A DASH OF GRIT, A SMIDGEN OF STRESSOR

MANAGEMENT AND A PINCH OF REGULATORY

TENDENCIES TO BE ENGAGED?

By

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Abstract: This paper involved a path analysis of a new measure of grit to understand work engagement. Recent studies have found significant correlations between both constructs; however an explanation of "how" grit plays a role in work engagement is opaque (Robertson-Kraft & Duckworth, 2014; Suzuki, Tamesue, Asahi, & Ishikawa, 2015). The hypothesized model of this study failed to fit the data. Data fit problems likely relate to significant contrasts of two different samples and unsupported theory for the overall model. However, several findings resulted from this study. Grit was found to correlate to work engagement for nursing related staff; whereas, business executives there was no support. Evidence suggest nurses possibly experience a reduction in challenge stressors when they suppress their emotions. In contrast, business executives likely increase hindrance stressors from suppression. Results of this study hint at the notion different groups of people appraise stressors uniquely relative to work engagement.

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INTRODUCTION

Tentative efforts lead to tentative outcomes. Therefore, give yourself fully to your endeavors. Decide to construct your character through excellent actions and determine to pay the price of a worthy goal. The trials you encounter will introduce you to your strengths. Remain steadfast and one day you will build something that endures; something worthy of your potential. —Epictetus

Thanks to new technology such as social media, people are more connected and engaged with each other than ever before, but are they therefore more distracted while at work? Recent research suggests employees struggle to stay engaged in their work, regardless of being more connected electronically. A 2014 Gallup study, which defined engaged employees as individuals who were enthusiastic and committed to their work, surveyed 80,837 adults and found that 31.5% were engaged, while those who were disengaged and "actively" disengaged comprised 53% and 17.5%, respectively (Adkins, 2015). In a separate 2014 study involving approximately 250 hospitals, the Advisory Board Company surveyed 180,384 nursing-related staff and found that only 32.6% were engaged in their work (Virkstis, 2015). The remaining 67.4% were associated with some level of disengagement. The engagement metrics of these two recent studies demonstrate that work engagement is an issue of concern for businesses. According to Gubman (2004), disengaged employees are more likely to exhibit poor work performance and demonstrate noncompliant behavior in the workplace. This detachment between the worker and organization is costly for businesses. According to Sanford (2003), business

costs attributed to disengaged employees include decreases in profit, sales, and customer satisfaction. Furthermore, workers that are disengaged are more likely to change jobs (Towers, 2003). In contrast, common knowledge findings from many engagement studies show that when employees are engaged in their work, the benefits to businesses include better employee retention, increased productivity, and higher rates of customer satisfaction.

Some researchers describe the behavior of disengaged individuals as spinning, settling, and splitting (Markos & Sridevi, 2010; cf. Towers, 2003; cf. White, 2006). "Spinning" refers to wasting effort on trivial tasks. "Settling" involves lack of commitment, and "splitting" refers to employees leaving before an organization implements change initiatives. Engagement literature offers many reasons for how and why employees are disengaged while at work that attempt to explain the resulting costs to businesses. This said, research relating to noncognitive personality traits and personal tendencies that are specific to engaged individuals is limited.

There is a good deal of modern research on work engagement, but in fact people have been thinking about this issue since the times of ancient Greece. Could the thoughts of Greek philosopher Epictetus give us an explanation for work engagement? He was born sometime between AD 50–60 and died around the year AD 135 (Long, 2002). It is believed that he was born into slavery and suffered from lameness throughout his life (Dobbin, 2007). Epictetus had a rather bleak path before him.

Scholars think Epictetus became interested in the teachings of Stoicism as a young child (Long, 2002). This belief system involves three practical disciplines that stem from

cynicism: physics, ethics, and logic (Zeller, 2014). Graver (2008) described the

philosophy as something that encourages individuals to use self-control and fortitude to

overcome life challenges. Arguably, Epictetus leveraged his personal circumstances and

the Stoic philosophy to reshape how people see life. From what is known, he expanded

interpretations of the belief system as he traveled throughout the Roman Empire. In his

thirties, he may have been released from slavery by his master and lived off donations

from his public lectures until his death (Long, 2002).

How does the life of an ancient Greek possibly relate to modern-day work

engagement? Examining Epictetus's trials in life and his philosophical teachings, we may

infer that he identified with a personality trait often found in people who, when faced

with challenges, persist with effort and work toward goals. Today, we refer to this trait as

"grit." Arguably, Epictetus experienced conditions as a crippled slave that would

challenge the physical, emotional, and cognitive aspects of work engagement described

by Rich, Lepine, and Crawford (2010). As such, Stoicism provides a philosophical

platform that may provide insights into understanding purposeful drivers of work

engagement.

If he were here today, Epictetus might argue that we are all slaves to things in life.

Some may be addicted to a smartphone, a workaholic, or a prisoner to worry over how

they are perceived on social media. The idea of slavery can metaphorically relate to they

way an individual's decisions can lead to bondage or freedom. Long (2002) interpreted

Epictetus's message to be, "only a wise man is free." This paper supports the Stoic

premise that, regardless of human nature, individuals are responsible for their actions,

which are controllable with self-discipline. In the context of employment, some individuals may be better at finding freedom from distractors when certain self-discipline processes are considered. Such individuals may have trait-like qualities inferred by Epictetus, specifically an element of grit. Considering the importance of an individual's involvement in his or her job, one question that begs exploration is, "Which psychological traits might explain a person's work engagement, particularly considering a noncognitive personality trait? Does the engaged employee leverage a principal goal pursuit tendency, uniquely manage her emotions, or appraise stressors differently?" Understanding the extent to which certain processes mediate a person's work engagement may provide clues to the top third of individuals, identified in the previously noted studies, described as "engaged."

The primary research aim of this paper is to explore the extent to which motivational approaches, along with emotional and stress management, mediate grit-to-work engagement. Path analysis of these relationships is proposed to broaden the understanding of the relationship between the constructs of grit and work engagement. This paper picks up where several studies of grit and engagement were opaque in their mediators' explanations (Robertson-Kraft & Duckworth, 2014; Suzuki et al., 2015).

