0.01$) and hindrance stressors ($\beta = -0.207$, $p < 0.01$) were significant in the model. The model is statistically significant ($p < 0.01$).

In this model, 24.5% (Adjusted R^2) of the variance in resilience is explained by the variables in Model 2. Model 2 has a significant F change ($p < 0.01$) which indicates that 7.3% more of the variance in resilience is explained by the independent variables when statistically controlling for the control variables' effect on resilience. Results suggest that Model 2 significantly improves the model prediction.

Although challenge stressors predict resilience in this model, hypothesis 1 predicted a positive influence. Therefore, hypothesis 1 is not supported in Model 2. Hypothesis 2 predicted a negative influence of hindrance stressors on resilience. Therefore, hypothesis 2 is supported in Model 2.

Model 3

Model 3 includes the variables in Model 2 and the moderating variables of work centrality, perceived external social support, and perceived psychological safety. The results suggest that in this model work centrality (β = 0.074, $p < 0.05$), perceived external social support (β = 0.159, $p<0.01$), and perceived psychological safety (β = 0.118, $p < 0.01$) are all significant in predicting resilience. Although all three are statistically significant, perceived external social support and perceived psychological safety increase confidence in determining significance at a 0.01 level of significance compared to a 0.05 level of significance for work centrality. The model is statistically significant ($p < 0.01$).

In this model, 28.4% (Adjusted R^2) of the variance in resilience is explained by the variables in Model 3. The R^2 Change indicates that 4.1% more of the variance in resilience is explained by the moderating variables when statistically controlling for the independent and control variables' effect on resilience. Model 3 has a significant F change ($p < 0.01$) which indicates that Model 3 significantly improves the model prediction.

Model 4

Model 4 includes the variables from Model 3 and the interaction effects of the independent variables with each of the moderators. The results suggest that none of the interaction effects are significant in the model: challenge stressors and work centrality (β = 0.009, $p > 0.05$), challenge stressors and perceived external social support (β = - 0.014, $p > 0.05$), challenge stressors and perceived psychological safety (β = 0.056, $p > 0.05$), hindrance stressors and work centrality (β=-0.039, $p > 0.05$), hindrance stressors and perceived external social support (β = -0.072, $p>0.05$), and hindrance stressors and perceived psychological safety (β = 0.010, $p > 0.05$). Model 4 is statistically significant ($p < 0.01$).

In this model, 28.6% (Adjusted R^2) of the variance in resilience is explained by the variables in Model 4. The R^2 Change indicates that 0.9% more of the variance in resilience is explained by the interaction effects when statistically controlling for the independent, moderating, and control variables' effect on resilience. Model 4 has a significant F change ($p > 0.05$) which indicates Model 4 does not significantly improve the model prediction.

In Model 4 challenge stressors predict resilience ($\beta = -0.112$, $p < 0.01$). However, hypothesis 1a predicted a positive influence. Therefore, hypothesis 1a in this dissertation is not supported. Also, in Model 4 hindrance stressors predict resilience ($\beta = -0.123$, $p < 0.01$). Hypothesis 1b in this dissertation predicted a negative influence of hindrance stressors on resilience; therefore, hypothesis 1b is supported.

According to hypothesis 2a, the relationship between challenge stressors and resilience ($\beta = -0.112$, $p < 0.01$) would be moderated by work centrality, such that the relationship would be stronger [more positive] when work centrality is higher. Although the relationship between the interaction effect of challenge stressors and work centrality predicting resilience was positive ($\beta = 0.009$, $p > 0.05$), it was not significant. Therefore, this relationship was not supported in the model, and hypothesis 2a is not supported.

According to hypothesis 2b, the relationship between hindrance stressors and resilience ($\beta = -0.123$, $p < 0.01$) would be moderated by work centrality, such that the relationship would be stronger [more negative] when work centrality is higher. This interaction effect was not supported in the model ($\beta = -0.039$, $p > 0.05$); therefore, hypothesis 2b is not supported.

According to hypothesis 3a, the relationship between challenge stressors and resilience ($\beta = -0.112$, $p < 0.01$) will be moderated by perceived external social support, such that the

relationship would be stronger [more positive] when perceived external social support is higher. Perceived external social support has a positive main effect on resilience (β = 0.167, $p < 0.01$). The relationship between the interaction effect of challenge stressors and external social support predicting resilience was less negative (β = - 0.014, $p > 0.05$) than the relationship between challenge stressors and resilience; however, the interaction effect was not significant. Therefore, the model did not support the interaction effect of challenge stressors and perceived external social support predicting resilience. Hence, hypothesis 3a is not supported.

According to hypothesis 3b, the relationship between hindrance stressors and resilience (β= - 0.123, $p < 0.01$) will be moderated by perceived external social support, such that the relationship would be weaker [less negative] when perceived external social support is higher. External social support has a main effect on resilience (β = 0.167, $p < 0.01$). The relationship between the interaction effect of hindrance stressors and perceived external social support predicting resilience was less negative (β = - 0.072, $p > 0.05$) than the relationship between hindrance stressors and resilience; however, the interaction effect was not significant. Therefore, the model did not support the interaction effect of hindrance stressors and perceived external social support predicting resilience. Hence, hypothesis 3b is not supported.

According to hypothesis 4a, the relationship between challenge stressors and resilience (β=- 0.112, $p < 0.01$) will be moderated by perceived psychological safety, such that the relationship would be stronger [more positive] when perceived psychological safety is higher. Perceived psychological safety has a main effect on resilience (β = 0.113, $p < 0.01$). The interaction effect between challenge stressors and perceived psychological safety was positive (β = 0.056, $p>0.05$); however, the interaction effect was not significant. Therefore, the interaction effect was not supported in the model. Hence, hypothesis 4a is not supported.

