THE ROLE OF PERSONALITY AS A MODERATOR IN CHALLENGE AND

HINDRANCE STRESSOR RESEARCH

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A Thesis

Presented to

The Faculty of the Department

Of Psychology

University of Houston

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In Partial Fulfillment

Of the Requirements of the Degree of

Master of Arts

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By

Ian Wilson

May 2012

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ABSTRACT

The current study used Conservation of Resources Theory to explore the role of

Conscientiousness and Emotional Stability as moderators of the relationship between

challenge/hindrance stressors and performance and emotional exhaustion. I proposed that

Conscientiousness and Emotional Stability serve as resources that allow individuals to

achieve higher levels of performance and increase their resistance to strain. The study used a

sample of students from a large and diverse university in the southern United States. Results

failed to support most of the hypotheses; however, post hoc analyses reveal an interesting un-

hypothesized three-way interaction that fits the theoretical argument of the paper. The results

support the argument that individuals high in both Conscientiousness and Emotional Stability

are less likely to experience emotional exhaustion when faced with challenge stressors than

individuals who are low in either or both personality traits.

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Chapter I

The Role of Personality as a Moderator in Challenge and Hindrance Stressor Research

Stress is one of the most widely studied topics in Industrial Organizational Psychology. As technology has developed and jobs have become more complex and demanding, stress in the workplace has also grown. Work stress does not just have an impact on individuals; it also can be a costly problem for organizations. Wilkerson (1998) reports that stress-related disorders cost United States corporations over $8,000 per person per year. Mackay, Cousins, Kelly, Lee, and McCaig (2004) report that work-related stress cost employers in the UK between 353 and 381 million pounds per year. Thus, it is important that we are able to understand and reduce the negative effects of stress in the workplace in order for employees and organizations to achieve their full potential. In this study, I propose a model to help better understand how stressors can affect an individual's emotional exhaustion and performance. By better understanding these relationships, employers will be better equipped to reduce the negative effects of stressors.

The most widely accepted approach to studying stress involves examining the relationship between stressors (negative aspects of a job) and strains (the result of exposure to stressors) (Spector & Jex, 1998). Commonly assessed job stressors include workload, job constraints, and role ambiguity. On the strain side, burnout has become one of the most widely studied outcomes of stress. Burnout is most commonly defined as a prolonged response to chronic stress on the job and is characterized by three dimensions: emotional exhaustion, cynicism, and inefficacy (Maslach, Shaufeli, & Leiter, 2001). Maslach et al. (2001) also linked burnout to reduced performance and reduced psychological and physiological health.

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Researchers have also shown that personality may play a part in the way individuals experience stressors and strains (LePine, LePine, & Jackson, 2004; Perry, Witt, Penney, & Atwater, 2010; Swider & Zimmerman, 2010). For example, Swider and Zimmerman (2010) argue that individuals with certain personality traits, such as low Emotional Stability and low Extraversion, are more likely to experience burnout. Therefore, it is important to consider individual differences to fully understand how stressors may be related to employee outcomes. By doing this, organizations will be better equipped to minimize the negative effects associated with strain outcomes such as burnout. The current study will contribute to this goal by examining how both stressors and personality contribute to burnout and performance.

Although researchers agree that stress contributes to burnout, studies have often yielded mixed results. For example, in a study of mid-level managers, Leong, Frunham, and Cooper (1996) found no relationship between self-reported stress and job satisfaction or intention to quit, common consequences of burnout. In another study, Bogg and Cooper (1995) found that private sector executives experienced less job dissatisfaction as well as less mental and physical health ailments compared to senior civil servants, despite perceiving more stress from their working environment. Findings like these suggest that the relationship between stressors and burnout is not as simple as once thought. Instead, recent studies have shown that different types of stressors may lead to different outcomes.

Recently, researchers have differentiated between challenge stressors and hindrance stressors. Webster, Beehr, and Christiansen (2010) describe challenge stressors as stressors that support personal goals. Challenge stressors have potential gains associated with them. For example, a high workload can be a stressor. However, if an employee is able to handle

the load, he or she is likely to receive some benefit from his/her high job performance. In contrast, Webster et al. (2010) describe hindrance stressors as stressors that threaten personal goals. Hindrance stressors, such as job constraints, do not offer the opportunity for better performance or compensation. Instead, they interfere with employees' ability to perform at their normal level. For these reasons, challenge stressors are motivating and associated with positive work outcomes, whereas hindrance stressors are associated with negative outcomes (Cavanaugh, Boswell, Roehling, & Boudreau, 2000; Gilboa, Shirom, Fried, & Cooper, 2008; LePine et al., 2004; LePine, Podsakoff, & LePine, 2005; Tai & Liu, 2007; Wallace, Edwards, Arnold, Frazier, & Finch, 2009).

To illustrate, in a study of self-reported work stress among US managers, Cavanaugh et al., (2000) found challenge stressors were positively related to job satisfaction and negatively related to job search, whereas hindrance stressors were negatively related to job satisfaction and positively related to job search and turnover. LePine et al. (2004) looked at the differing effects of challenge and hindrance stressors and found that challenge stressors were positively related to exhaustion, a major dimension of burnout, but also positively related to motivation and performance. In contrast, hindrance stressors were positively related to exhaustion and negatively related to motivation and performance. LePine et al.'s (2004) findings provide a clearer explanation of which type of stressors lead to burnout. LePine et al.'s (2005) meta-analysis of the challenge stressor-hindrance stressor framework confirmed the findings of LePine et al. (2004). Thus, the challenge stressor – hindrance stressor framework appears to be a promising approach to reaching a better understanding of the stressor-strain relationship.

While a majority of research has focused on stressors as predictors of burnout, an individual's personality also appears to be an important factor. Several studies have established relationships between facets of the Big Five and burnout (Bakker, Van der Zee, Lewig, & Dollard, 2006; Kim, Shin, & Umbreit, 2007; LePine et al., 2004; Perry et al., 2010; Swider & Zimmerman, 2010; Tai & Liu, 2007). The most consistent predictors of performance and burnout from the Big Five are Conscientiousness and Emotional Stability. LePine et al. (2004) found Conscientiousness was positively related to performance and negatively related to emotional exhaustion, whereas Emotional Stability was negatively related to exhaustion. A meta-analysis by Swider and Zimmerman (2010) confirmed the findings by LePine et al. (2004) while also finding that Emotional Stability was positively related to performance.

Despite the amount of research on predictors of burnout such as stress and personality, there are still questions to be answered. Most researchers exploring the challenge stressor – hindrance stressor framework have not taken individual differences into account. However, theories of stress acknowledge that individuals' responses to stressors may differ based on personalities (Maslach et al., 2001; Jex, Bliese, Buzzell, & Primeau, 2001; Tai & Liu, 2007). For example, Maslach et al., (2001) state that "people do not simply respond to the work setting; rather, they bring unique qualities to the relationship" (p. 409). Jex et al., (2001) provide further support for studying individual differences as moderators of the stressor – strain relationship. Jex et al. (2001) argued that high levels of self-efficacy indicated the employees believed themselves capable of handling stressors better than those with low self-efficacy. If these high self-efficacy individuals also used active coping methods, then self-efficacy would serve as a buffer between stressors and psychological

strain. Jex et al.'s (2001), argument was confirmed by the results of a three-way interaction between role-clarity (stressor), self-efficacy, and active coping to predict strain. Another study offering support for the use of personality as a moderator of stressor – strain relationships is Korotkov's (2008) study on stress and health behavior. Korotkov (2008) found that Openness to Experience, Extraversion, and Neuroticism all moderated the stress to health behavior (physical activity, smoking, sleeping etc.) relationship.

Despite all the evidence for a personality trait – stressor interaction, few studies to date have explored the trait and stressor interaction within a challenge stressor – hindrance stressor framework. For example, LePine et al. (2004), one of the few studies that considered individual differences within the challenge-hindrance stressor framework, only examined the main effects of individual differences and challenge and hindrance stressors on exhaustion, motivation, and performance. They did not explore the possibility of a personality and stress-type interaction. Gilboa et al. (2008) call for future research to examine the role of individual differences in the challenge stressor – hindrance stressor framework.

During my review of the literature, I came across one study that examined interactions between stressor type and personality (Tai & Liu, 2007). Tai and Liu (2007) found a significant interaction between Emotional Stability (referred to as "low neuroticism" in their study) and hindrance stressors in predicting emotional exhaustion. They also found support for a three-way interaction between job autonomy, Emotional Stability, and challenge stressors. Tai and Liu (2007) found that among individuals low in Emotional Stability, "emotional exhaustion and disengagement increased more under conditions of low job autonomy than high job autonomy when the work environment is under challenge stressors or hindrance stressors" (Tai & Liu, 2007, p. 1017). Because the focus of their study

was the three-way interaction, with an emphasis on job autonomy as a moderator, they did not explain the direction of their findings in the two-way interaction between Emotional Stability and hindrance stressors. The study used a sample of 311 employees and supervisors from enterprises in Taiwan. I will replicate and expand on their findings by examining the two-way interactions between stressor type (challenge versus hindrance) and personality traits (Conscientiousness and Emotional Stability) and by using a diverse sample from a college in the southern United States.

The current study will contribute to the literature by answering the call from Gilboa et al. (2008) to explore the role of individual differences in the challenge stressor – hindrance stressor framework. A model establishing an interaction between stressor-type and personality to predict burnout and performance would provide a more complete understanding and account for more variance in the outcomes than simply considering the main effects of two separate predictors. This knowledge will be beneficial to organizations because it will help predict performance and burnout more accurately. In the following sections, I first review the literature on stress and burnout. Then, I discuss challenge and hindrance stressors in depth followed by a review of the literature on personality. Next, I present an argument for the interaction of stress-type and personality traits to predict emotional exhaustion and performance. Following that, I describe my methods and proposed analysis.