Research Objectives

Some of the overarching research objectives supporting this study are as follows:

1. Review the engagement literature to understand the multiple dimensions in which work engagement is measured.

2. Compare nursing-related employees to business executives to evaluate their different motivational approaches, along with the emotional and stress management tendencies exhibited by both groups.

3. Investigate the extent to which grit is a domain-specific construct beyond the broader description.

Background and Context

The only way to do great work is to love what you do. —Steve Jobs

Surprisingly little progress has been made toward linking work engagement to the dispositional personality trait of grit. Despite findings from recent studies that establish significant correlations between both constructs, there is only limited evidence that helps us understand "how" the connection occurs (Robertson-Kraft & Duckworth, 2014; Suzuki et al., 2015). Grit is commonly referred to as a non-cognitive personality trait that involves persistence of effort toward and consistency of interest in long-term goals (Duckworth, Peterson, Matthews, & Kelly, 2007).

Thinking about this intuitively, it seems that goal attainment likely drives engagement, based on the premise that an individual needs a purpose in order to exert effort in the form of work. However, it is unclear whether grit leverages significant events from a person's life along with predisposed tendencies when a person makes a determination to act or not. For example, factoring in motivational alignment, some "gritty" individuals may approach situations because they are winning opportunities; whereas, other persons with the trait may take action to avoid failure or make mistakes in achievement situations (Fellner, Holler, Kirchler, & Schabmann, 2007).

The description of grit as a personality trait that is characteristic of people who, when faced with challenges, persist with effort and work toward goals may play a role in how individuals manage their emotions and assess levels of stress. Grit coupled with

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regulatory tendencies could leverage challenge stressors that facilitate work engagement. This proposition understands challenge-stressor appraisal as fuel that gives purpose to the gritty individual when he or she makes the decision to be engaged. In contrast, hindrance stressors may play a different a role for the gritty individual.

Statement of the Problem

Research indicates that grit, a non-cognitive personality trait, may influence work engagement (Eskreis-Winkler, Shulman, Beal, & Duckworth, 2014; Larkin, O'Connor, & Williams, 2016; Suzuki et al., 2015; Von Culin, Tsukayama, & Duckworth, 2014). However, there is limited support to explain how psychological phenomenon mediate this relationship. Why should we care about the drivers and influencers of this relationship? As we gain more knowledge about factors that function as mediators or discrete drivers, we work toward closing the gap in our understanding of work engagement.

Purpose of the Study

The purpose of this study is to analyze employed workers to understand psychological drivers of work engagement. Approximately 120 nursing-related employees and 50 business executives are needed for this study. To understand the drivers, path analysis of a hypothesized model (Figure 1) will occur. This study predicts that unique data patterns will result from two different samples, resulting in fruitful insights into how job roles may play a part in the grit and engagement relationship. After completing a comprehensive search of the literature, I believe that this study would be the first of its kind to specifically evaluate nursing-related staff relative to grit and engagement. This particular group of individuals was chosen based on the types of events and human

dynamics that they experience daily in their jobs. Nursing-related staff deal with the

emotions, stressors, and prevention aspects associated with birth, death, and illness.

Business executives, on the other hand, deal with similar areas, but with greater emphasis

on performance and organizational bottom lines. I believe increasing our understanding

of motivational approaches and emotional control, while considering stress management,

will highlight a gap in the literature on work engagement. This study is unique in that two

different samples will be evaluated to assess the extent to which job function may explain

psychological tendencies of workers that lead to engagement.

Research Questions

> *1. Does a person's job function determine how grit and work engagement are connected?*

To expand on the above question, if a person's job function is oriented toward

caregiving as opposed to business management, do specific psychological tendencies

reveal unique data patterns between grit and work engagement? I anticipate that

exploring this question will expand the understanding that grit functions dynamically and

differently for everyone. In the case of this study, what is important for both samples is

that they are different, thus the paths from grit to engagement should highlight different

human thought processes. For example, caregivers are concerned with preserving life and

tending to patients' needs. In contrast, business executives are interested in delivering

profits using competitive strategies. In essence, the yardstick of success for both types of

workers is measured differently, according to their job functions.

> *2. To what extent does grit affect motivational approaches, specific to the likeliness that something will cause pleasure or pain?*

Stated differently, do gritty individuals have a dominant lens and perspective that influences the way they choose to pursue goals? According to Lucas, Gratch, Cheng, and Marsella (2015), gritty individuals demonstrate a tendency to be promotion focused and willing to incur costs at the expense of failing. Furthermore, their study found that gritty individuals tend to expend greater effort and persistence when losing in a game. The referenced study is insightful, but it lacks consideration of discrete groups of people. Examining grit as a predictor trait may identify regulatory tendencies differentiated between caregivers versus business-minded persons.

> *3. Does grit play a role in an individual's emotional management and stress appraisal on the job?*

Answering this question may help explain why some people are more even-tempered and insulated from emotional "meltdowns" on the job. An extension of better temperament may provide clues as to why individuals with grit are better stress managers at work.

Significance of Study

This study is based on the desire to understand how grit, a non-cognitive personality trait, is connected to work engagement. It is important to note that examining two different samples, as proposed in this model, may provide insights on processes involved with work engagement. This study is designed to test and evaluate how work engagement occurs in different job functions. Such a premise is a step toward expanding the literature on this subject by suggesting that work engagement may have different drivers for diverse groups of people. A unique aspect of this study is that the yardstick used to measure success is very different for each group. Possible contributions from this study

may help us rethink the drivers and processes of work engagement. When such

contributions are considered, we may be able to help businesses increase their employee

retention, patient/customer satisfaction, and employee work-life.