According to hypothesis 4b, the relationship between hindrance stressors and resilience (β= - 0.123, $p < 0.01$) will be moderated by perceived psychological safety, such that the relationship would be stronger when perceived psychological safety is higher. Perceived psychological safety has a main effect on resilience (β = 0.113, $p < 0.01$). The interaction effect between hindrance stressors and perceived psychological safety was positive (β = 0.010, $p > 0.05$); however, the interaction effect was not significant. Therefore, the interaction effect was not supported in the model. Hence, hypothesis 4b is not supported.

A summary of the hypothesis results is presented in Figure 4. A summary of the results of the hypothesis tests is presented in Table 5.

Figure 4: Summary of Hypotheses Tests

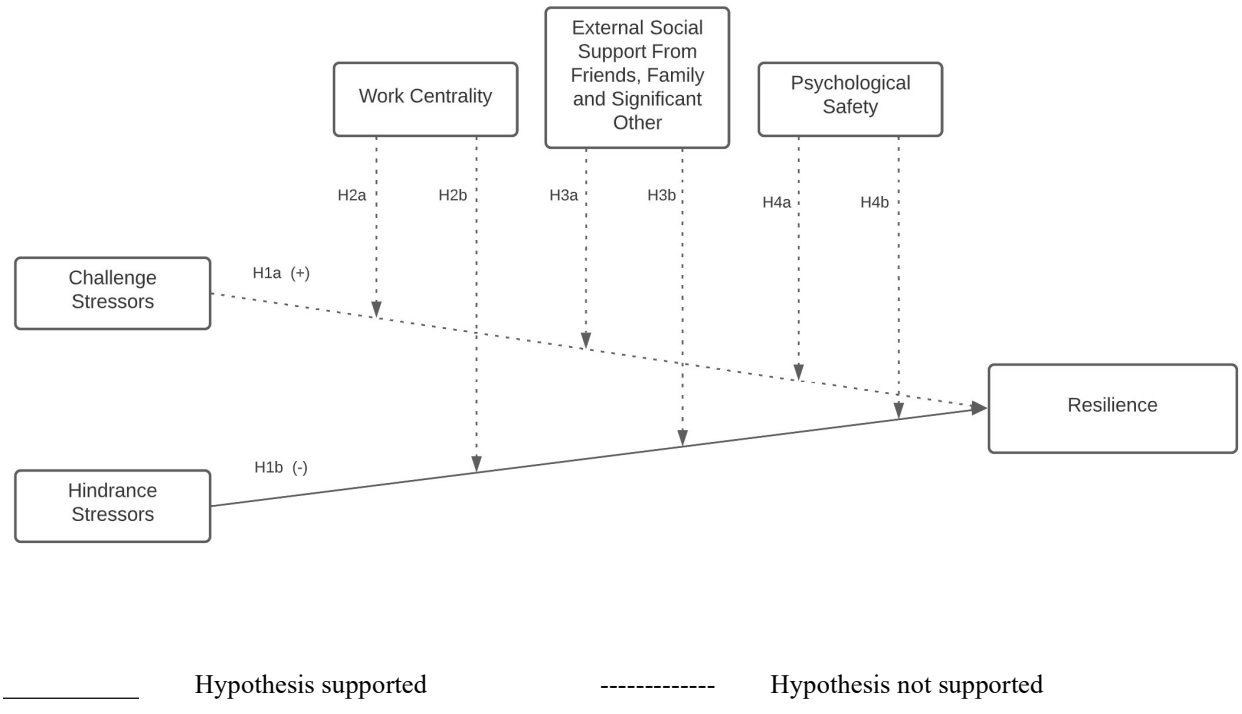


Table 5: Summary of Results

H1a	Challenge stressors will be positively related to resilience.	Not Supported
H1b	Hindrance stressors will be negatively related to resilience.	Supported
H2a	Work centrality will moderate the positive relationship between challenge stressors and resilience, such that the relationship will be stronger when work centrality is higher.	Not Supported
H2b	Work centrality will moderate the negative relationship between hindrance stressors and resilience, such that the relationship will be stronger when work centrality is higher.	Not Supported
H3a	Perceived external social support will moderate the positive relationship between challenge stressors and resilience, such that the relationship will be stronger when perceived external social support is higher.	Not Supported
H3b	Perceived external social support will moderate the negative relationship between hindrance stressors and resilience, such that the relationship will be weaker when perceived external social support is higher.	Not Supported
H4a	Perceived psychological safety will moderate the positive relationship between challenge stressors and resilience, such that the relationship will be stronger when perceived psychological safety is higher.	Not Supported
H4b	Perceived psychological safety will moderate the negative relationship between hindrance stressors and resilience, such that the relationship will be weaker when perceived psychological safety is higher.	Not Supported

Chapter V
DISCUSSION

This section presents an overview of the study and discusses the findings, contributions to literature, practical implications, study limitations, and suggestions for future research.

Overview

As we enter the third year of the pandemic, people's lives have been disrupted, and as a result, stress and burnout continue to be a major threat to the workforce ("Employers Identify Workforce Mental Health Priorities for 2022: One-Quarter of Large Employers Have Adopted a Formal Well-Being Strategy," 2022). Research supports that resilience has a relationship with stress at work and influences positive well-being and performance (Hartmann et al., 2020). Resilience is considered a sustainable personal resource (Fredrickson, 2001) that contributes to the functioning of individuals, teams, and organizations (Britt et al., 2016). To explore the relationship between stressors at work and resilience, this dissertation attempted to take a holistic approach by looking at the relationship between job demands (i.e., stressors) and resources both inside and outside the organization that may influence being resilient when experiencing stressors at work.