Stress

As I noted previously, stress in an important topic. Typically, the study of stress involves stress models that are comprised of two classes of variables: stressors, which are usually a pressure-laden condition or situation that acts on an individual, and strains, which

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are adaptive responses elicited by the stressors (Spector, 1998). However, Spector acknowledged that the definition of a stressor is somewhat broad and could mean any situation that yields a response would be considered a stressor. Instead, for the purposes of studying job stressors, he suggests that a stressor be defined as "a condition or situation that elicits a negative emotional response, such as anger/frustration or anxiety/tension" (Spector, 1998, p. 154). Another important consideration in stress research is that what is "stressful" for one individual may not be so for another. Job stressors are capable of producing strains, however they are not in themselves "stressful." Whether a factor is "stressful" or not depends on how an individual perceives it (Parasuraman & Alutto, 1984). Although individual perception is an important factor in the stress process, researchers have identified a number of stressors including certain work characteristics such as low control, job demands, and job constraints (Cavanaugh et al., 2000; LePine et al., 2004; Nauta, Liu, & Li, 2010; Thomas & Ganster, 1995), as well as inter-unit conflict, technical problems, inadequate supervisory instruction, favoritism, staff shortages, too many meetings (Parasuraman & Alutto, 1984) and interpersonal conflict (Spector & Jex, 1998).

The second class of variable in the model is the job strain, which is the reaction to the stressor. Strains can be classified as behavioral, physical, or psychological (Jex & Beehr, 1991). A psychological strain is an emotional reaction to the stressor, which often happens immediately. Examples of psychological strains that have been studied in the literature include anxiety, depression, frustration, and discouragement (Nauta et al., 2010; Sanz-Vergel, Demerouti, Mayo, & Jiménez, 2011; Thomas & Ganster, 1995). A behavioral strain is a behavior that occurs in response to a stressor. The behavior can be immediate and impulsive, such as hitting the individual responsible for the stressor, or it can be a long-term

strategy, such as finding a new job (Spector, 1998). Other behavioral strains include an individual's involvement at work, performance, absenteeism, and turnover (Liu, Spector, & Jex, 2005; Thomas & Ganster, 1995). Physical strain is classified by a physiological reaction. The reaction can be long-term (i.e., heart disease) or short-term (i.e., increased blood pressure; O'Leary, 1990; Spector & Jex, 1998; Thomas & Ganster, 1995). Examples of other physical strains include headaches, stomachaches, back problems, dizziness, eyestrain, nausea, and fatigue (Grant & Langan-Fox, 2007; Lang, Thomas, Bliese, & Adler, 2007; Liu et al., 2005; Nauta et al., 2010).

Several theories attempt to describe the stressor – strain process. Conservation of Resources (COR) Theory argues that individuals experience strains when their resources are threatened or lost (Hobfoll, 1989; Halbesleben & Buckley, 2004). In COR theory, resources are broadly defined and include anything from physical objects (e.g., money) to conditions (e.g., being married) or personal characteristics (e.g., personality traits). For example, when individuals lose their jobs, their monetary income is threatened (physical object) as well as their status as employed individuals (condition). This loss of resources is what leads individuals to experience strains such as burnout. In the example above, the loss of job acts as the stressor, which elicits the strain response. COR theory is particularly important for the current study and will be covered in greater detail in a later section.

Another theory examining stress is Demerouti, Bakker, Nechreiner, and Schaufeli's (2001) job demands – resources (JD-R) model. The JD-R model argues that burnout is a result of two categories of work characteristics; job demands and job resources. Demands are aspects of the job that require effort, and resources are characteristics that help individuals achieve work goals and reduce job demands. Generally speaking, burnout is likely to occur

when demands are higher than resources (Demerouti et al., 2001; Halbesleben & Buckley, 2004). Demerouti et al. (2001) also argue that demands and resources differentially predict different components of burnout. They propose that job demands are more strongly related to emotional exhaustion, whereas job resources predict the depersonalization/cynicism component of burnout. In the next section, I provide a brief overview of burnout.

Burnout

One of the most widely studied strain outcomes in the literature is burnout. Burnout has been described as "a prolonged response to chronic emotional and interpersonal stressors on the job, and is defined by the three dimensions of emotional exhaustion, cynicism, and inefficacy" (Maslach et al., 2001, p. 397). Emotional exhaustion refers to feelings of overexertion and is the central dimension of burnout. Most people who report experiencing burnout refer to this feeling of exhaustion. Cynicism is an attempt to withdraw oneself from the job or environment, and inefficacy refers to a lack of belief in one's ability to perform one's job well. Burnout has been linked to lower productivity and effectiveness as well as negative mental and physiological health outcomes, including anxiety and depression (Maslach et al., 2001). Because of its role as the defining characteristic of burnout, the current study will focus exclusively on the emotional exhaustion dimension of burnout.

Emotional exhaustion is considered a form of psychological strain that can be elicited by a stressor. Similarly, Maslach et al. (2001) argues that emotional exhaustion can be a result of high job demands (e.g., experienced workload and time pressure) or low job resources (e.g., low support form supervisor and low support from coworkers). For instance, a constant heavy workload is a situation (stressor) that could cause one to become emotionally exhausted (strain). Indeed, both empirical studies and meta-analyses have found

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positive relationships between stressors such as workload and constraints and emotional exhaustion (LePine et al., 2004; LePine et al., 2005). For example, Singh, Goolsby, and Rhoads (1994) showed that role conflict, role ambiguity, and role overload were all positively related to emotional exhaustion. Further, Swider and Zimmerman (2010) argue that individuals with certain personality traits may be more susceptible to experience burnout (including emotional exhaustion). They found a negative relationship between Emotional Stability and emotional exhaustion.

Research has shown that there are many consequences to emotional exhaustion including negative performance and health outcomes (Maslach et al., 2001). The first study to provide empirical evidence for the relationship between emotional exhaustion and performance was Wright and Bonett (1997). Wright and Bonett (1997) discuss how emotional exhaustion measures the depletion of an individual's energy. As this energy is depleted, subsequent performance decreases. Indeed, Wright and Bonett (1997) found that emotional exhaustion was the only one out of the three components of burnout that was significantly predictive (negative relationship) of performance. Wright and Cropanzano (1998) also showed that emotional exhaustion was negatively related to performance, even after controlling for positive and negative affect. In addition to reduced performance, emotional exhaustion is also associated with increased intention to leave (Geurts, Shaufeli, & Jonge, 1998) and actual turnover (Wright & Cropanzano, 1998), as well as decreased job satisfaction and organizational commitment (Singh et al., 1994).

However, other research in the stress literature has found inconsistent results showing that in some cases the relationships between stressors and emotional exhaustion and performance are not significant or even showing that stressors increased performance (Beehr,

1985; Bogg & Cooper, 1995; Jex, 1998; LePine et al., 2004; Swider & Zimmerman, 2010). Recent studies have suggested that the solution for these inconsistent findings is a framework proposing different types of stressors.

Challenge Stressors and Hindrance Stressors

The challenge stressor – hindrance stressor framework proposes that challenge stressors and hindrance stressors have different effects on burnout and performance. According to Cavanaugh et al. (2000) and LePine et al. (2004), people appraise stressors as either a challenge or a hindrance, and this appraisal of the stressor affects the way people respond to it. Cavanaugh et al. (2000) described challenge stressors as job demands that are pressure-laden but still considered a rewarding experience. They include things such as job overload, time pressures, and high levels of responsibility. LePine et al. (2004) showed that challenge stressors, like most stressors, resulted in increased emotional exhaustion, but unlike most stressors, challenge stressors also resulted in increased performance. They suggest that the reason for this increase in performance was that challenge stressors led to an increase in motivation. This increase in motivation lead to an increase in performance that was strong enough to overcome the negative effect of emotional exhaustion.

In agreement with LePine et al. (2004), most research on challenge stressors has found that they are generally associated with positive outcomes. For example, Cavanaugh et al. (2000) found that challenge stressors were positively related to job satisfaction and negatively related to job search. Webster et al. (2010) also found challenge stressors were positively related to job satisfaction and self-efficacy. In two meta-analyses, LePine et al. (2005) found that challenge stressors had a positive direct effect on performance, and offsetting indirect effects on performance through motivation (positive) and strains

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(negative), and Podsakoff, LePine, and LePine (2007) found that challenge stressors were positively related to job satisfaction and organizational commitment and negatively related to turnover. Thus, in accordance with LePine et al.'s (2004) rationale and previous findings, I suggest the following hypotheses.

H1a: Challenge stressors will be positively related to performance.

H1b: Challenge stressors will be positively related to emotional exhaustion.

Cavanaugh et al. (2000, p. 67) described hindrance stressors as "job demands or work circumstances that involve excessive or undesirable constraints that interfere with or hinder an individual's ability to achieve valued goals." They include things such as organizational politics, red tape, and concerns about job security. LePine et al. (2004) showed that hindrance stressors are associated with increased emotional exhaustion and decreased motivation. By decreasing motivation and increasing exhaustion, hindrance stressors have a negative effect on performance.

In line with the findings from LePine et al. (2004) most research associates hindrance stressors with negative outcomes. For example, Cavanaugh et al. (2000) found hindrance stressors were negatively related to job satisfaction and positively related to job search and turnover. The findings from Webster et al. (2010) support the negative relationship between hindrance stressors and job satisfaction, while also finding hindrance stressors were negatively related to work self-efficacy. Furthermore, a meta-analysis by LePine et al. (2005) found that hindrance stressors had a negative direct effect on performance, as well as an indirect negative effect through strains and motivation. Another meta-analysis by Podsakoff et al. (2007) showed that hindrance stressors were negatively related to job satisfaction and

commitment and positively related to turnover and withdrawal. In the current study, I will examine constraints as a hindrance stressor.

Peters and O'Connor (1980) describe organizational constraints as factors that hinder an individual's utilization of his/her ability toward completing job tasks, thus reducing performance. Constraints include faulty equipment, interruptions, or incomplete information, which interfere with individuals getting their work done (Spector & Jex, 1998). Cavanaugh et al. (2000) define hindrance stressors as demands or circumstances that interfere with an individual's ability to achieve their goals. Following this definition, organizational constraints can be classified as hindrance stressors. Research has found constraints to be negatively related to performance and positively related to strain outcomes such as negative emotions or job satisfaction (Liu, Nauta, Li, & Fan, 2010; O'Connor, Peters, Pooyan, Weekley, & Erenkrantz, 1984; Stewart & Nandkeolyar, 2007). Based on the research I have previously discussed, I suggest the following hypotheses to replicate previous findings.

H2a: Organizational constraints will be negatively related to performance.

H2b: Organizational constraints will be positively related to emotional exhaustion.