CHAPTER II

REVIEW OF LITERATURE

Influences and Definition of Grit

There is a recently construct in the field of positive psychology that is receiving much attention. The "buzz" surrounds what has become known as "grit," concisely defined as "trait-level perseverance and passion for long-term goals" (Duckworth & Quinn, 2009, p. 172). An important foundation of grit is perseverance, which stems from contributions in self-efficacy (Bandura, 1977a; Bandura, 1982) and depletion of self-control resources (Bandura & Simon, 1977; Muraven, Tice, & Baumeister, 1998). As Duckworth et al. (2007) made advances in these areas to better understand perseverance, they derived the construct of grit. Their development of this measurable construct was in response to an argument that suggests that a general trait of persistence that involved behavioral aspects had yet to be established (Duckworth & Quinn, 2009; cf. Ryans, 1939, p. 737).

Duckworth et al. (2007) explained that grit "involves working strenuously toward challenges, maintaining effort and interest in projects that take months or years to complete, regardless of failure, adversity, and plateaus in progress" (pp. 1087-1088). They further describe a gritty person as someone who embraces achievement as a marathon, and whose advantage is stamina.

An important realization that can be taken from the grit construct is that it is a trait described as being deep within an individual and based on the ability to persist even after setbacks. Stated differently, it is a measure of an individual's ability to persist in working toward a goal over a long period of time (Duckworth et al., 2007). As such, grit is related to, but different from, some similar concepts, specifically resilience, which is related to a dynamic process of overcoming significant adversity (Rutter, 2008). Most of the time, this concept involves a life changing event, and the literature shows that people naturally use resilience in their life. In contrast, grit is not thought to require significant and critical incidents. Furthermore, grit is described as a personality trait; whereas, resilience is understood as a process of adaptive responses (Egeland, Carlson, & Sroufe, 1993).

Beyond analyzing its conceptual parameters, why is understanding grit important? What is already known about this construct is that it has been associated with positive benefits in the workplace, such as employee retention (Robertson-Kraft & Duckworth, 2014), self-control (Duckworth & Gross, 2014; Duckworth, Kirby, Tsukayama, Berstein, & Ericsson, 2011), well-being (Park, Peterson, & Ruch, 2009; Park, Peterson, & Seligman, 2004), and the enhancement of meaningfulness in life (Weisner, Matheson, Coots, & Bernheimer, 2005). A recent study by Von Culin et al. (2014) concluded that individual differences in grit likely play a role in what makes people happy. They identified medium associations of pursuing engagement, in this study described as attention-absorbing activities, relative to persistence of effort, while interest and pleasure had an inverse relationship.

Understanding more about grit and the ability to activate it or develop it is an area of interest in this study. Currently, the literature is not clear on whether an inherent

amount of grit is present in everyone, and thus needs to be stimulated or activated by something an individual believes to be important. If this is the case, the testing that is currently being done at elementary schools in California combined with what we currently understand about this topic could perpare the way to a paradigm shift in our view of grit, as suggested by Kuhn (1996). Another area of interest of this study is determining if grit is malleable for multiple domains or if it is domain specific. Current literature on this inquiry is inconclusive. Furthermore, another area in which to explore grit is its influence on work engagement and how that relationship translates to customer satisfaction. Arguably, the more an individual is engaged, the more he or she is in tune with work responsibilities, pays attention to details, and is more interactive in customer relationships. Based on social learning theory (Bandura, 1977b; Bandura, 1986), such individuals are like to be emulated by peers, thus stimulating possible transformational change. It is believed that answering these questions will advance the understanding of grit while also supporting the conclusions of this paper which attempt to explain the grit and engagement connection.

The Regulatory Focus Tendencies

According to Higgins (1997), regulatory focus has to do with the motivational approach that a person takes when evaluating the likeliness that something will cause pleasure or pain. Specifically, the construct involves how a person self-regulates between promotion intent versus prevention. Based on early work by Atkinson and Litwin (1960); Tolman (1955), what is understood about motivation is that it involves incentives and needs. This is important because, based on such a framework, several studies have evaluated goal attainment (Shah, Higgins, & Friedman, 1998), achievement orientation

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(Higgins et al., 2001), decision making (Lee & Aaker, 2004; Pham & Chang, 2010), and resistance to temptations during goal pursuit (Freitas, Liberman, & Higgins, 2002). Such studies are relevant because they support the framework that connects perseverance with long-term goals. However, to date and to the best of my understanding, this connection has not been explored in the context of grit. As such, this research provides another dimension in which to observe these influences and examine how a person's grittiness shapes their motivational approach. What is not entirely clear is whether grit has an overall impact or is domain specific, much like self-efficacy (Bandura, 1977a; Bandura, 1982). Considering this inquiry, my hope is that this research further develops such an understanding of the grit construct.

Promotion. The literature unanimously agrees with regard to how promotion is described, specifically on descriptors such as accomplishments, aspirations, gains, and eagerness (Higgins, 1997; Higgins et al., 2001; Shah et al., 1998). According to Higgins (1997), promotion has a close relationship with well-being. I mention this to add scale for the nomological network. Based on the idea that perseverance and passion for long-term goals fit with both the descriptors of being promotion focused and the parameters of grit, it is proposed that a positive relationship exists between them, specifically that an innate fire within (i.e., grit) explains promotion outcomes.

It is important to note that an individual who is promotion focused has a motivation orientation that involves reaching ideals and achieving gains (Higgins, 1997; Sacramento, Fay, & West, 2013). As such, a position of this paper is that while an individual has grit, the attributes of being promotion focused serve in hedonic and eudemonic capacities to facilitate grit momentum, thus keeping the individual engaged.

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Essentially, the gritty individual likely exhibits creativity characteristics along with strong internal motivation as he works toward his objectives. In the context of healthcare, a person with promotion focus could be described as someone who wants to help and to serve, with the well-being of the patient being the goal. Essentially, this motivation is rooted in achieving a goal that satisfies a need for accomplishment, specific to a positive outcome.

H1: Grit and promotion focus are positively related.