The first goal of this dissertation was to enable a better understanding of the interactive effect of the JD-R model, a stress model, with COR theory, a resource theory to build resilience from stress occurrences. The second goal of this dissertation was to consider four additional theoretical frameworks, transactional theory, broaden-and-build theory, model of compensatory control, and social learning theory, to conceptually explain how cognitive functioning influences the appraisal and the buffering effects of resources on the relationship between stressors and

resilience. This dissertation does provide theoretical support for the interactive effect of the JD-R model with COR theory in understanding the relationship between stress occurrence and the development of resilience. In doing so, this dissertation leveraged the four additional frameworks mentioned above to explain the theoretical underpinnings that support the interactive effect of the JD-R model with COR theory. In leveraging the multiple theoretical frameworks, this dissertation answers a call for research by explicitly focusing on the underlying conceptualization of resilience, a gap in the literature (Hartmann et al., 2020).

The third goal of this dissertation was to empirically test and extend COR theory by leveraging its theoretical framework to test how appraisal and contextual resources may influence the stressor-resilience relationship. This dissertation tests how stressors at work interact with how an employee identifies with their job (work centrality) to examine the interactive effect of resilience. This dissertation also tested two contextual personal resources, one generated outside and one generated within the organizational environment, to test how the replenishment of resources would influence the development of resilience. Specifically, this dissertation examined two personal resources (external social support and psychological safety) and their influence on the development of resilience when experiencing stressors (demands) at work.

Findings

The findings suggest that work centrality does not influence the magnitude (i.e., appraisal) of a stressor. The findings also suggest that the personal resources of external social support and psychological safety have a main effect on resilience. However, the results do not support the interactive effect of such resources, with stressors having a significant effect on the development

of resilience when the stressor has a negative main effect on resilience. And finally, the results support that men and higher-level managers are more likely to be resilient.

Relationship between stressors at work and resilience. This dissertation leveraged the Challenge-Hindrance Framework, which posits that self-reported work stressors are related to attitudinal and behavioral work outcomes that can be either positive (challenge stressors) or negative (hindrance stressors) (Marcie A Cavanaugh et al., 1998; Marcie A. Cavanaugh et al., 2000; Haar, 2006). This dissertation had the potential to understand better how stressor types can predict resilience which is considered a gap in the literature (Monique F Crane & Searle, 2016). The findings did support a significant relationship between stressors and resilience, but the findings did not support a positive influence of challenge stressors on resilience as hypothesized. However, the findings supported the hypothesized negative influence of hindrance stressors on resilience. Although both stressor type relationships were negative, hindrance stressors did have a greater effect size in predicting lower resilience, which supports a differentiation between the two types of stressors.

Work Centrality and Stressor Interactions. This dissertation focused on the interactive effect of work centrality with different stressor types on resilience. This dissertation theoretically explained and empirically tested how an employee identifies with work can influence how the employee experiences negative events or disruptions at work (i.e., stressors). Extant research supports that one's identity can influence the magnitude of a stressor (i.e., appraisal) if it threatens one's identity (Monique Frances Crane et al., 2018). Although the challenge-hindrance framework is a common research approach, there is a call for research in understanding how personal meaning to stressors may influence the resource loss impact when experiencing the two types of stressors identified in the challenge-hindrance framework (O'Brien & Beehr, 2019). This dissertation

hypothesized that work centrality would strengthen the positive relationship between challenge stressors and resilience and the negative relationship between hindrance stressors and resilience. There was no significant interaction effect of challenge stressors and work centrality in predicting resilience. Therefore, hypothesis 2a was not supported. In addition, there was no significant interaction effect of hindrance stressors and work centrality in predicting resilience. Therefore, hypothesis 2b was not supported.

Personal Resources and Stressor Interactions. This dissertation focused on the interactive effect of two personal resources, one generated from experiences outside the organization and one generated from experiences within the organization with stressors. In doing so, this dissertation attempted to fill a gap in the research by providing a better understanding of the explanatory power of COR theory (Stevan E. Hobfoll et al., 2018). This dissertation theoretically supported the relationship of the resources in this study with resilience by conceptually explaining how they have the potential to offset resource depletion that results from stress (demands). These two resources are external social support (external resource) and psychological safety (internal resource).

External Social Support. Although extant research supports a crossover effect of experiences outside of work influencing resource availability within the work setting (Stevan E. Hobfoll et al., 2018), there are questions in the literature concerning the influence of external resources beyond the control of the organization (Fisher & Law, 2021) influencing resilience. Extant research has underemphasized the impact of nonwork influencers on experiences at work (Greenhaus & Powell, 2006; Kossek & Perrigino, 2016). By studying external social support, this dissertation more accurately examines the influence of the contextual resource of social support (Bavik et al., 2020).

This dissertation hypothesized that perceived external social support would moderate the positive relationship between challenge stressors and resilience (H3a), such that the relationship would be stronger when perceived external social support is higher; and (H3b) perceived external social support would moderate the negative relationship between hindrance stressors and resilience, such that the relationship will be weaker when perceived external social support is higher. Hypothesis 3a was not supported. In addition, the findings did not support the interaction effect of hindrance stressors interacting with external social support in predicting resilience. However, results indicate that external social support does have a main effect on resilience.

Psychological Safety. Extant research supports that psychological safety influences how employees respond to demands (stressors) in the workplace (Carmeli & Gittell, 2009). By studying the buffering effect of psychological safety on stressors, this dissertation fills a gap in the research in advancing the theoretical understanding of how psychological safety may influence positive and negative outcomes using COR theory (Newman et al., 2017).