Conservation of Resources Theory

Before proceeding to the role of personality in the stressor – strain/performance relationship, I must review Conservation of Resources (COR) Theory (Hobfoll, 1989). COR theory states that "people strive to retain, protect, and build resources and that what is threatening to them is the potential or actual loss of these valued resources" (Hobfoll, 1989, p. 516). Many theories in psychology have focused on the idea that individuals attempt to create a world around them that is pleasant and fills their needs. However, until COR this viewpoint had struggled to make its way into stress theory. Maslow's (1968) discussed how

individuals pursue a hierarchy of needs beginning with physical resources, then social

resources, and finally psychological resources. Also, social learning theory argues that people

attempt to obtain positive reinforcement by actively engaging in their environment (Bandura,

1977). According to Hobfoll (1989), the best approach individuals can take to achieve these

goals is by seeking to "create and maintain personal characteristics (e.g., mastery or self-

esteem) and social circumstances (e.g., tenure or intimacy) that will increase the likelihood of

receipt of reinforcement and to avoid the loss of such characteristics and circumstances" (p.

516). COR theory is based on this approach.

Under COR, stress is defined as "a reaction to the environment in which there is (a)

the threat of a net loss of resources, (b) the net loss of resources, or (c) a lack of resources

gain following the investment of resources. Both perceived and actual loss or lack of gain are

envisaged as sufficient for producing stress" (Hobfoll, 1989, p. 516). According to COR,

resources are the single unit necessary for understanding stress. Hobfoll (1989) describes

resources as "those objects, personal characteristics, conditions, or energies that are valued

by the individual or that serve as a means for attainment of these objects, personal

characteristics, conditions, or energies" (p. 516).

Another characteristic of the COR model is that it provides explanations for what

individuals will do when confronted with stressors and when not confronted with stressors.

Hobfoll (1989) argues that when individuals are not currently facing stressors, they strive to

build resource surpluses to offset potential future losses. One way people build resources is

by investing their current resources, such as investing time and energy at work, to gain

additional resources (e.g., recognition, access to information, efficient processes, social

support). On the other hand, when individuals are faced with stressors and feel ill-equipped

to gain resources, they are likely to employ self-protective tactics to prevent loss of their current resources (i.e., not invest their current resources; give less time and/or energy at work; Hobfoll, 1989).

According to Hobfoll (1989), resources are not distributed equally and the level of resources individuals possess can play a part in how individuals react to stressors. In particular, people with fewer resources are more vulnerable to further loss of resources, referred to as *loss spirals*. That is, because resources are needed to gain additional resources and to prevent resource loss, individuals with few resources will have a hard time developing additional resources or even retaining what they have. Under this frame of COR theory, I will now explain the role of personality as a resource in the stressor – strain/performance relationship.

Personality

Most research on personality has centered on the five-factor model known as the Big Five. The traits that make up the Big Five are Conscientiousness, Emotional Stability, Extraversion, Agreeableness, and Openness to Experience. Of these, the most consistent predictors of performance and burnout from the Big Five are Conscientiousness and Emotional Stability (Barrick, Mount, & Judge, 2001). The remaining three characteristics have shown to be predictive of performance in some jobs but not across all (Barrick, Mount, & Judge, 2001). Because of the consistency that Conscientiousness and Emotional Stability have shown in predicting outcomes relevant to the current research, I will focus on these two personality traits. Conscientiousness refers to how driven and attentive to detail an individual is. Someone who is high on Conscientiousness would be described as dependable, thorough, organized, hardworking, and achievement-oriented (Barrick et al., 2001). Emotional Stability

is associated with individuals experiencing low levels of anxiety and insecurity (Barrick et al., 2001). Individuals who have high Emotional Stability are not easily rattled.

Hobfoll (1989) and other researchers of COR theory propose that personal characteristics, more specifically personality traits such as Conscientiousness and Emotional Stability, are resources that help individuals meet the demands of their work and reduce psychological strain (e.g., emotional exhaustion; Penney, Hunter, & Perry, 2011; Perry et al., 2010). As discussed earlier, one of the premises of COR theory is that people will attempt to maximize their resources, and one way people may do this is by investing their available resources in an attempt to acquire more resources.

Individuals high in Conscientiousness are by definition organized, attentive to detail, and have a high need for achievement. These individuals are likely to invest their conscientious qualities in an attempt to gain additional resources and perform better at work. Similarly, Emotional Stability serves as a resource for individuals by helping them to remain calm and focused. By definition, individuals with high Emotional Stability are less likely to experience anxiety and insecurity. Individuals low in Emotional Stability are highly emotional and are more likely to lose focus and dwell on their problems, whereas individuals high in Emotional Stability are generally calm and focused and better manage their problems.

As resources that can help individuals manage stressors, Conscientiousness and Emotional Stability play an important part in the stressor-strain/performance relationship. The following sections will explain how Conscientiousness and Emotional Stability can moderate the relationships between challenge and hindrance stressors and performance and emotional exhaustion.

Interactions

The relationships established between stressor type and emotional exhaustion and performance leave some questions unanswered. Past research has shown these relationships to be inconsistent, and when there, they are often not as strong as one might expect (Beehr, 1985; Bogg & Cooper, 1995; Jex, 1998; LePine et al., 2004; Swider & Zimmerman, 2010). However, several theories suggest that individuals' responses to stressors may differ based on their personalities (Halbesleben & Buckley, 2004; Jex, Bliese, Buzzell, & Primeau, 2001; Maslach et al., 2001; Tai & Liu, 2007). Maslach et al. (2001) discuss how people do not simply react to their situations; rather they have individual qualities that affect how they respond. Halbesleben and Buckely (2004) reviewed some of the research on the role of personality as a moderator of burnout. They concluded that a growing literature has focused on examining the interaction of environmental and personal factors in the burnout process, and that there is evidence that individual differences in personality may influence the environment-burnout relationship.

COR theory also suggests an interaction between stressors and personality. COR theory suggests that people strive to gain, build, and protect resources, that the potential or actual loss of resources is what leads to burnout, and that Conscientiousness and Emotional Stability are resources in that they aid stress resistance. COR theory proposes that the stressors individuals face will affect how individuals use their resources (investing for further gain or self preservation). COR theory also suggests that the level of resources an individual has (in this case, the individual's levels of the personality traits Conscientiousness and Emotional Stability) can affect the way an individual responds to a stressor (Hobfoll, 1989). In line with this view, I propose that individuals with these personality traits have different

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levels of resources, which will lead them react to stressors in different ways. In general, individuals with higher levels of Conscientiousness and Emotional Stability have more resources available to invest toward achieving better performance, and are also better able to shield themselves from the negative effects of stressors (i.e., emotional exhaustion).

Hobfoll (1989) and other researchers of COR theory propose that personal characteristics, more specifically personality traits such as Conscientiousness and Emotional Stability, are resources that help individuals meet the demands of their work and reduce psychological strain (e.g., emotional exhaustion; Perry et al., 2010; Penney et al., 2011). Individuals high in Conscientiousness are organized, attentive to detail, and have a high need for achievement. These qualities may serve as a resource that enables them to complete tasks in an effective and efficient manner. Thus, when an individual high in Conscientiousness is confronted with a challenge stressor, because he/she has a high level of Conscientiousness, he/she has sufficient resources (e.g., diligence, focus) to dedicate toward meeting the challenge. This individual is likely to respond to the challenge with driven and organized behavior (investment of their resource, Conscientiousness) to complete the work and, as a result, perform well. In contrast, an individual low in Conscientiousness confronted with a challenge has fewer resources available to invest (i.e., they are slow to respond and unfocused). In this situation, the challenge stressor still has its motivating characteristics, however because the individual has fewer available resources (i.e., low Conscientiousness) he/she may not perform as well. A counter argument can be made that individuals high in Conscientiousness are intrinsically motivated and would not need the motivation from the challenge stressor, whereas those low in Conscientiousness have lower intrinsic motivation and would need to drawn motivation from the challenge stressor. In other words, expecting

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that the challenge stressors – performance relationship would be weaker for individuals high in Conscientiousness and stronger for those low in Conscientiousness. While this is a reasonable argument, I believe that the more driven nature of high-Conscientiousness individuals and the motivation drawn from challenge stressors can simply build on each other rather than one nullifying the other. This is also in line with trait activation theory, which argues that situations will enable personality traits to manifest certain behaviors (Lievens, Chasteen, Day, & Christiansen, 2006; Tett & Burnett, 2000). In this case the situation of experiencing a challenge stressor would facilitate the driven nature of a highly conscientious person and lead to higher performance.

> **H3**: Conscientiousness will moderate the positive relationship between challenge stressors and performance such that the relationship will be stronger among individuals high in Conscientiousness compared to individuals low in Conscientiousness.

In the same scenario the challenge stressor, despite being motivating, is also exhausting because it requires attention and effort from the individual. Because the individual is required to spend time and effort addressing this stressor, he/she will spend resources. According to COR Theory, the loss of resources is what leads to burnout. COR theory also tells us that individuals who have a higher level of resources are better able to shield themselves from the loss of resources than individuals with low levels of resources (Hobfoll, 1989). Thus, individuals high in Conscientiousness have an abundance of resources (drive, organization, task oriented behavior) they can deploy toward addressing the stressor and shield themselves from the further loss of resources. In contrast, individuals low in Conscientiousness have less of these resources, and when presented with a challenge, they

will not be as capable of appropriately shielding themselves from the loss of this resource and may be vulnerable to loss spirals. That is, their resources will quickly become depleted, and they will become emotionally exhausted.

H4: Conscientiousness will moderate the positive relationship between challenge stressors and exhaustion such that the relationship will be stronger among individuals low in Conscientiousness compared to individuals high in Conscientiousness.

Now let's consider a different scenario. An individual high in Conscientiousness is confronted with a hindrance stressor (job constraints). A hindrance stressor, by definition interferes with an individual's goals. It distracts the individual and decreases motivation. Hindrance stressors are typically seen as a threat to work goal achievement (i.e., effective performance). However, because individuals high in Conscientiousness have ample resources (attention, focus, determination), they are more likely to find a way to effectively apply their resources to overcome the constraints (Hobfoll, 1989). In other words, a high-Conscientiousness individual is well equipped to respond to constraints in an organized and driven manner and find a way to persevere and perform well despite the hindrance. Further, because these individuals have high levels of this resource, they may effectively invest their conscientious tendencies to overcome the hindrance without depleting their resource level and becoming too exhausted. In contrast, when confronted with a hindrance stressor, low-Conscientiousness individuals may be less able to effectively invest their low level of resource towards overcoming the constraints. As a result of these individuals' poor investment of resources and their low initial level of resource, their performance will suffer, and their resources will become depleted by the stressor leading to higher exhaustion.