Prevention. The counterbalance of promotion focus is prevention focus, which is described as safety, responsibilities, vigilance, and minimizing losses (Higgins, 1997; Higgins, 1998; Lockwood, Jordan, & Kunda, 2002; Pham & Chang, 2010). Higgins (1997) suggested that prevention focus shares similarities with cognitive dissonance as well. Considering the descriptors of prevention focus, it is this paper's theory that gritty people may have a positive association with prevention focus. Arguably, a person's perseverance and passion for long-term goals (grit) would have challenges relative to the preventive focus. The reasoning is that a gritty person is more likely to be fine with a mismatch between future outcomes and expectations, and less concerned with minimizing losses while journeying toward a long-term goal. This is not to say that gritty individuals do not consider such dimensions as a function of cognitive reappraisal, but rather that the prevention-focused nature as an overarching tendency would be negatively related. This being the case, an individual in healthcare would subscribe to the reasoning of goal attainment to fulfill a need for security via vigilance. As such, creativity and the ability to interact with patients would not be on the priority list for reaching fulfillment.

Rather, a prevention-focused individual could easily become susceptible to "going through the motions" and drift toward complacency because of strict adherence to rules. If the proficiency testing that occurs in healthcare is not offset with an element of promotion focus, it is likely that the patient could take on more of an object resemblance instead of being seen as a human being. Essentially, heavy conditioning in prevention focus may be the reason that patient care suffers in human-to-human interactions, while the healthcare workers have high adherence to protocols. Adherence to protocols is not being challenged because it helps mitigate medication errors, failed procedures, or incorrect triage. As such, medicine by its very nature has prevention focus. However, if the provider, whether it be a technician, nurse, or physician, fails to remember the relationship between their duties and personal values, he or she will likely become desensitized to the promotion focus and identify more with chronic prevention focus motivations, which are associated with decreased motivation and lower levels of performance over time. In contrast, gritty individuals thrive on the journey and are eager to learn and make a difference.

H2: Grit and prevention focus are negatively related.

The Emotional Regulation Tendencies

According to Gross (1998), regardless of a nation's culture and traditions, a need exists for individuals to manage their emotions. The construct of emotional regulation originates from the seminal work of Gaensbauer (1982), which served as a platform for Gross to further explain emotions as response tendencies relative to self-regulation processes. Gross coined the definition of emotional regulation as "the processes by which

individuals influence which emotions they have, when they have them, and how they experience and express such emotions" (Gross, 1998, p. 275). The literature suggests that emotions play a role in the engagement (Gross, 1998; Gross, 2011; Gross & John, 2003; Rothbard, 2001) and pursuit of long-term goals (Emmons, 1986; Thompson, 1994). While the construct of emotional regulation is well supported in connection with the description of grit and perseverance in pursuit of a passion, this study seeks to explore two subcategories of emotional regulation for relatedness, specifically reappraisal and suppression.

Cognitive reappraisal. Based on the theory of emotional regulation, cognitive reappraisal plays a preliminary role in the emotion-generative process; specifically, it involves a person changing his or her thoughts in response to a situation (Gross, 2001). It is important to note, however, a person changes his or her thoughts specifically to decrease the emotional impact of a situation. Reappraisal demonstrates the ability to reduce the negative impact of unfavorable incidents (Gross & Levenson, 1993; Ochsner et al., 2004; Richards & Gross, 2000). This being the case, "reappraisal plays an important regulatory role in maintaining mental and physical wellbeing" (cf. Davidson, Putnam, & Larson, 2000; Ochsner et al., 2004). Based on what is known about reappraisal to either work as a down-regulating or as an up-regulating mechanism, it is possible that reappraisal is a trait of gritty individuals that allows them to better manage their emotions in a variety of situations. As such, it could be theorized that gritty individuals are more even-tempered, which allows them to recenter their focus when faced with adverse events that might otherwise distract and derail non-gritty individuals in their pursuit of long-range goal.

H3: Grit and cognitive reappraisal are positively related.

Expressive suppression. An example of a response-focused strategy is expressive suppression, which is described as a "response modulation concerned with controlling ongoing emotion-expressive behavior" (John & Gross, 2004, p. 1304). Because it is referred to as response focused, this means it occurs subsequent to reappraisal, which is antecedent focused. In a broader sense, expressive suppression is a tendency that individuals resort to when trying to "reduce emotion-expression when they are in an emotional state" (p.1302). As such, what does expressive suppression convey about individuals who tend to use it? It is associated with "unauthenticity in an individual's inner self and outer behavior" (p. 1313). According to Sheldon, Ryan, Rawsthorne, and Ilardi (1997), being authentic means demonstrating consistency between behavior and feelings, while choosing not to purposely deceive others. A takeaway of expressive suppression is that normal subscribers are rather insecure and concerned about impression management (Leary & Kowalski, 1990; Vohs, Baumeister, & Ciarocco, 2005). Thus, they expend cognitive resources working to be accepted by others. Based on what we know about grit, with its underlying traits, such as excellence, follow-through, and courage, it would likely have a negative relationship with such a tendency.

H4: Grit and emotional expressive suppression are negatively related.

Stressor Management and Coping

The findings of the seminal work-stress study by Marcie A Cavanaugh, Wendy R Boswell, Mark V Roehling, and John W Boudreau (2000) support this study, specifically in the examination of challenge and hindrance stressors. Challenge and hindrance

stressors are constructed based on "levels of experienced stress," with influences from attitudinal and behavioral areas (p. 66). In essence, the work of Cavanaugh and colleagues was based on exploring self-reported work stress related to these two stressors. Some of the overarching stress literature that they used to advance their study had roots in job demands, work outcomes, and job satisfaction. "Job demands" refers to work experiences that are worth the discomfort of attributes such as time pressures and stressful situations (Mccall, Lombardo, & Morrison, 1988). "Work outcomes" refers to the positive or negative impact that job demands have on an employee's well-being in general and on the organization overall (Aryee, Luk, Leung, & Lo, 1999; Bhagat, McQuaid, Lindholm, & Segovis, 1985; Scheck, Kinicki, & Davy, 1997). "Job satisfaction" arises from an appraisal of an individual's job or working experience and is associated with a positive emotional state (Marcie A Cavanaugh et al., 2000; cf. Locke, 1976). Another area that played a part in the study of Cavanaugh et al. was positive and negative appraisal demands, which have further substantiated stress dimensions that are proposed as a challenge or hindrance to being well supported (LePine, Podsakoff, & LePine, 2005; Wallace, Edwards, Arnold, Frazier, & Finch, 2009).