This dissertation hypothesized that (H4a) perceived psychological safety would moderate the positive relationship between challenge stressors and resilience, such that the relationship will be stronger when perceived psychological safety is higher; and (H4b) perceived psychological safety would moderate the negative relationship between hindrance stressors and resilience, such that the relationship would be weaker when perceived psychological safety is higher. Hypothesis 4a was not supported. In addition, the findings did not support the interaction effect of hindrance stressors interacting with psychological safety in predicting resilience. However, results indicated that psychological safety does have a main effect on resilience.

Theoretical Analysis. All four hypotheses for the interaction effect of the two resources were not supported. These results are theoretically supported by COR theory. Corollary 1 of COR

theory supports the main effect of external social support and psychological safety's positive influence on resilience. Corollary 1 states, " those with greater resources are less vulnerable to resource loss and more capable of resource gain" (Stevan E. Hobfoll et al., 2018). Accordingly, stronger resource pools are more likely to experience cycles of resource gain, and the initial resource gain gives rise to further resource gains (S.E. Hobfoll & Shirom, 2000). In regards to the interaction effect after resource loss (loss spirals) after experiencing stressors, COR theory Principle 1, the primacy of loss principle, refers to the power of resource loss being more powerful than resource gain, and resource loss being considered to affect individuals more quickly and for more extended periods of time (Stevan E. Hobfoll et al., 2018). In addition, Corollary 2 states that because resource loss is more powerful than resource gain, individuals will have fewer resources to offset resource loss, and loss spirals will gain momentum and magnitude (Stevan E. Hobfoll et al., 2018). According to COR theory, resource loss is more powerful and affects individuals quicker and for longer periods of time. This supports individuals having fewer resources to acquire new resources after a stress occurrence. Although external social support and psychological safety are additional resources that could potentially interrupt the loss spiral to develop another resource, such as resilience, this dissertation considers COR theory Corollary 3, which supports that in lower-stress conditions, resource gain is of less magnitude and slower than resource loss (Stevan E. Hobfoll et al., 2018).

In early 2019 at the beginning of the Covid-19 pandemic, the workforce experienced an extreme event that disrupted work routines that required employees and employers to re-evaluate and adjust standard operating procedures and provide resources to support new ways of completing work responsibilities (van Zoonen & Ter Hoeven, 2021). During the initial disruption in early 2019, stress levels within the work and home domains were at escalated levels as companies were

not able to provide needed resources, such as remote technologies, to support work tasks, and the lines between work and family became more blurred as many employees were working at home sharing work spaces and family care responsibilities during working hours (Franken et al., 2021). As a result of the pandemic disruption, organizations were forced to respond quickly and provide resources, such as technological systems and managerial support, that have since lowered work stress levels. Now that employees have the resources to complete their work tasks, they are better able to appreciate the benefits of working at home, such as having access to necessary work resources, managerial support, and more time to spend with family and friends as result of no commuting time (Franken et al., 2021). Although employees may still be experiencing higher stress levels outside of work because of social health protocols that remain in place as a result of the continuing pandemic, research supports that negative effects from stressors in different identity roles one has are less likely to influence stress levels across roles (Hay & Diehl, 2010). This dissertation focuses on employees' stress levels in their work roles. The mean for challenge stressors was 3.0 and the mean for hindrance stressors was 2.4. In reference to the stressor scales used in this dissertation, these means fall in the "slight stress" to "moderate stress levels" for work stress. Therefore, consistent with the theoretical conceptualization of COR theory, external social support, and psychological safety had a greater influence on resilience when the analysis did not consider stressors. However, if "slight stress" to "moderate stress" is considered, the gain from additional resources would be less than the main effect (stressor-resilience) and not buffer the effect of the stressors (resource loss) when the interaction effect was considered in the model. By leveraging COR theory to explain the results of this study, this dissertation completes its third goal to extend COR theory in explaining the effects of contextual resources in the stressor-resilience relationship.

Practical Implications

Covid -19 has disrupted people's lives in and outside of the workplace. As a result, employers identify stress as a major threat to the workforce ("Employers Identify Workforce Mental Health Priorities for 2022: One-Quarter of Large Employers Have Adopted a Formal Well-Being Strategy," 2022). This relates to caring for employees' well-being as well as the potential cost impact to an organization based on the performance of employees and how this impacts their bottom line financials.

Earlier in this dissertation, a question was asked if stress needs to be managed in the workplace. According to the results of this dissertation, the answer to this question is "yes." By theoretically supporting and empirically testing contextual resources that influence resilience, this dissertation demonstrated that environmental conditions, such as stress in the workplace, could hinder the development of resilience. Resilience is important to an organization because it has a direct application to stronger employee performance, more positive work-related attitudes, and a higher propensity to effectively deal with change (Hartmann et al., 2020; Youssef & Luthans, 2007).

By understanding how employees experience stress and respond to stress either through reactive coping or building a sustainable resource such as resilience, employers are better equipped to foster the positive well-being of their employees. One way organizations can support the positive well-being of their employees is to offer formal and informal support mechanisms that develop manager capabilities to build a culture that fosters higher levels of resilience for employees in the workplace. Understanding the antecedents of resilience also creates an opportunity to influence recruiting practices, employee evaluation processes, manager training, and expense

management for such practices. An example would be a consideration for selecting benefit programs that support mental health programs offered in the workplace.

Limitations and Direction for Future Research

Several limitations of the study need to be acknowledged. First, this dissertation theoretically supported the cognitive process of building resilience. The dissertation did not consider the positive or negative affect participants were experiencing when reporting their stress levels. Therefore test results do not distinguish between cognitive and affect when experiencing stressors that influence the development of resilience. Future research should consider positive and negative affect.