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H5: Conscientiousness will moderate the negative relationship between constraints and performance such the relationship will be stronger among individuals low in Conscientiousness compared to individuals high in Conscientiousness.

H6: Conscientiousness will moderate the positive relationship between constraints and exhaustion such that the relationship will be stronger among individuals low in Conscientiousness compared to individuals high in Conscientiousness.

Emotional Stability is also a resource that can help individuals meet the demands of their work and reduce strain. Individuals high in Emotional Stability are characterized by high levels of composure, focus, and stability. These qualities may serve as a resource that enables them to remain calm and focused when facing stressful situations. Thus, when individuals high in Emotional Stability are confronted with a challenge stressor, they have sufficient resources to dedicate toward meeting the challenge. These individuals will respond to the challenge stressor by remaining calm and focused (effectively investing his/her resource, Emotional Stability) and performing well. Meanwhile, their effective investment of resources and high initial level of the resources also allows them to adequately shield themselves from the loss of resources and keeps them from becoming emotionally exhausted. In contrast, individuals who are low in Emotional Stability have fewer resources available to invest when confronted with a challenge. In this situation, these individuals may not be able to remain calm and focused. Instead, they may become overwhelmed and dwell on the problem rather than respond to the motivating nature of the stressor with task-oriented behavior. This poor investment and low initial level of resource will result in lower performance as well as his/her resources quickly becoming depleted resulting in the

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individual becoming emotionally exhausted. This is once again consistent with the idea of loss spirals (Hobfoll, 1989).

> **H7**: Emotional Stability will moderate the positive relationship between challenge stressors and performance such that the relationship will be stronger among individuals high in Emotional Stability compared to those low in Emotional Stability.

> **H8**: Emotional Stability will moderate the positive relationship between challenge stressors and exhaustion such that the relationship will be stronger among individuals low in Emotional Stability compared to those high in Emotional Stability.

In an alternate scenario, let's consider an individual who is high in Emotional Stability confronted with constraints (hindrance stressor). Hindrance stressors are seen as a threat that interferes with an individual's goals. However, because individuals high in Emotional Stability have ample resources (composure, focus, and stability), they are more likely to be able to effectively apply their resources to overcome the constraints (Hobfoll, 1989). In other words, high-Emotional Stability individuals are well equipped to respond in a calm and focused manner and find a way to persevere and perform well even when facing a constraint that interferes with their goals. Additionally, these individuals' high initial level of Emotional Stability keeps them from depleting their resource level and becoming emotionally exhausted. In contrast, when confronted with a hindrance stressor, low Emotional Stability individuals have few resources to invest, and as a result, they may become frustrated and overwhelmed and may spend time dwelling on the problem rather than focusing on a solution. This poor investment and low initial level of resource will lead to poor performance, as well as the individual not being able to adequately prevent the loss of

their resource. He/she will become emotionally exhausted because his/her resources will become depleted.

> **H9**: Emotional Stability will moderate the negative relationship between constraints and performance such that the relationship will be stronger among individuals low in Emotional Stability compared to those high in Emotional Stability.

> **H10**: Emotional Stability will moderate the positive relationship between constraints and exhaustion such that the relationship will be stronger among individuals low in Emotional Stability compared to those high in Emotional Stability.

Chapter II

Methods

Participants and Procedure

Participants were recruited from a large university in the southern United States. The measures were part of a larger survey taken for extra-credit by students enrolled in psychology classes. The sample consisted of 407 participants after eliminating entries that failed to correctly answer the quality control items (49 entries). Completion of this survey was voluntary. The student population sampled was diverse in terms of gender (43% males), race (43% Caucasian, 35% Hispanic, 12% African American, & 7% Asian American), age (17% of students are 25yrs or older), and full-time vs. part-time employment status (33% part-time). The study was announced in several classrooms and advertised with flyers throughout the psychology building. The survey was administered in an online format using SurveyMonkey.

Measures

Personality. Conscientiousness and Emotional Stability were measured using the two 10-item scales from the International Personality Item Pool (IPIP; Goldberg, 1999; see Appendix

A). These scales have been demonstrated to be reliable and valid measures of Conscientiousness and Emotional Stability (Penney et al., 2011). The alpha values for Conscientiousness and Emotional Stability were $\alpha = .86$ and $\alpha = .90$ respectively. Participants were asked to indicate the extent to which they agree with items describing them on a six-point Likert scale ranging from 1 = disagree very much to 6 = agree very much. Sample items from the Conscientiousness scale are, "I pay attention to details," and "I follow

a schedule." Sample items from the Emotional Stability scale are, "I am relaxed most of the time," and "I get stressed out easily" (reverse scored).

Challenge stressors. Challenge stressors were measured using an adapted version of the challenge stressor scale developed by Cavanaugh et al. (2000). The scale was designed to assess how much stress an individual experiences from challenge stressors at work. The challenge stressor scale contains 5 items (see Appendix B) asking participants to indicate how much stress each item causes them ($\alpha = .85$). One of the items from the original scale was slightly modified (from "the amount of time I spend at work" to "the amount of time I spend at school.") and one item ("the scope of responsibility my position entails") was removed in order to allow better fit with a student sample. Other sample items include "the volume of work that must be accomplished in the allotted time" and "the number of projects and or assignments I have." Responses were given on a 5-point scale ranging from 1 = Produces no stress to 5 = Produces a great deal of stress.

Organizational constraints. Organizational constraints were measured using an adapted version of the Organizational Constraints Scale (OCS; Spector & Jex, 1998; see Appendix C). Some items were adapted to fit a student sample more appropriately (e.g., changed from "your supervisor" to "your professor" and "other employees" to "other students"). The adapted OCS($\alpha = .84$) was also expanded from the original 11 items to 16 items by removing three constraints that were deemed irrelevant for an educational setting (inadequate training, interruptions by other people, and organizational rules and procedures) and adding eight items specifically geared towards identifying constraints in a school setting (lack of financial aid, lack of tutoring, poor tutoring, transportation problems, inconvenient class meeting times, lack of distance learning opportunities, lack of access to computers, and

poor student advising). Participants were asked to indicate how often they found it difficult

or impossible to do their class work because of the constraints listed using a 5-point scale

ranging from 1 = less than once per month or never to 5 = several times per day.

Performance. Performance was measured using university records of students' GPA.

The use of GPA to assess performance has been common in research despite debate

regarding its appropriateness (Roth, BeVier, Switzer III, & Schippmann, 1996). In this case, I

believe GPA was an appropriate measure of performance for the sample. The variables being

considered are all presented in the educational context common to the student sample. Part of

the goal of this study is to see how certain predictors affect performance, and within the

context of schoolwork and education, the best way to measure individual performance is

through a student's GPA. GPA is designed specifically to be a measure of a student's

performance. Also, studies such as Roth et al., (1996) have shown that grades can be

moderately correlated to job performance (.30).

Emotional exhaustion. Emotional exhaustion was measured using items adapted

from the emotional exhaustion subscale of the Maslach Burnout Inventory (MBI; Maslach &

Jackson, 1981; see Appendix D). The emotional exhaustion subscale of the MBI contains six

items asking participants to indicate the extent to which they agree with the statements. The

items were adapted slightly for use with a student sample instead of fulltime employees

($\alpha = .89$). Sample items include "I feel emotionally drained from my school work" and "I

feel used up at the end of the day." Participants responded on a six-point likert scale ranging

from 1 = disagree very much to 6 = agree very much.

Quality control items. Three control items were included to check for non-

conscientious responding. The items were distributed through the survey and instructed the

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participant to simply mark a certain answer (e.g., This item is for control purposes, please

select "agree moderately.").

Chapter III

Results

All data manipulations and analyses were done using SAS v.9.3. Prior to the data

analysis, I performed several steps to "clean" the data. First, I deleted the observations that

failed to correctly answer the three control items (eliminating 49 responses to leave 407

remaining). These items, which were included throughout the survey to check for non-

conscientious responding, instructed participants to select a particular answer choice (i.e.,

this item is for control purposes, please select "agree moderately."). I then cleaned the GPA

variable. Unfortunately, 55% of the GPA data were missing either by error in the gathering

process or because the students were enrolled in their first semester at the university and did

not yet have a GPA. Many of these missing or new GPAs showed up as zeros, and there were

8 other values that were out of the range of possible GPA values. In order to avoid skewing

the results, I corrected these to show as missing values (leaving 182 valid GPAs). Next, I

adjusted reverse coded items and created composites for each variable from the multi-item

surveys (e.g., took the average off all the separate Conscientiousness items to create a single

Conscientiousness score), while also calculating alpha values. Finally, I centered the

predictors at each variable's mean and created the interaction terms.

Table 1 presents descriptive statistics, reliability estimates and the intercorrelation

matrix. The intercorrelation matrix shows support for hypothesis 1b and 2b; challenge

stressors and organizational constraints were positively related to emotional exhaustion ($r =$

.61, $p < .01$ and $r = .44$, $p < .01$ respectively). However, hypotheses 1a and 2a were not

supported; neither challenge stressors nor organizational constraints were significantly

related to GPA ($r = .11$, *n.s.* and $r = -.10$, *n.s.* respectively).

I also tested these relationships by running regressions, which included academic classification and age as control variables. Specifically, I used hierarchical multivariate regression, and I regressed the dependent variable on the control variables (academic classification and age) in the first step then added the stressor in the second step. I did this for each of the two dependent variables (GPA and emotional exhaustion) and for each of the two predictors (challenge stressors and constraints). I chose to use academic classification as a control variable because I suspected the length of time an individual had been in college could affect their perceptions of school-related stressors and constraints as well as emotional exhaustion. Similarly, I chose to use age as a control variable, because I suspected an individual's maturity and life experience, reflected in their age, could affect their perceptions of school related stressors and emotional exhaustion as well as their GPA. These results (seen in Tables E1 and E2 in Appendix E) were no different from those indicated by the correlations. That is, when controlling for academic classification and age, both challenge stressors and constraints significantly predicted emotional exhaustion, but not GPA.