Challenge Stressors. According to McCauley, Ruderman, Ohlott, and Morrow (1994), some stress can produce positive outcomes and feelings, even though the stressor in and of itself may not be desirable. Examples of such stress include increased job responsibilities, job overload, and time pressures. These types of experiences are also referred to as challenge stressors. The theoretical foundation that connects stressors to positive outcomes is based on eustress, which is stress that "creates challenge and feelings of fulfillment or achievement" while also "being a positive motivating force"

(McCauley et al., 1994, p. 66; cf. Selye, 1982). As such, McCauley et al. (1994) described job demand challenges as work stress arising from such demands, but related to positive work outcomes (p. 66). Because of the stimulating nature of challenge stressors, they are associated with "feelings of eagerness and confidence that lead to action problem-solving" (Wallace et al., 2009). Such intentions may explain a dominant theme outcome that derives from the underlying traits of a gritty person.

> H5: Promotion focus and challenge stressors are positively related.
>
> H6: Prevention focus and challenge stressors are negatively related.
>
> H7: Cognitive reappraisal and challenge stressors are positively related.
>
> H8: Expressive suppression and challenge stressors are negatively related.

Hindrance. The stressor that causes a person to view job demands as obstacles to personal growth or as interference to goal achievement is often referred to as a hindrance (Marcie A Cavanaugh et al., 2000; Rodell & Judge, 2009). According to a study by LePine et al. (2005), hindrance stress is associated with lower motivation. The reasoning is based on an individual's inability to believe that a relationship exists between expending effort to meet certain demands and the occurrence of valuable outcomes. Because of this belief (or lack thereof) and low motivation, a hindrance-oriented individual will likely have difficulties when facing conflicts. It is important to note that the study of LePine et al. demonstrated that hindrance stressors lower overall performance. Because hindrance stressors involve things such as organizational politics, role ambiguity, and job security concerns, they also impair creativity (LePine, LePine, & Jackson, 2004; LePine et al., 2005; Sacramento et al., 2013). Considering this brief overview of the attributes of hindrance stress, it is this paper's position that a negative

relationship would exist between hindrance stress and a person who demonstrates grit attributes. Furthermore, based on the prevention focus literature, it seems natural that individuals who have a prevention focus will likely allow the hindrance stressors to have a greater impact. Lastly, it is hypothesized that an expressive suppression individual will also be more susceptible to the dampening impact of hindrance stressors.

It is important to note that this paper is not arguing or suggesting that gritty individuals are not exposed to or do not experience hindrance stress. To the contrary, a person who has grit likely experiences hindrance stressors, but adjusts, adapts, or copes with them and moves on toward his or her long-term goal. In other words, a gritty individual who has a passion combined with the other sub traits presented in the model is likely to see hindrance stressors as merely a "speed bump." In contrast, an individual without the grit traits may see them as an obstacle that consumes their thoughts and depletes self-regulatory resources (Baumeister & Heatherton, 1996; Baumeister & Vohs, 2007; Higgins & Spiegel, 2004). This would align with the theory suggested by LePine et al. (2004), specifically that hindrance stressors can lower motivation and learning performance. Arguably, gritty individuals learn as they experience the journey, despite any obstacles they may encounter.

H9: Prevention focus and hindrance stressors are positively related.
H10: Promotion focus and hindrance stressors are negatively related.
H11: Expressive suppression and hindrance stressors are positively related.
H12: Cognitive reappraisal and hindrance stressors are negatively related.

Work Engagement

Engagement literature has continued to progress, developing a somewhat consistent interpretation. Consider one of the earlier measurements by Maslach and Leiter (1997), which suggested that the construct of work engagement was the opposite of burnout dimensions, specific to exhaustion, cynicism, and professional efficacy. Such areas were measured with the MBI measurement, which later became the MBI-GS. While the newer version is more generic, such measurement falls short when describing engagement. This issue has been troublesome to conceptually defining engagement.

Based on the insufficiency of MBI, Kahn (1990) introduced psychological engagement, which involved measurement components in the cognitive, emotional, and physical engagement areas. This work was developed further when Schaufeli and Bakker (2003) derived the UWES engagement measurement. Both of these measurements have become the predominant engagement measurement scales. Schaufeli and colleagues derived a more concise definition of work engagement with their scale, which has been accepted in the research community as a "persistent, positive affective motivation state of fulfillment" (Maslach, Schaufeli, & Leiter, 2001; Schaufeli, Salanova, González-Romá, & Bakker, 2002). In a literature review by Sonnentag (2003), work engagement was found to play a role in positive experiences (Schaufeli et al., 2002) while also being related to a positive work affect (Demerouti, Bakker, De Jonge, Janssen, & Schaufeli, 2001).

Macey and Schneider (2008) built on the platforms of these early contributors and arrived at the conclusion that engagement can refer to psychological states, traits, and behaviors. In essence, each descriptor is understood to be a type of engagement, which

has the versatility of being an antecedent or outcome, depending how it is operationalized. A key takeaway of their research is that engagement has three separate components, but each component functions to explain task performance and organizational effectiveness (Meyer & Gagnè, 2008). To expand on the plausibility of the nomological network, measurements not limited to self-determination theory (SDT) and autonomous extrinsic motivation should be considered because they play a role when a person is faced with an uninteresting task (Gagné & Deci, 2005), thus strengthening support for "why" grit may be an underlying phenomenon. Importantly, "autonomy-supportive work climates involves managers helping employees to make better choices while encouraging self-initiation" (Gagné & Deci, 2005, p. 355). An additional area of the nomological network is physical and psychological well-being, which is based on the premise that individuals who are engaged consistently experience such beneficial outcomes (Ryan & Deci, 2000).