Second, this dissertation theoretically supports the interactive effect of three theoretical frameworks (broaden-and-build theory, social learning theory, and model of compensatory control) to conceptually explain cognitive functioning to study the person-environment interaction when examining the stress-resilience relationship. Although the interaction effects were not supported in this dissertation, empirical testing did support the main effects of two of the moderators, external social support and psychological safety, positive relationship with resilience. As described in this dissertation in following social learning theory, psychological functioning as a self-regulation process enables individuals to respond to situations based upon their ability to control environmental conditions, i.e., copying, which results in intentional behaviors, attitudes, and emotional reactions (Bandura & Walters, 1977). Social learning theory and the model of compensatory control support that the cognitive self-regulation process enables individuals to control emotional reactions. The broaden-and-build theory supports an interactive effect between cognitive functioning and emotions when there is a disruption in the person-environment

relationship (Fredrickson, 2001). Although theoretically supported in this dissertation, these interactions with each other and with the JD-R model and COR theory were not tested. Future research should test the theoretical insights presented in this dissertation to advance the theory.

Third, this dissertation theoretically explained and tested the main effect of psychological safety on resilience. This dissertation also theoretically supported that risk taking is an important factor of psychological safety when studying resilience. However, this dissertation did not measure risk taking. Future research could include a deeper understanding and testing of how risk-taking behaviors and the environments that support risk-taking behaviors influence resilience. In addition, it would be interesting to study this interaction between cultures and demographics at the group and individual levels.

Fourth, this dissertation did not consider the effect of stressors outside of work. After experiencing the impact of Covid-19 over the past two years, research supports contextual conditions outside of work influencing an employee's level of stress at work and the resources that buffer the effects of stress at work. This understanding is supported by the JD-R model (Bakker et al., 2007; Greenhaus & Powell, 2006). This phenomenon may have contributed to the inverted U-shape relationship between challenge stressors and resilience (H1a), resulting in a negative relationship. Future research on resilience should have some indicators to understand the level and types of stressors employees are experiencing outside of the workplace.

Fifth, another limitation of this dissertation was that all constructs were self-reported. As a result, this dissertation has the potential for common method bias. This can occur when predictor and criterion variables are collected from the same person (P. M. Podsakoff et al., 2003). To mitigate this bias in this dissertation, the measurement of predictor and criterion variables were separated in the survey instrument (P. M. Podsakoff et al., 2003). Future research should utilize a

longitudinal study design that employs multiple data collection methods (survey, interview, etc.). In addition, data should be collected from multiple stakeholders such as employees, managers, friends, family, and significant others (P. M. Podsakoff et al., 2003). The study's reliability on self-reported items also created an opportunity for social desirability bias. To mitigate this bias, participants were informed that their responses were anonymous and confidential (Reynolds, 1982). The survey instrument included a measure of social desirability to understand the influence of social desirability on self-reported items. Social desirability had a Cronbach's alpha below .70 and is a limitation to this dissertation. As a response, this dissertation added social desirability as a control variable. When including social desirability as a control variable in the regression, all interactions remain insignificant; however, the adjusted R^2 for the model in this dissertation increased from 25.5% to 28.6%.

Sixth, confirmatory factor analysis results indicate that work centrality did not represent a single factor. Based on previous research supporting work centrality as an established construct with high reliability (Paullay et al., 1994) that has been validated across studies, work centrality was included in the model.

And finally, this dissertation was a cross-sectional, empirical study, and therefore, causal relationships could not be tested. One of the findings from this dissertation was that the interactive effects of work centrality, external social support, and psychological safety did not significantly affect the relationship between the independent variables and resilience. As posed in this dissertation, this is consistent with COR theory as stress levels were measured between slight stress and moderate stress. Future research could employ a longitudinal study with a company before an anticipated significant change at a company is announced, such as a reorganization, to empirically test the model before and after a time of higher stress. Alternatively, an experimental study could

be employed – one which fosters a stressful environment allowing for measurement of stressor levels before and after a stress occurrence.

Conclusion

This dissertation focuses on how stressors in the workplace influence the development of resilience. This dissertation extends extant research by considering the appraisal of stressors based on one's self-identification. Further, this dissertation considers contextual personal resources of external social support and psychological safety as influencers to the development of the psychological resource of resilience. In sum, while existing research examines work-related moderators, this dissertation examines a wider range of work and non-work-related moderators. This dissertation extends COR theory, provides insights for practical benefits within industry, and offers direction for future research.