I tested the interaction hypotheses using hierarchical moderated multiple regression. I ran separate regressions for each combination of predictor variables (Conscientiousness with challenge stressors, Conscientiousness with constraints, Emotional Stability with challenge stressors, Emotional Stability with constraints) with each of the two dependent variables (GPA and emotional exhaustion). The centered predictors were entered in the first step, followed by the interaction terms (created from the centered predictors) in the second step. For significant interactions, I then graphed the simple slopes of the interaction with the moderator at values of plus and minus one standard deviation from the mean (Cohen, Cohen, Aiken & West, 2003) in order to examine if the personality variables moderated the

relationships as predicted in the hypotheses. I also ran separate regression analyses for each interaction hypothesis (hypotheses 3-10) including academic classification and age as control variables. I used hierarchical moderated regression including the control variables in the first step, adding the predictors in the second step, and adding the interaction the in the third step. These results can be seen in Appendix E, Tables E3-E6. Because adding the control variables did not affect the results, I report the regression analyses without the controls below.

Hypotheses 3 and 4 predicted that Conscientiousness would moderate the positive relationship between challenge stressors and both GPA and emotional exhaustion respectively. As shown in Table 2, the interaction between Conscientiousness and challenge stressors did not significantly predict GPA or emotional exhaustion ($\beta = -.08$ n.s. and $\beta = .00$ n.s. respectively). Thus, hypotheses 3 and 4 were not supported.

Hypotheses 5 and 6 predicted that Conscientiousness would moderate the negative relationship between constraints and GPA and the positive relationship between constraints and emotional exhaustion respectively. As shown in Table 3, the interaction between Conscientiousness and constraints did not significantly predict GPA or emotional exhaustion ($\beta = -.08$ n.s. and $\beta = .04$ n.s. respectively). Thus, hypotheses 5 and 6 were not supported.

Hypotheses 7 and 8 predicted that Emotional Stability would moderate the positive relationship between challenge stressors and both GPA and emotional exhaustion respectively. As shown in Table 4, the interaction between Emotional Stability and challenge stressors did not significantly predict GPA or emotional exhaustion ($\beta = -.02$ n.s. and $\beta = -.02$ n.s. respectively). Thus, hypotheses 7 and 8 were not supported.

Hypotheses 9 and 10 predicted that Emotional Stability would moderate the negative relationship between constraints and GPA and the positive relationship between constraints

and emotional exhaustion respectively. As shown in Table 5, the interaction between Emotional Stability and constraints did not significantly predict GPA (β = -.05 n.s.). Thus, hypothesis 9 was not supported. However, the interaction between Emotional Stability and constraints was significant for predicting emotional exhaustion (β = .08, p = .05). However, upon finding a significant interaction, I graphed the relationship using a "proc sgplot" regression plot in SAS. This graph of hypothesis 10 (seen in Figure 1) shows that the direction of the relationship is somewhat contrary to the predicted relationship. Figure 1 shows that the positive relationship between constraints and emotional exhaustion was weaker for those low in Emotional Stability.

Chapter IV

Discussion

I used COR theory to examine whether personality moderates the relationship between challenge and hindrance stressors, and performance and emotional exhaustion. Using data collected from students attending a large university in the southern United States, results were only partially supportive of my hypotheses. The results did show that challenge stressors and constraints were positively related to emotional exhaustion but showed no significant relationship to GPA. Of the hypothesized interactions, only the interaction between Emotional Stability and constraints to predict emotional exhaustion was significant.

In the following sections, I will first discuss the hypotheses examining emotional exhaustion as the criteria followed by the hypotheses examining GPA. I will also discuss potential explanations for the non-significant findings. I will conclude by reviewing the limitations of this study as well as the implications and directions for future research .

Emotional Exhaustion

Hypotheses 1b and 2b predicted that challenge stressors and constraints (respectively) would be positively related to emotional exhaustion. This is in line with previous research showing that challenge stressors and constraints (a type of hindrance stressor) are associated with increased exhaustion. Research has shown that challenge stressors, while often leading to positive outcomes like increased performance, are still associated with increased emotional exhaustion. Also, individuals experiencing constraints are more likely to experience emotional exhaustion. The results supported hypothesis 1b as individuals who reported having experienced greater challenge stressors also reported having experienced greater emotional exhaustion. Similarly, results showed that students reporting greater constraints

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also reported experiencing greater emotional exhaustion, supporting hypothesis 2b. These findings support the argument that even though challenge stressors can be beneficial, if they lead to increased performance, they can also have negative consequences on employees, namely greater emotional exhaustion. As such, organizations should be cautious about the challenge stressors their employees face. If the challenges become too great or numerous, the negative effects of challenge stressors (i.e., emotional exhaustion) could outweigh the positive effects (i.e., increased motivation and performance). Meanwhile, constraints are not typically associated with any positive outcomes. As such, organizations would do well to ensure their employees face as few constraints as possible.

Unfortunately, none of the hypothesized interactions between stressors and Conscientiousness and Emotional Stability in predicting emotional exhaustion were supported with the exception of hypothesis 10. However, the findings were different from what I predicted. Hypothesis 10 predicted that Emotional Stability would moderate the positive relationship between constraints and exhaustion such that the relationship would be stronger among individuals low in Emotional Stability compared to those high in Emotional Stability. I argued that individuals who have a high level of Emotional Stability have an ample amount of resources (composure, focus, and stability), which could help shield them from becoming emotionally exhausted. However, as shown in Figure 1, the relationship between constraints and emotional exhaustion was actually more strongly positive for those high in Emotional Stability. Although this was the opposite of my prediction, examining this result from a different perspective reveals an interesting potential explanation. The graph shows that among individuals experiencing low constraints, those with high Emotional Stability experience less emotional exhaustion. However, as constraints increase, the

regression lines come together showing that when constraints are high, Emotional Stability does not make a difference. The data and figure suggest that when constraints are low, Emotional Stability helps to buffer individuals from the effects of exhaustion. This is also of note, because it points out how detrimental constraints can be. Whereas highly Emotionally Stable individuals typically experience less emotional exhaustion than others, when constraints get too high, they, like others, may become emotionally exhausted.

The remaining hypotheses examining emotional exhaustion were not supported. Hypotheses 4 and 6 predicted that Conscientiousness would moderate the relationships between both challenge stressors and constraints (a hindrance stressor) and emotional exhaustion. These hypotheses were based on research suggesting that Conscientiousness, and the qualities associated with it (i.e., organized, driven, motivated), could be a personality trait that serves as a resource to help prevent individuals from depleting their resources and experiencing burnout when they are confronted with challenge or hindrance stressors. However, the results of this study did not indicate a significant interaction between Conscientiousness and either challenge stressors or constraints, failing to support hypotheses 4 and 6, respectively. A possible reason why these hypotheses were not supported could be that Conscientiousness alone may not be enough of a resource to keep individuals from burning out. Instead, Conscientiousness may be a resource that more directly relates to how individuals perform rather than how likely they are to become exhausted. Perhaps an individual needs to posses other traits as well as the driven and organized nature, which is characterized by Conscientiousness, to shield him/herself from becoming emotionally exhausted. Additionally, lack of support for hypothesis 6 could have to do with the effect of

constraints versus challenge stressors. The negative effects of a high level of constraints may be too strong for individuals to overcome regardless of resource level.

Hypothesis 8 predicted that Emotional Stability would moderate the relationship between challenge stressors and emotional exhaustion. This argument was once again based on COR theory which suggests that personality traits, in this case Emotional Stability, can be a resource that shields individuals from burnout. However, the results did not indicate a significant interaction between Emotional Stability and challenge stressors. I believe that similar to the previous non-significant hypotheses. A potential explanation could be that Emotional Stability alone was not a sufficient resource to shield individuals from becoming exhausted when facing challenge stressors. Though hypothesis 10 showed a significant interaction between Emotional Stability and constraints, we know that constraints and challenge stressors have different effects on people. Thus, even though Emotional Stability did interact with constraints to predict emotional exhaustion, it does not seem to interact with challenge stressors. Previous research shows that part of what distinguishes challenge stressors from hindrance stressors is that challenge stressors are considered motivating (LePine et al., 2004; LePine et al., 2005). The motivating nature of challenge stressors may de-emphasize the importance of Emotional Stability. In other words, because the stressor is motivating, the focus may be shifted to completing the task rather than dwelling on the problem. Whereas with Constraints, individuals are more likely to dwell on the stressor, thus Emotional Stability may be more important to ensuring they do not become emotionally exhausted. Perhaps examining a combination of personality traits would yield better results when analyzing the stressor to exhaustion relationship.

GPA

Hypothesis 1a predicted that challenge stressors would be positively related to GPA. Previous literature (LePine et al., 2004; LePine et al., 2005; Webster et al., 2010) has shown that challenge stressors, though still associated with increased exhaustion, had the positive outcome of increased performance. The results from this study did not show a significant relationship between challenge stressors and GPA, failing to support hypothesis 1a. This lack of support for hypothesis 1a fails to provide evidence for the argument that challenge stressors can lead to better performance. However, it is possible that there is a relationship here, but the study did not have enough power to detect it (i.e., type II error). As I mentioned previously, issues with the GPA variable lowered the sample size for these analyses from 407 (the full sample) to 182 (the sample with GPA data). Hypothesis 2a predicted that constraints would be negatively related to GPA. Previous research has shown that constraints, a form of hindrance stressor, are associated with decreased performance. Despite the evidence for this relationship in past studies, the results from this study did not indicate a significant relationship, failing to support hypothesis 2a. Once again, a type II error is possible due to a lack of power from the small sample size of the GPA variable. Previous studies have used GPA as a measure of learning performance and found significant relationships between GPA and both challenge and hindrance stressors (LePine et al., 2004). However, despite the findings using GPA from LePine et al. (2004), most other research has focused on more conventional methods of job performance, such as objective indicators or supervisor ratings in the workplace. It is possible that GPA would be explained more by factors such as general mental ability and not affected as much by challenge and hindrance stressors.