Based on the early definition by Schaufeli and colleagues combined with work by Erickson (2005); Macey and Schneider (2008), this paper has adopted a more comprehensive understanding and interpretation of the engagement construct. As cited by Macey and Schneider, this is how Erickson (2005, p. 14) described engagement: "Engagement is above and beyond the satisfaction arrangement of being employed or loyalty to the employer. Engagement is about passion and commitment, willingness to invest oneself and expend one's discretionary effort to help the employer succeed." The overarching reason to choose this definition is that it incorporates literature from the early pioneers of the construct who describe it as a state of mind involving vigor, dedication,

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and absorption that is not momentary but rather a persistent, cognitive-affective state

(Schaufeli & Salanova, 2007; Schaufeli & Bakker, 2004; Schaufeli et al., 2002).

Taking into consideration a study by Peterson, Ruch, Beermann, Park, and

Seligman (2007), the literature is starting to show evidence of a relationship between

perseverance (relative to facing adversity) and engagement. However, "how" and "why"

this connection exists in a grit context is an unexplored area. Answering these questions

will increase the understanding of how predisposed grit traits may shape regulatory focus

and emotional regulation tendencies, which afford uniqueness in coping with stressors,

specifically those of a challenge and hindrance nature. The goal of this study is to make a

significant contribution to several streams of research by incorporating the relatively new

grit construct.

H13: Challenge stressors and work engagement are positively related.
H14: Hindrance and work engagement are negatively related.

Full Serial Mediated Model

Based on the nature of this study, serial mediation is most appropriate in that it "is

a causal chain linking the mediators, with a specified direction of causal flow" (Hayes,

2012). For example, grit could increase both promotion focus and cognitive reappraisal,

which could increase a person's ability to cope with challenge stressors and thus increase

work engagement (i.e., grit → promotion and cognitive reappraisal → challenge stressor

coping → work engagement). To test for serial mediation, work engagement will be

entered as the outcome variable; grit as the predictor variable; gender, length of

employment, age, education, and nursing department as covariates; and constructs of

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regulatory focus, emotional regulation, and challenge/hindrance stressors as serial

mediators. It is important to remember that supporting this model implies a causal

relationship between grit and work engagement.

Figure 1

Hypothetical Full Serial Mediated Model
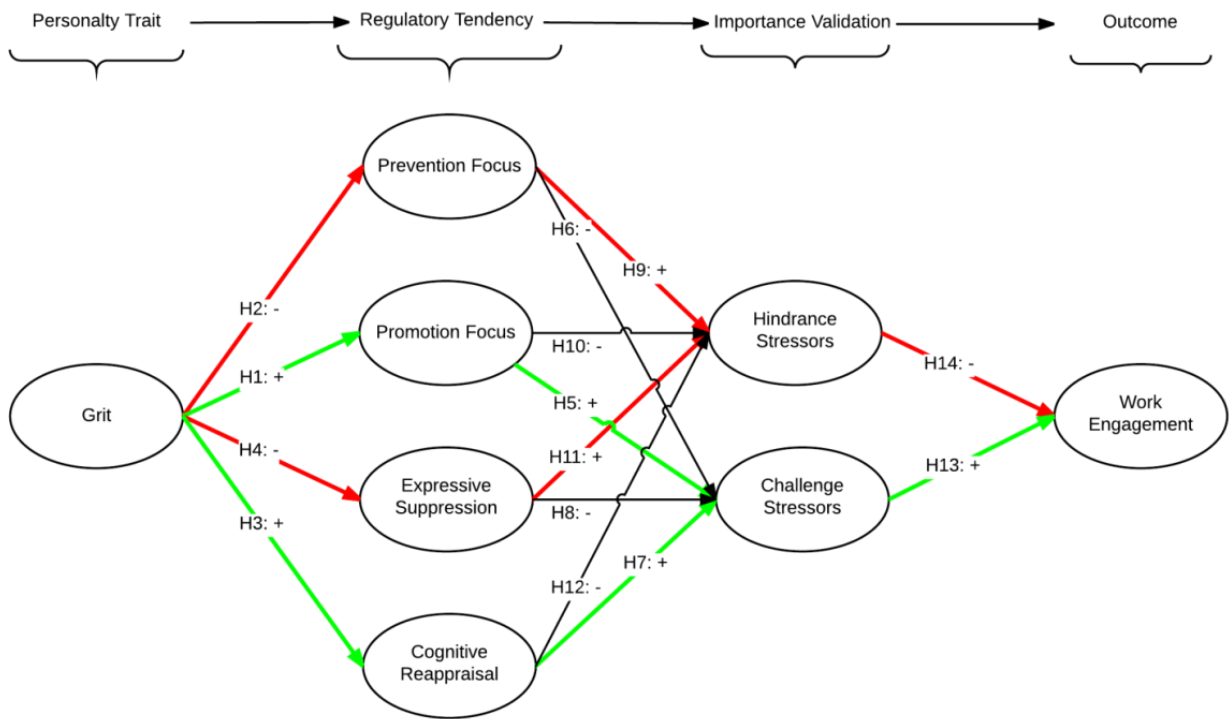
CHAPTER III

METHODOLOGY

Research Design

This study will use quantitative methods, which rely on numerical data (Charles & Mertler, 2002). This study subscribes to the post-positivist research approach, meaning knowledge is based on "cause and effect thinking, reduction of specific variables, hypotheses and questions, use of measurement and observations" (Ivankova, 2004, p. 55). As such, it will involve online surveys that are specific to two source samples. While this study will have two time intervals of data collection, the instruments will be different, and thus cross sectional.

T1 will collect grit traits. Because this measurement is considered a behavioral trait relative to perseverance, such a trait is likely to be stable and not fluctuate spontaneously for given activities and events. Such a position is based on the understanding that grit has an overarching influence on the perceptional interpretation of array events. In each of the time periods, T1 and T2, the survey will collect data related to regulatory focus, emotional regulations, challenge and hindrance stressors, and work engagement. The anticipated time lapse between survey administrations is one week.

Context of Research Site

This study has two different samples, thus two different research sites. For confidentiality purposes, the nursing-related staff workplace will be identified only as an academic medical institution in the south central part of the United States. Because it is a research hospital, separate compliance with their Institutional Review Board (IRB) is necessary. The hospital has in excess of 1,000 nursing-related staff within the organization. Importantly, this study would be one of the first done by a third party that has studied nursing-related staff. Within the hospital, all nursing units will be targeted, including areas of trauma, oncology, cardiology, and neuroscience.