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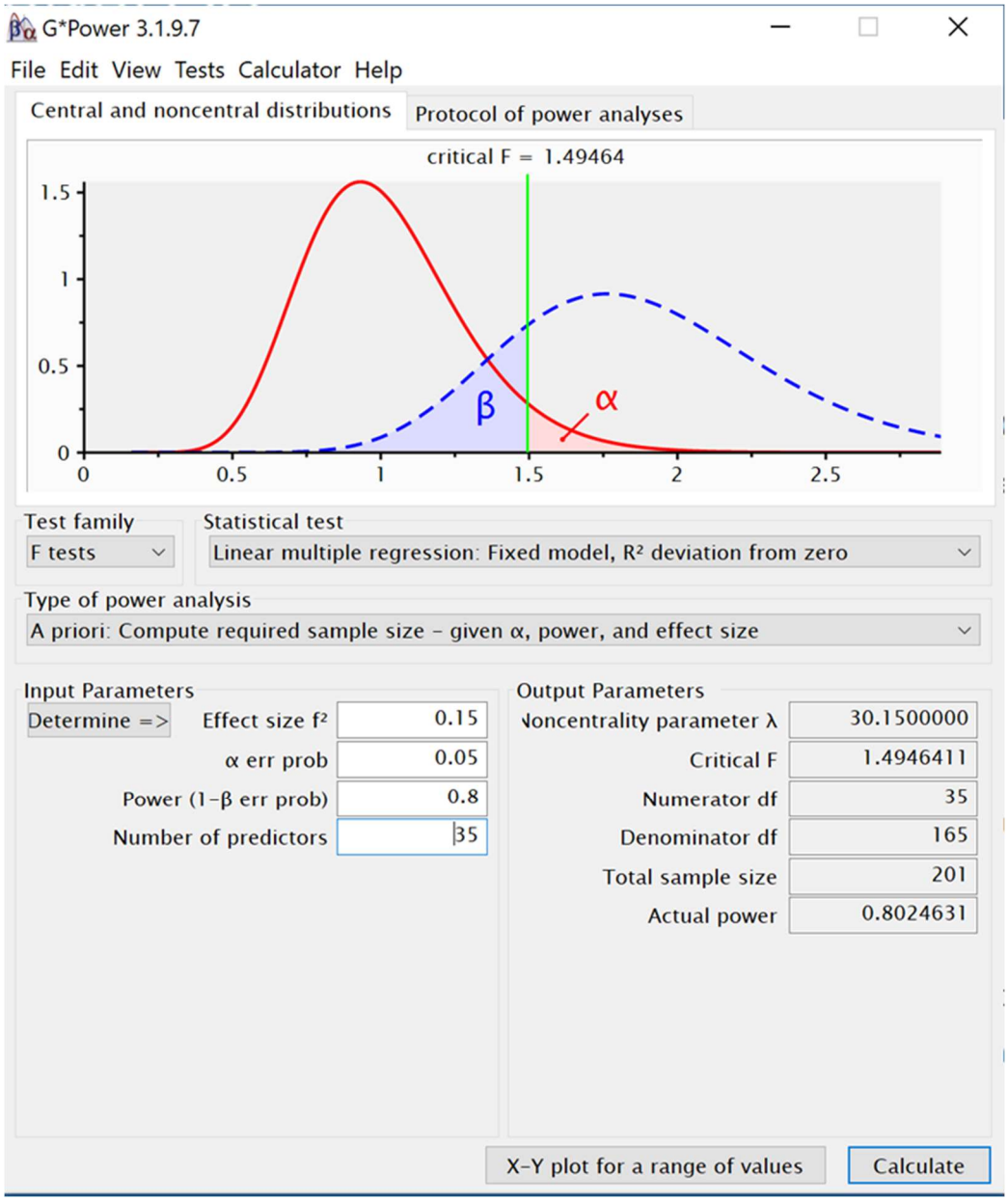
APPENDIX A: G*POWER SAMPLE SIZE CALCULATION



APPENDIX B: SURVEY ONLINE CONSENT FORM

A research team from UNC-Charlotte is interested in learning about resilience in the workplace within existing firms, and we are interested in hearing from you! The survey questions have no right or wrong answers – we are interested in your opinions. Your responses will assist in the development of research on stress and resilience in the workplace.

Key Information about this study:

Our survey is anonymous, and includes questions about your stress at work, your behaviors at work, your social networks outside of work, your work environment, and your general feelings about your work. Some basic demographic-related questions, employment status with your current company, and questions regarding your attitudes and traits are also included in the survey.

- All responses are completely ***anonymous.***
    - This survey contains no identifiers that could point to your identity.
- The survey will take *approximately 15 minutes* to complete.
- You must be 18 or older and reside in the U.S. to participate in this survey.
- You must be a full-time employee (on average, work 35 hours per week or more for your employer) to participate in this survey.
- Your *participation is voluntary.*
    - You are free to stop or exit the survey at any time.
- All survey data will be used *exclusively for academic research* only.
    - This data may be included in future academic research studies.
    - The data may be included in academic or business-related publications in the future.
- The data collected from this survey will not be sold.
- There are *no known adverse consequences* associated with either choosing or forgoing participation in this research study.

If you have questions about participating in the study, please contact:
Principal Investigator, Lindamarie Werntz Coatman by email at lwerntzc@uncc.edu
Faculty Advisor, Laura Stanley by email at lstanl11@uncc.edu
Additional questions or concerns about your rights as a participant in this study can be directed towards The Office of Research Protections and Integrity (704) 687-1871 or uncc-irb@uncc.edu.

[Within Qualtrics, the following appeared:]

Anonymous Participation Consent

Proceeding with the survey indicates you understand the information provided.

If you read and understand the information provided, would you like to participate in this study? If yes, you consent for the researcher to use your data as a part of this study and future academic research.

Choose "I consent" to proceed to the survey. Choosing "I do not consent" will exit you from the survey.

APPENDIX C: SOCIAL MEDIA POSTING

Do you think that stress at work creates an opportunity for employees to develop and learn? As part of my Doctoral studies at the University of North Carolina Charlotte, I am studying stress and resilience in the workplace. If you reside in the U.S., are at least 18 years of age, are a full-time employee of a company and have 10 to 15 minutes, I would greatly appreciate it if you would complete the following survey:

<survey link>

This will help me complete my Doctoral program. Also, please feel free to share this post with your contacts. Many thanks for considering to participate – I really appreciate it!

APPENDIX D: EMAIL TEMPLATE

Dear _____,

This is Lindamarie Werntz Coatman. As you may know, I am working on a Doctorate in Business Administration degree from the University of North Carolina at Charlotte. I have completed all of my coursework and am now working on my dissertation. My research interest is in stress in the workplace and how stress may impact an employee being resilient at work. I am seeking to collect data in order to test my theoretical model. This is where I need your help!