The data also failed to support the interaction hypotheses predicting GPA. Hypothesis 3 and 5 predicted that Conscientiousness would moderate the relationships between both challenge stressors and constraints (hindrance stressor) and GPA, respectively. Previous research showed that challenge stressors are sometimes associated with higher levels of performance, and based on COR theory, I argued that Conscientiousness would serve as a resource to help individuals to rise to the challenge and perform better when faced with challenge stressors. Also, Conscientiousness could serve as a resource that helps individuals work diligently and persistently to find a way around constraints to achieve better performance when faced with this hindrance stressor. However, the results of this study did not reveal either interaction to be significant, failing to support hypothesis 3 and 5. I believe the small sample size due to lack of GPA data, as previously discussed, could be part of the reason no significant relationship was found. However, it is also possible that Conscientiousness, when considered on its own, is not a sufficient enough resource to moderate the potential relationships between challenge stressor and constraints and performance. Conscientiousness contributes certain traits to an individual's personality and behavior, but perhaps these traits alone do not have enough of an effect. Perhaps an individual requires a different trait or a different combination of traits to be more likely to perform well when faced with these stressors.

Hypothesis 7 and 9 predicted that Emotional Stability would moderate the relationships between challenge stressors and constraints and GPA, respectively. This argument was once again based on the theory that personality traits, such as Emotional Stability, can be a resource that helps individuals to perform better when faced with challenge stressors and to remain calm and focus on finding a way around constraints, thus

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being able to perform better. However, the results did not indicate a significant interaction between Emotional Stability and either stressors, failing to support hypotheses 7 and 9. I believe that like the previous non-significant hypotheses, small sample size could be a problem. However, another potential explanation might be that Emotional Stability was not enough of a resource (or the right resource) to help individuals perform well when facing challenge stressors. While being able to remain calm and focused (characteristics of an emotionally stable person) is important when faced with a challenge stressor, it may not be enough to ensure an individual performs well.

When collecting my data, I used university records of student GPA in order to ensure greater accuracy over participant self-reported GPA. However, I ran into a few problems with the GPA data. I was unable to obtain GPA data for 55% of the 407 participants. As a result of this, the valid sample size for analyses involving GPA was reduced to 182 excluding over half of the total sample. As we know, the power of a statistical test is greatly affected by the sample size, and the tests involving GPA as the criterion may not have had enough power. Providing further support for this possibility is the fact that hypotheses 1b and 2b, which examined emotional exhaustion as the criterion and had the full sample of about 400 participants, were found significant. I believe this could be the main reason for the failure to detect significant relationships between challenge and hindrance stressors and GPA.

Another potential issue with the data could have been the limited number of hours available to calculate GPAs. As mentioned previously, a large portion of the GPA data was removed because participants had not taken enough credit hours to establish a GPA. However, of the participants for whom GPA data was available, 30% had less than 24 credit

hours (first or second semester students), which suggests that their GPA data may have been unreliable.

As I have mentioned throughout my discussion of the non-significant interaction hypotheses, a possible explanation is that a single personality trait may not be a strong enough factor to moderate the potential relationships between challenge and hindrance stressors and GPA and emotional exhaustion. It seems likely that perhaps a combination of personality traits would have a stronger effect as a moderator of these relationships. A combination of Conscientiousness and Emotional Stability to moderate the relationships between challenge and hindrance stressors and GPA and emotional exhaustion could be examined in the form of a three-way interaction.

A three-way interaction was not one of my original hypotheses, however it fits very well within my theoretical argument. I used COR theory to argue that the personality variables of Conscientiousness and Emotional Stability (and the qualities associated with each) served as resources, which individuals could invest to achieve greater performance, and which could shield individuals from becoming emotionally exhausted. While the performance side of this argument was largely not supported by my findings, the emotional exhaustion component received some support. A three-way interaction simply argues that individuals high in both Emotional Stability and Conscientiousness have a higher level of resources, and different types of resources (i.e., Conscientiousness – organized, driven; Emotional Stability – calm, focused), than individuals high in just one or neither of the personality traits. As such, they are likely to perform better and be more resistant to emotional exhaustion than individuals high in just one or neither of the personality traits.

Post-hoc Analyses

There are four potential three-way interactions I examined as post-hoc analyses. For these interactions, I present the following arguments. Individuals who are high in both Conscientiousness and Emotional Stability have a high level of these two different types of resources characterized by driven and organized behavior (Conscientiousness) and a calm and focused demeanor (Emotional Stability). When these individuals are presented with a challenge stressor, their personality resources allow them to respond in a way that will facilitate overcoming the challenge. That is, because these individuals are high in Conscientiousness, they are likely to rise to the challenge and be driven as well as responding with organized and "conscientious" behavior. Meanwhile, these individuals are also high in Emotional Stability allowing them to remain calm and focused on overcoming the challenge stressor. Because these individuals are likely to respond to the challenge stressor with organized and driven behavior as well as remaining calm and focused on the task, they are likely to perform better and experience less emotional exhaustion than individuals who only posses one or neither of the personality traits.

> **Post-hoc 1:** Conscientiousness and Emotional Stability jointly moderate the positive relationship between challenge stressors and GPA, such that the relationship will be strongest when individuals are high in both Conscientiousness and Emotional Stability.

> **Post-hoc 2:** Conscientiousness and Emotional Stability jointly moderate the positive relationship between challenge stressors and emotional exhaustion, such that the relationship will be weakest when individuals are high in both Conscientiousness and Emotional Stability.

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Likewise, when individuals high in both Conscientiousness and Emotional Stability are presented with constraints, their personality resources will again allow them to respond in a way that will facilitate overcoming the constraints. Because these individuals are high in Conscientiousness, they are likely to remain motivated and task-oriented and to effectively manage a way to overcome the constraint. Meanwhile, because these individuals are also high in Emotional Stability, they should be able remain calm and focused and not become overwhelmed by the constraint that is interfering with their tasks. Because these individuals are likely to respond effectively to the constraints with organized and driven behavior as well as remaining calm and focused on the task, they are likely to perform better and experience less emotional exhaustion than individuals who only posses one or neither of the personality traits.

Post-hoc 3: Conscientiousness and Emotional Stability jointly moderate the negative relationship between constraints and GPA, such that the relationship will be weakest when individuals are high in both Conscientiousness and Emotional Stability.

Post-hoc 4: Conscientiousness and Emotional Stability jointly moderate the positive relationship between constraints and emotional exhaustion, such that the relationship will be weakest when individuals are high in both Conscientiousness and Emotional Stability.

The results for these post-hoc analyses (seen in Tables 6 & 7) supported only one of the four possible three-way interactions. Post-hoc 1, 3, and 4 were not supported. Post-hoc 2 predicted that Conscientiousness and Emotional Stability would moderate the positive relationship between challenge stressors and emotional exhaustion. The results did indicate a significant interaction between Conscientiousness, Emotional Stability, and challenge

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stressors to predict emotional exhaustion. I graphed the relationship using the SAS proc sgpanel regression procedure (see Figure 2). As predicted, individuals who have the highest level of resources (high in both Conscientiousness and Emotional Stability) had the weakest positive relationship between challenge stressors and emotional exhaustion, and individuals who are low in one or both of the personality trait had a stronger positive relationship between challenge stressors and emotional exhaustion. These findings suggest that an individual must possess both qualities to truly prevent burnout in the face of challenge stressors. In other words, high Conscientiousness may not compensate for low Emotional Stability, and vise versa. Perhaps in order to be more resistant to becoming emotionally exhausted, individuals must possess both traits.

Three-way interactions can be difficult to find, and the fact that only one of the four predicted interactions was significant may raise suspicions that this could simply be a type I error. However, I believe the theoretical framework, as explained previously, does provide a strong argument for a three-way interaction. Also, a potential explanation for the lack of significance for post-hoc analyses 1 and 3 could be the low power resulting from the small sample size of the GPA variable. Because these analyses were done post-hoc, further research should be conducted to continue to investigate the possibility of a three-way interaction to moderate the stressors to performance and burnout relationship.

Limitations

I would now like to point out some limitations of this study. One limitation of this study is that the data were cross-sectional; thus I cannot provide causal evidence for the relationship between challenge stressors or constraints and emotional exhaustion. However, strong theoretical evidence provides some argument to the direction of these relationships.

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Second, because the majority of the data (Conscientiousness, Emotional Stability, challenge stressors, constraints, and emotional exhaustion) were collected via self-report survey, common method variance may have influenced the findings. However, recent research suggests that common method variance is often not as large of an issue as it is made out to be (Spector, 2006). Also, the study was conducted using a student sample, which could affect the generalizability of these findings. I do not believe this should be too much of an issue, because the constructs examined (personality, stressors, emotional exhaustion, and performance) are commonly found in the student population from which the sample was drawn. These constructs are also fairly broad and commonly encountered by the general population. Lastly, a large portion of the student sample did not have enough credit hours to provide adequate GPA data, which resulted in this variable having a low valid sample size. Further research should be conducted to reexamine the performance component of the suggested relationships.

Implications and Future Research

Despite the lack of support for most hypotheses, this study provides several implications. First, the results provide support and replication to some of the main effect hypotheses. Specifically, they show that challenge stressors and constraints are positively related to emotional exhaustion. These findings replicate what has been shown in previous research, and provide evidence that these stressors can have a negative effect on individuals. Organizations should monitor the challenges and constraints their employees face in order to avoid burnout in their workforce. Also, while both challenge stressors and constraints were positively related to emotional exhaustion, the strength of the relationships varied for each. Studying stressors by specifically dividing them into challenge or hindrance stressors may

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allow researchers to achieve a deeper and more accurate understanding of how they each affect individuals. Second, the findings provide some insight into the nature of organizational constraints. As shown in hypothesis 10, these stressors can be highly detrimental by leading to emotional exhaustion in individuals who would normally not be prone to such an outcome. Managers should take great effort to reduce constraints amongst their employees whenever possible. Lastly, the post hoc analyses revealed an interesting three-way interaction showing Conscientiousness and Emotional Stability jointly moderated the positive relationship between challenge stressors and emotional exhaustion. If the findings from this post hoc analysis are true, they suggest that employees high in Conscientiousness and Emotional Stability may be more resistant to burnout when confronted with challenge stressors than employees low on those traits. This would provide further reason why organizations should consider personality characteristics, specifically Conscientiousness and Emotional Stability, when selecting employees. However, because this finding was post-hoc, future research should attempt to replicate these results and provide further evidence.