The context of the second data source, business executives, relates to their professional connections with the researcher. Many of the solicited participants have participated with the researcher in executive education programs. Geographically, most participants are expected to be from the United States. However, several contacts may participate from Europe, South America, and Canada. Importantly, participants solicited, the majority being managers, are expected to represented diverse organizations.

Research Participants

To examine the hypothesized relationships between grit and engagement, 150 individuals are needed as an aggregate between both samples of this study. It is expected that the majority of participants will be nursing-related care professionals. Such individuals will include various types of nurses (i.e., floor managers, charge nurses, and nonsupervisory nurses). In addition, nurse technicians, nurse aids, and administrative

support staff may also be participants. There are expected to be fewer business executive participants than nursing staff participants.

To determine if targeted audiences are being reached, the survey will include demographic questions. Examining responses to such questions will allow for differentiation between subgroups. Demographic questions will request that participants respond to gender, race, age, relationship status, and job role function.

Outcome Measure

 Job Engagement Survey (JES). The JES is a newer measurement of engagement developed by Rich et al. (2010). This measurement has 18 items, such as "I am enthusiastic in my job," and "At work, I am absorbed by my job." The instrument uses a five-point Likert scale: 1 = Strongly Disagree to 5 = Strongly Agree. Three subcategories of engagement are measured with this instrument, specific to physical, emotional, and cognitive energies devoted to work performance. Internal reliabilities from seminal work of this measurement ranged from .89 to .94.

Mediators

 Regulatory Focus. Regulatory focus motivation approaches will be assessed using the event reaction questionnaire developed by Higgins et al. (2001). This measurement has 11 items. One example is, "Compared to most people, are you typically unable to get what you want out of life?" Another example is, "Not being careful enough has gotten me into trouble at times." This measurement differentiates individuals that are more promotion or prevention focused, based on their subjective history of success, thus providing a frame of reference for achievement pride and anticipation of goals specific to

tasks. This being the case, a promotion-related sense of pride is associated with an eagerness to approach a new task goal; whereas, vigilance describes an approach to the same task goal for an individual with prevention pride (Higgins et al., 2001). This instrument is a five-point Likert scale: 1 = Never or Seldom to 5 = Very Often. Higgins found this instrument to have a .73 reliability when originally developed.

Emotional Regulation. Emotional regulation tendencies are assessed by using the emotional regulation questionnaire (ERQ), a 10-item scale developed by Gross and John (2003). This instrument identifies how individuals regulate and manage their emotions, either by cognitive reappraisal or expression suppression. Examples of cognitive reappraisal items are, "I control my emotions by changing the way I think about the situation I'm in," and "When I want to feel more positive emotion, I change what I'm thinking about." Gross and John found test and retest reliability of this factor ranged from .75 to .82. Items of the suppression factor include, "I control my emotions by not expressing them," and "I keep my emotions to myself." This factor was found to have a reliability range of .68 to .76 from the seminal study by Gross and John.

Challenge and Hindrance Stressors. To evaluate how stress is appraised as challenge- or hindrance-based, this study uses an instrument created by Marcie A Cavanaugh et al. (2000). The instrument has 11 items, of which six measure the challenge factor, and five indicate hindrance. Items pertaining to challenge include, "The amount of time I spend at work," and "The amount of responsibility I have." Reliability of this factor was .87. Examples of hindrance stress are, "The amount of red tape I need to go through to get my job done," and "The lack of job security I have." Marcie A.

Cavanaugh, Wendy R. Boswell, Mark V. Roehling, and John W. Boudreau (2000) found the reliability to be .75 for this factor.

Predictor

    Grit@Work. This measurement of grit is newly developed and more specific to work as compared to the construct developed by Duckworth. While results of this measurement are currently unpublished, the construct has been validated and incorporates attitudinal attributes (Coomer, 2016). This scale has 16 items and uses a five-point Likert scale: 1 = Not like me at all to 5 = Very much like me. The test and retest reliability of this scale ranged from .88 to .93.

CHAPTER IV

RESULTS

This chapter discusses the data analysis and provides its results. The chapter begins with a brief discussion of data cleaning the samples. Next, I review the demographics and provide evidence of treating the samples independent of each other versus aggregated. The chapter continues by examining the data, specific to hypotheses testing and model fit.

This study collected data from two convenience samples. Sample Group 1 consists of nursing-related staff at an academic medical institution in the south central part of the United States. Before cleaning the records, this group had 123 participants. The individuals represented in Group 2 are business executive respondents. Prior to multivariate analysis, this group had 46 respondents. Multivariate analysis indicated five cases were extreme outliners of the 169 combined responses. As such, four individuals were removed from Group 1 and one from Group 2.

Demographics

This section reports demographic findings specific to the participant's gender, race, relationship state, age, and organizational job role metrics. Reporting the specific demographics provides evidence of how the sample groups differ. This is important from a research perspective because this study proposes that two different samples will offer dissimilar paths between grit and work engagement.

Seventy-eight percent of the aggregated sample participants were female. Group 1 represented 73% of the total respondents, of which 97% of the individuals were female. In comparison, Group 2 respondents were predominantly male (73%).

Table 1

Distribution of Participants by Gender and Group

Gender	n	Percentage
N = Total Participants	164	100%
Female	128	78%
Male	36	22%
Group 1	119	73%
Group 2	45	27%
Group 1		
Female	116	97%
Male	3	3%
Group 2		
Female	12	27%
Male	33	73%

Race distribution for this study was predominantly Caucasian for both groups (73%) followed by African American (13%). Seventy-seven percent of the respondents from Group 1 indicated being female and Caucasian. Comparatively, males represented approximately 67% of the same race. Expanded cross-tab statistics are reported in Table 2.