Please click on the below link to take the survey which will take approximately 15 minutes. The survey includes questions about your stress at work, your behaviors at work, your social network outside of work, your work environment, and your general feelings about work. Some basic demographic-related questions, employment status with your current organization, and questions about your attitudes and traits are also included in the survey.

I also respectfully request that you forward this email to your acquaintances that reside in the U.S. and ask that they complete the survey as well. This study was approved by the University of North Carolina at Charlotte Institutional Review Board on February 10, 2022. All answers are strictly confidential and anonymous, no personally identifiable information will be collected, and all data collected will be used strictly for research purposes.

<Link for Survey Embedded>

Thanks in advance for your help with this request! If you have any questions or want to be removed from this distribution, please contact me directly at lwerntzc@uncc.edu. You can also contact my dissertation advisor, Dr. Laura Stanley, Associate Professor of Management at UNC-Charlotte, at lstanl11@uncc.edu.

Best,
Lindamarie

APPENDIX E: STRESS & RESILIENCE SURVEY

Survey

Please indicate things that cause you stress using the following scale: 1=no stress, 2=slight stress, 3=moderate stress, 4=much stress, 5=a great deal of stress

	No Stress	Slight Stress	Moderate Stress	Much Stress	A Great Deal of Stress
The number of projects and/or assignments I have. (1)	○	○	○	○	○
The amount of time I spend at work. (2)	○	○	○	○	○
The volume of work that must be accomplished in the allotted time. (3)	○	○	○	○	○
Time pressures I experience. (4)	○	○	○	○	○
The amount of responsibility I have. (5)	○	○	○	○	○
The scope of responsibility my position entails. (6)	○	○	○	○	○

Please indicate things that cause you stress using the following scale: 1=no stress, 2=slight stress, 3=moderate stress, 4=much stress, 5=a great deal of stress

	No Stress	Slight Stress	Moderate Stress	Much Stress	A Great Deal of Stress
The degree to which politics rather than performance affects organizational decisions. (1)	○	○	○	○	○
The inability to clearly understand what is expected of me on the job. (2)	○	○	○	○	○
The amount of red tape I need to go through to get my job done. (3)	○	○	○	○	○
The lack of job security I have. (4)	○	○	○	○	○
The degree to which my career seems “stalled.” (5)	○	○	○	○	○

Please indicate the extent to which you agree with each of the following statements by using the following scale: 1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I tend to bounce back quickly after hard times. (1)	○	○	○	○	○
I have a hard time making it through stressful events. (2)	○	○	○	○	○
It does not take me long to recover from a stressful event. (3)	○	○	○	○	○
It is hard for me to snap back when something bad happens. (4)	○	○	○	○	○
I usually come through difficult times with little trouble. (5)	○	○	○	○	○
I tend to take a long time to get over setbacks in my life. (6)	○	○	○	○	○

Please indicate the extent to which you agree with each of the following statements by using the following scale: 1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Work should only be a small part of one's life. (1)	○	○	○	○	○
In my view, an individual's personal life goals should be work oriented. (2)	○	○	○	○	○
Life is worth living only when people get absorbed in work. (3)	○	○	○	○	○
The major satisfaction in my life comes from my work. (4)	○	○	○	○	○
The most important things that happen to me involve my work. (5)	○	○	○	○	○
I have other activities more important than my work. (6)	○	○	○	○	○
Work should be considered central to life. (7)	○	○	○	○	○
I would probably keep working even if I didn't need the money. (8)	○	○	○	○	○
To me, my work is only a small part of who I am. (9)	○	○	○	○	○
Most things in life are more important than work. (10)	○	○	○	○	○
If [the] unemployment benefit was really high, I would still prefer to work. (11)	○	○	○	○	○
Overall, I consider work to be very central to my existence. (12)	○	○	○	○	○

Please indicate the extent to which you agree with each of the following statements by using the following scale: 1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
There is a special person who is around when I am in need. (1)	○	○	○	○	○
There is a special person with whom I can share my joys and sorrows. (2)	○	○	○	○	○
My family really tries to help me. (3)	○	○	○	○	○
I get the emotional help and support I need from my family. (4)	○	○	○	○	○
I have a special person who is a real source of comfort to me. (5)	○	○	○	○	○
My friends really try to help me. (6)	○	○	○	○	○
I can count on my friends when things go wrong. (7)	○	○	○	○	○
I can talk about my problems with my family. (8)	○	○	○	○	○
I have friends with whom I can share my joys and sorrows. (9)	○	○	○	○	○
There is a special person in my life who cares about my feelings. (10)	○	○	○	○	○
My family is willing to help me make decisions. (11)	○	○	○	○	○
I can talk about my problems with my friends. (12)	○	○	○	○	○

Please indicate the extent to which you agree with each of the following statements by using the following scale: 1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
If you make a mistake in my organization, it is often held against you. (1)	○	○	○	○	○
Members in my organization are able to bring up problems and tough issues. (2)	○	○	○	○	○
People in my organization sometimes reject others for being different. (3)	○	○	○	○	○
It is safe to take a risk in my organization. (4)	○	○	○	○	○
It is difficult to ask other members in my organization for help. (5)	○	○	○	○	○
No one in my organization would deliberately act in a way that undermines my efforts. (6)	○	○	○	○	○
Working with members in my organization, my unique skills and talents are valued and utilized. (7)	○	○	○	○	○