Future research should also examine how other personality traits may play a role in the stressor – strain literature. How can different personality traits combine to serve as resources? Some additional traits that could fit within this theoretical framework could include hardiness and for some jobs, extraversion. Future researchers should also attempt to reexamine the way resources can affect performance. In this study I was unable to establish a relationship with the GPA measure of performance, however this could be due to issues with the GPA variable. Future stressor – strain literature could also examine the role of resources in combination with motivation, which is believed to be the mediator between challenge stressors and performance.

The relationships examined in this study may help provide a better understanding of how personality might help improve performance and prevent the negative consequences of stressors in the workplace. Such knowledge can provide a better understanding of the role of personality in stressor – strain and performance models, as well as providing further support for the use of personality in selection measures.

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Table 1. *Descriptive Statistics, Intercorrelation Matrix, and Reliability Estimates.*

Variable	N	Mean	SD	1	2	3	4	5	6
1. Consc	397	4.48	.80	(.86)					
2. Emot Stability	401	3.64	.96	.24**	(.90)				
3. Chall Stressors	400	3.50	.80	-.15**	-.51**	(.85)			
4. Constraints	395	1.59	.45	-.18**	-.17**	.32**	(.84)		
5. Emot Exhaust	399	3.62	1.17	-.16**	-.49**	.61**	.44**	(.89)	
6. GPA	182	2.99	.62	.18*	.02	.11	-.10	-.01	NA

Note: $^{+}p < .10$, $^{*}p < .05$, $^{**}p < .01$. Reliability estimates (α) are presented in the diagonal.

Table 2. *Moderated Regression for Conscientiousness and Challenge Stressors (H3 & H4).*

	GPA		Emotional Exhaustion	
Main Effects	Model 1	Model 2	Model 1	Model 2
Conscientiousness	.18*	.19*	.08+	-.08+
Challenge Stressors	.14+	.14+	.61**	.61**
Interaction				
Consc X Challenge		-.08		.00
R^2	.05	.06	.39	.39
Adj R^2	.04	.04	.38	.38
ΔR^2 from previous model		.00		.00

Entries are standardized regression coefficients. GPA, N = 174; Emot Exhaust, N=384.

+ p < .10 * p < .05 ** p < .01

Table 3. *Moderated Regression for Conscientiousness and Constraints (H5 & H6).*

	GPA		Emotional Exhaustion	
Main Effects	Model 1	Model 2	Model 1	Model 2
Conscientiousness	-.16*	.15+	-.07	-.07
Constraints	-.07	-.10	.42**	.43**
Interaction				
Consc X Constraints		-.08		.04
R^2	.03	.04	.19	.19
Adj R^2	.02	.02	.19	.19
ΔR^2 from previous model		.00		.00

Entries are standardized regression coefficients. GPA, N = 171; Emot Exhaust, N=378.

+ p < .10 * p < .05 ** p < .01

Table 4. *Moderated Regression for Emotional Stability and Challenge Stressors (H7 & H8).*

	GPA		Emotional Exhaustion	
Main Effects	Model 1	Model 2	Model 1	Model 2
Emotional Stability (ES)	.08	.08	-.24**	-.24**
Challenge Stressors	.14	.14	.49**	.49**
Interaction				
ES X Challenge		-.02		-.02
R^2	.02	.02	.42	.42
Adj R^2	.00	.00	.41	.41
ΔR^2 from previous model		.00		.00

Entries are standardized regression coefficients. GPA, N = 175; Emot Exhaust, N=386.

+ p < .10 * p < .05 ** p < .01

Table 5. *Moderated Regression for Emotional Stability and Constraints (H9 & H10).*

	GPA		Emotional Exhaustion	
Main Effects	Model 1	Model 2	Model 1	Model 2
Emotional Stability (ES)	-.01	-.01	-.43**	-.42**
Constraints	-.11	-.12	.38**	.39**
Interaction				
ES X Constraints		-.05		.08*
R^2	.01	.01	.38	.38
Adj R^2	.00	.00	.38	.38
ΔR^2 from previous model		.00		.00

Entries are standardized regression coefficients. GPA, N = 173; Emot Exhaust, N=381.

+ p < .10 * p < .05 ** p < .01

Table 6. *Regression for Three-way Interaction with Challenge Stressors (PH1 & PH2).*

Main Effects	GPA			Emotional Exhaustion		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Conscientiousness (Consc)	.18*	.22**	.23**	-.04	-.06	-.09*
Emotional Stability (ES)	.03	.01	.01	-.23**	-.24**	-.24**
Challenge Stressors	.14+	.15+	.15+	.49**	.48**	.51**
Two-Way Interaction						
Consc X Chall		-.07	-.07		-.05	-.08
ES X Chall		.06	.06		-.02	-.02
Consc X ES		.09	.09		-.08+	-.07
Three-Way Interaction						
Consc X ES X Chall			.02			-.11*
R^2	.05	.06	.06	.42	.43	.43
Adj R^2	.03	.03	.02	.42	.42	.42
ΔR^2 from previous model		.01	.00		.01	.00

Entries are standardized regression coefficients. GPA, N = 170; Emot Exhaust, N=378.

+ p < .10 * p < .05 ** p < .01

Table 7. *Regression for Three-way Interaction with Constraints (PH3 & PH4).*

	GPA			Emotional Exhaustion		
Main Effects	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Conscientiousness (Consc)	.18*	.19*	.19*	.01	.00	.00
Emotional Stability (ES)	-.06	-.07	-.07	-.43**	-.43**	-.43**
Constraints (Const)	-.08	-.10	-.10	.38**	.39**	.39**
Two-Way Interaction						
Consc X Const		-.10	-.09		.00	.01
ES X Const		.02	.02		.07	.07
Consc X ES		.09	.09		-.05	-.06
Three-Way Interaction						
Consc X ES X Const			.00			.02
R^2	.04	.05	.05	.38	.39	.39
Adj R^2	.02	.02	.01	.37	.38	.37
ΔR^2 from previous model		.01	.00		.01	.00

Entries are standardized regression coefficients. GPA, N = 167; Emot Exhaust, N=372.

+ p < .10 * p < .05 ** p < .01

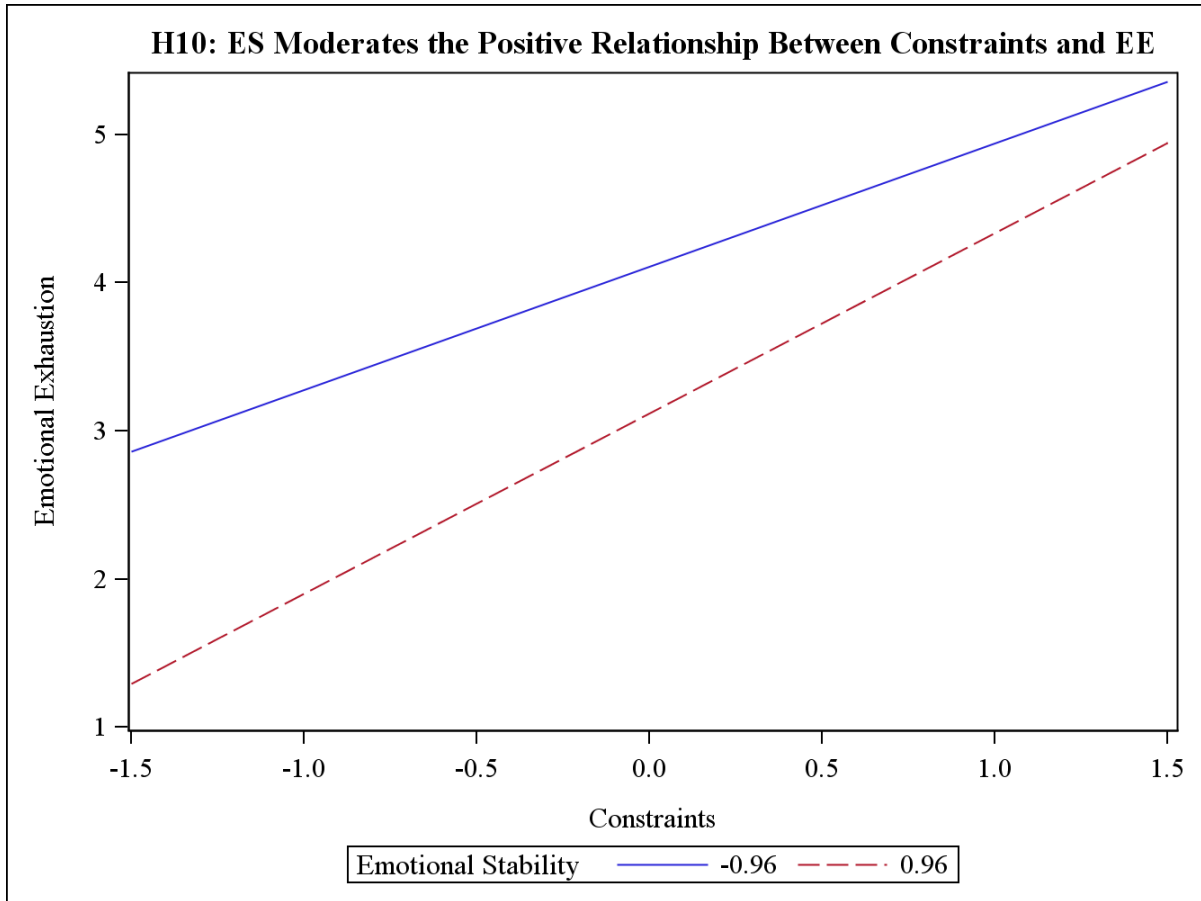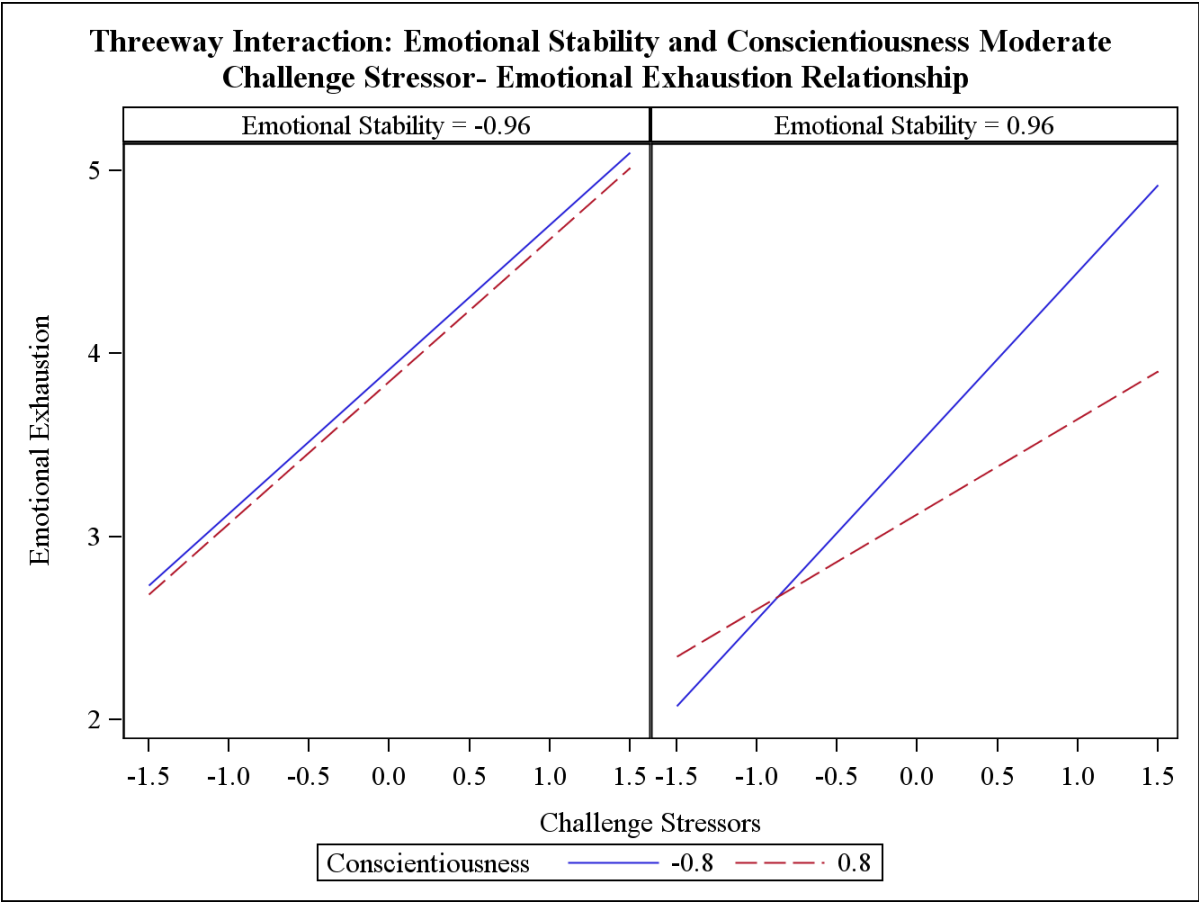Figure 1. *ES Moderates the Positive Relationship Between Constraints and EE (H10).*