This scale consists of a number of words that describe different feelings and emotions. Read each item and then select the appropriate answer next to that word. Indicate the extent you have felt this way during the past few months: 1=very slightly or not at all, 2=a little, 3=moderately, 4=quite a bit, 5=extremely

	Very Slightly or Not At All	A Little	Moderately	Quite A Bit	Extremely
Distressed (1)	○	○	○	○	○
Hostile (2)	○	○	○	○	○
Scared (3)	○	○	○	○	○
Ashamed (4)	○	○	○	○	○
Nervous (5)	○	○	○	○	○
Interested (6)	○	○	○	○	○
Enthusiastic (7)	○	○	○	○	○
Alert (8)	○	○	○	○	○
Determined (9)	○	○	○	○	○
Active (10)	○	○	○	○	○

Listed below are statements concerning personal attitudes and traits. Read each statement and decide if it is true or false as it pertains to you. Please provide only one response to each question. There are no right or wrong answers, and all responses will be anonymous and strictly confidential.

	True	False
It is sometimes hard for me to go on with my work if I am not encouraged. (1)	○	○
I sometimes feel resentful when I don't get my way. (2)	○	○
On a few occasions, I have given up doing something because I thought too little of my ability. (3)	○	○
There have been times when I felt like rebelling against people in authority even though I knew they were right. (4)	○	○
No matter who I'm talking to, I'm always a good listener. (5)	○	○
There have been occasions when I took advantage of someone. (6)	○	○
I'm always willing to admit it when I make a mistake. (7)	○	○
I sometimes try to get even rather than forgive and forget. (8)	○	○
I am always courteous, even to people who are disagreeable. (9)	○	○
I have never been irked when people expressed ideas very different from my own. (10)	○	○
There have been times when I was quite jealous of the good fortune of others. (11)	○	○
I am sometimes irritated by people who seek favors of me. (12)	○	○
I have never deliberately said something that hurt someone's feelings. (13)	○	○

Which industry sector most closely matches the one in which you are employed?

○ ***Energy Sector*** (Includes companies engaged in exploration & production, refining & marketing, and storage & transportation of oil & gas and coal & consumable fuels. It also includes companies that offer oil & gas equipment and services.) (1)

○ ***Materials Sector*** (Includes companies that manufacture chemicals, construction materials, glass, paper, forest products and related packaging products, and metals, minerals and mining companies, including producers of steel.) (2)

○ ***Industrials Sector*** (Includes manufacturers and distributors of capital goods such as aerospace & defense, building products, electrical equipment and machinery and companies that offer construction & engineering services. It also includes providers of commercial & professional services including printing, environmental and facilities services, office services & supplies, security & alarm services, human resource & employment services, research & consulting services. It also includes companies that provide transportation services.) (3)

○ ***Consumer Discretionary Sector*** (The manufacturing segment includes automotive, household durable goods, leisure equipment and textiles & apparel. The services segment includes hotels, restaurants and other leisure facilities, media production and services, and consumer retailing and services.) (4)

○ ***Consumer Staples Sector*** (Includes manufacturers and distributors of food, beverages and tobacco and producers of non-durable household goods and personal products. It also includes food & drug retailing companies as well as hypermarkets and consumer super centers.) (5)

○ ***Health Care Sector*** (Includes health care providers & services, companies that manufacture and distribute health care equipment & supplies, and health care technology companies. It also includes companies involved in the research, development, production and marketing of pharmaceuticals and biotechnology products.) (6)

○ **Financials Sector** (Includes companies involved in banking, thrifts & mortgage finance, specialized finance, consumer finance, asset management and custody banks, investment banking and brokerage and insurance. It also includes Financial Exchanges & Data and Mortgage REITs.) (7)

○ ***Information Technology Sector*** (Includes companies that offer software and information technology services, manufacturers and distributors of technology hardware & equipment such as communications equipment, cellular phones, computers & peripherals, electronic equipment and related instruments, and semiconductors.) (8)

○ ***Real Estate Sector*** (Includes companies engaged in real estate development and operation. It also includes companies offering real estate related services and Equity Real Estate Investment Trusts (REITs).) (9)

○ ***Communication Services Sector*** (Includes companies that facilitate communication and offer related content and information through various mediums. It includes telecom and media & entertainment companies

including producers of interactive gaming products and companies engaged in content and information creation or distribution through proprietary platforms.) (10)

○ ***Utilities Sector*** (Includes utility companies such as electric, gas and water utilities. It also includes independent power producers & energy traders and companies that engage in generation and distribution of electricity using renewable sources.) (11)

What is your current age?

_____

Which of the following best describes your role within your organization?

○ Top-level manager/supervisor (1)

○ Mid-level manager/supervisor (2)

○ Lower-level manager/supervisor (3)

○ Not a manager or supervisor (4)

How many <u>months</u> have you worked at your current firm or organization?

_____

What is the highest level of school you have completed or the highest degree you have received?

- ○ Less than high school (1)
- ○ High school graduate (high school diploma or equivalent including GED) (2)
- ○ Some college but no degree (3)
- ○ Associate degree in college (2-year) (4)
- ○ Bachelor's degree in college (4-year) (5)
- ○ Master's degree (6)
- ○ Doctoral degree (7)
- ○ Professional degree (JD, MD) (8)

What is your gender?

- ○ Male (1)
- ○ Female (2)
- ○ Other (3)

Please specify the choice that best describes your race/ethnicity.

- ○ Hispanic (1)
- ○ Non-Hispanic White (2)
- ○ Non-Hispanic Black or African American (3)
- ○ Non-Hispanic Asian/Pacific Islander (API) (4)
- ○ Non-Hispanic American Indian and Alaska Native (AIAN) (5)
- ○ Non-Hispanic multiracial (6)