Figure 2. *Three-way Interaction Graph (not-hypothesized).*

Threeway Interaction: Emotional Stability and Conscientiousness Moderate Challenge Stressor- Emotional Exhaustion Relationship

Appendix A

Conscientiousness and Emotional Stability Scale Items (IPIP; Goldberg, 1999)

1 = Disagree very much

2 = Disagree moderately

3 = Disagree slightly

4 = Agree slightly

5 = Agree moderately

6 = Agree very much

Conscientiousness

1. I am always prepared.

2. I pay attention to details.

3. I get chores done right away.

4. I like order.

5. I follow a schedule.

6. I am exacting in my work.

7. I leave my belongings around.

8. I make a mess of things.

9. I often forget to put things back in their proper place.

10. I shirk my duties.

Emotional Stability

1. I am relaxed most of the time

1. I seldom feel blue.

2. I get stressed out easily.

3. I worry about things.

4. I am easily disturbed.

5. I get upset easily.

6. I change my mood a lot.

7. I have frequent mood swings.

8. I get irritated easily.

9. I often feel blue.

Appendix B

Challenge Stressor Scale (Cavanaugh et al., 2000)

1 = Produces no stress

2 = Produces a little stress

3 = Produces some stress

4 = Produces a moderate amount of stress

5 = Produces a great deal of stress

1. The number of projects and or assignments I have.

2. The amount of time I spend at school.

3. The volume of work that must be accomplished in the allotted time.

4. Time pressures I experience.

5. The amount of responsibility I have.

Appendix C

Organizational Constraints Scale Items (OCS; Spector & Jex, 1998)

1 = Less than once per month or never

2 = Once or twice per month

3 = Once or twice per week

4 = Once or twice per day

5 = Several times per day

1. Poor equipment or supplies.

2. Other students.

3. Your professors.

4. Lack of equipment or supplies.

5. Lack of necessary information about what to do or how to do it.

6. Conflicting demands (e.g., from school, work, home).

7. Inadequate help from others.

8. Incorrect instructions.

9. Lack of tutoring.

10. Transportation problems.

11. Lack of financial aid.

12. Inconvenient class meeting times.

13. Poor tutoring.

14. Lack of distance learning (online courses) opportunities.

15. Lack of access to computers.

16. Poor student advising.

Appendix D

Emotional Exhaustion Scale Items (MBI; Maslach and Jackson, 1981)

1 = Disagree very much

2 = Disagree moderately

3 = Disagree slightly

4 = Agree slightly

5 = Agree moderately

6 = Agree very much

1. I feel emotionally drained from my school-work.

2. I feel used up at the end of the day.

3. I feel fatigued when I get up in the morning and have to face another day at school.

4. I feel burned out from my class work.

5. I feel I'm working too hard at school.

6. I feel like I'm at the end of my rope.

Appendix E

Tables with Control Variables

Table E1. *Regression for Challenge Stressors with Control Variables (H1a & H1b).*

	GPA		**Emotional Exhaustion**	
Controls	Model 1	Model 2	Model 1	Model 2
Academic Classification	.11	.10	.14**	.05
Age	.02	.03	-.14**	-.12**
Main Effects				
Challenge Stressors		.11		.61**
R^2	.01	.02	.03	.39
Adj R^2	.00	.01	.02	.39
ΔR^2 from previous mod		.01		.37

Entries are standardized regression coefficients. GPA, N = 172; Emot Exhaust, N=375.

+ p < .10 * p < .05 ** p < .01

Table E2. *Regression for Constraints with Control Variables (H2a & H2b).*

	GPA		Emotional Exhaustion	
Controls	Model 1	Model 2	Model 1	Model 2
Academic Classification	.11	.10	.14**	.13**
Age	.02	.02	-.14**	-.13**
Main Effects				
Constraints		-.10		.45**
R^2	.01	.02	.03	.23
Adj R^2	.00	.00	.02	.22
ΔR^2 from previous mod		.00		.20

Entries are standardized regression coefficients. GPA, N = 170; Emot Exhaust, N=369.

+ p < .10 * p < .05 ** p < .01

Table E3. *Moderated Regression for Conscientiousness and Challenge Stressors (H3 & 4).*

	GPA			Emotional Exhaustion		
Controls	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Academic Classification	.11	.10	.10	.14**	.04	.04
Age	.02	.03	.02	-.14**	-.11**	-.12**
Main Effects						
Conscientiousness		.17*	.17*		-.06	-.06
Challenge Stressors		.13+	.13+		.61**	.61**
Interaction						
Consc X Challenge			-.06			-.01
R^2	.01	.06	.06	.03	.40	.40
Adj R^2	.00	.03	.03	.02	.39	.39
ΔR^2 from previous mod		.03	.00		.37	.00

Entries are standardized regression coefficients. GPA, N = 167; Emot Exhaust, N=367.

+ p < .10 * p < .05 ** p < .01

Table E4. *Moderated Regression for Conscientiousness and Constraints (H5 & 6).*

	GPA			Emotional Exhaustion		
Controls	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Academic Classification	.11	.12	.12	.14**	.12*	.13*
Age	.02	.02	.01	-.14**	-.12*	-.12*
Main Effects						
Conscientiousness		-.15+	.13+		-.05	-.05
Constraints		-.07	-.09		.44**	.44**
Interaction						
Consc X Constraints			-.08			.03
R^2	.01	.04	.05	.03	.23	.23
Adj R^2	.00	.02	.02	.02	.22	.22
ΔR^2 from previous mod		.02	.00		.20	.00

Entries are standardized regression coefficients. GPA, N = 164; Emot Exhaust, N=360.

+ p < .10 * p < .05 ** p < .01

Table E5. *Moderated Regression for Emotional Stability and Challenge Stressors (H7 & 8).*

	GPA			Emotional Exhaustion		
Controls	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Academic Classification	.11	.08	.08	.14**	.06	.06
Age	.02	.03	.03	-.14**	-.11**	-.11**
Main Effects						
Emotional Stability (ES)		.09	.09		-.25**	-.25**
Challenge Stressors		.14	.14		.48**	.48**
Interaction						
ES X Challenge			-.01			-.03
R^2	.01	.03	.03	.03	.43	.44
Adj R^2	.00	.00	.00	.02	.43	.43
ΔR^2 from previous model		.02	.00		.40	.01

Entries are standardized regression coefficients. GPA, N = 168; Emot Exhaust, N=369.

+ p < .10 * p < .05 ** p < .01

Table E6. *Moderated Regression for Emotional Stability and Constraints (H9 & 10).*

	GPA			Emotional Exhaustion		
Controls	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Academic Classification	.11	.10	.10	.14**	.11*	.12**
Age	.02	.00	.00	-.14**	-.11*	-.11*
Main Effects						
Emotional Stability (ES)		.00	.00		-.42**	-.42**
Constraints		-.10	-.11		.38**	.41**
Interaction						
ES X Constraints			-.02			.10*
R^2	.01	.02	.02	.03	.41	.42
Adj R^2	.00	.00	.00	.02	.40	.41
ΔR^2 from previous model		.01	.00		.38	.01

Entries are standardized regression coefficients. GPA, N = 166; Emot Exhaust, N=363.

+ p < .10 * p < .05 ** p < .01