Table 2

Race Distribution by Group and Gender

Group / Gender	n	Asian (%)	Caucasian (%)	African-American (%)	Other* (%)
Group 1					
Female	116	3 (2.6%)	89 (76.7%)	18 (15.5%)	6 (5.2%)
Male	3	0	2 (66.7%)	1 (33.3%)	0
Group 1 Freq. Tot.	119	3 (2.5%)	91 (76.5%)	19 (16.0%)	6 (5.0%)
Group 2					
Female	12	3 (25.0%)	7 (58.3%)	0	2 (16.7%)
Male	33	4 (12.1%)	22 (66.7%)	3 (9.1%)	4 (12.1%)
Group 2 Freq. Tot.	45	7 (15.6%)	29 (64.4%)	3 (6.7%)	6 (13.3%)
Sample Freq Tot.	164	10 (6.1%)	120 (73.2%)	22 (13.4%)	12 (7.3%)

Note: Other comprises of Hispanic, Native American, and Indian races

In both groups, over half of the participants indicated a married relationship status (67%). Group 1 indicates greater diversity from participants, being comprised of married (61%), single (13%), and dating (21%) categories. In comparison, Group 2 consists mainly of married participants (82%). See Table 3 for a further depiction of gender and relationship status.

Table 3

Relationship Status Distribution by Group and Gender

Group / Gender	n	Single / Not Dating (%)	Dating (%)	Engaged (%)	Married (%)
Group 1					
Female	116	15 (12.9%)	25 (21.6%)	6 (5.2%)	70 (60.3%)
Male	3	0	0	0	3 (100.0%)
Group 1 Freq. Tot.	119	15 (12.6%)	25 (21.0%)	6 (5.0%)	73 (61.3%)
Group 2					
Female	12	2 (16.7%)	3 (25.0%)	1 (8.3%)	6 (50.0%)
Male	33	2 (6.1%)	0	0	31 (93.9%)
Group 2 Freq. Tot.	45	4 (8.9%)	3 (6.7%)	1 (2.2%)	37 (82.2%)
Sample Freq Tot.	164	19 (11.6%)	28 (17.1%)	7 (4.3%)	110 (67.1%)

The last demographic data analyzed was age distribution between the groups (see Table 4. Females in Group 1 had a mean age of 38.44; whereas females in Group 2 had a mean age of 47.83. A similar pattern was noted for the males when comparing the two groups, specifically Group 1 was younger than Group 2. Considering the age range, Group 1 indicates younger workers as evidenced by the min and max. Furthermore, the standard of deviation (11.534) for this group is almost twice that of Group 2 (7.872).

Table 4

Age Distribution by Group and Gender

Group / Gender	n	Mean	Median	Mode	Min	Max	Std. Dev.
Group 1							
Female[a]	115	38.44	36	24	22	63	11.534
Male	3	30.33	32	24	24	35	5.686
Group 2							
Female	12	47.83	48	46	32	62	7.872
Male[b]	32	46.31	46	46	36	64	7.541

Note: [a] Missing age data for 1 female; [b]Missing age data for 1 male.

Demographic data support the premise that the two sample groups are different in composition. The main differences are gender and age. Areas of similarity are race and relationship status. Importantly, identifying such differences validates the argument for both samples to be treated discretely versus as an aggregate and jointly.

Job-Role Characteristics

I analyzed the job roles and organizational tenure of participants to determine if differences exist between the sample groups. This was necessary to prove aggregating both groups is unsupported statistically. Considering the demographics and job-related descriptions, there is a strong argument supporting hypotheses and model testing on the individual groups rather than as an aggregate. Two metrics were collected relating to the participants work, their job roles (Table 5), and tenure by sector (Table 6).

Within Group 1, registered nurses represented 81% of respondents followed by patient care technicians (9%). In comparison, the highest represented job role for Group 2 was president, CEO, or chairman (22%) followed by executive vice president (19%). Table 5 reports the distribution of job roles and percentages for the individual group samples.

Unfortunately, eight individuals in Group 2 chose not to indicate their job role in the study. This being said, caution is advised when examining categories and percentages represented for Group 2. Evidence is provided to support differences in job function between both groups.

Table 5

Job Role Distribution by Group

Job Role	Group 1 (%)	Group 2* (%)
Patient Care Tech	11 (9%)	
Nurse Administrator	6 (5%)	
Clinical Nurse Specialist	6 (5%)	
Registered Nurse	96 (81%)	
President, CEO, Chairman		8 (22%)
Partner, Principal		4 (11%)
CFO, CIO, CHRO, CAO, CO		4 (11%)
EVP, SVP, VP		7 (19%)
Director or Associate Director		6 (16%)
Manager		5 (14%)
Specialist		1 (3%)
Coordinator		1 (3%)
Other Corporate		1 (3%)
Frequency Total	119	37

Note: *Missing 8 job role descriptions for Group 2; percentages are calculated on the frequency total versus actual sample size of 45.

Organization tenure (i.e., time employed in years at current organization) of participant was also measured. Sector distribution was also indicated in the metrics (Table 6). Healthcare is the dominant industry represented, with a mean number of years of employment at 7.39 years (N = 112). Number of years of employment could have

some slight variation for this industry because tenure data is missing for 10 respondents. Of the sectors represented in Group 2, 22 additional industries are identified with an array of tenure. Distribution of the various sectors evidences diversity in this particular group but meaningless metrics of true organizational tenure.

Table 6

Current Organizational Tenure Distribution by Sector

Sector	n	Mean	Median	Mode	Min	Max	Std. Dev.
Healthcare[a]	112	7.39	5	1	0	36	7.837
Technology	3	8.14	5	0	0	19	9.684
Insurance	2	13.00	13	10	10	16	4.243
Media	1	1.00	1	1	1	1	1.000
Energy[b]	4	2.75	2	1	1	7	2.872
Staffing	1	14.00	14	14	14	14	14.000
Public Accounting	2	16.00	16	2	2	30	19.799
Security Systems	1	1.00	1	1	1	1	1.000
Telecommunications	2	11.50	12	5	5	18	9.192
Financial Services	4	13.00	10	1	1	31	13.367
Banking	1	5.00	5	5	5	5	5.000
Transportation	1	11.00	11	11	11	11	11.000
Brewing[c]	1	-	-	-	-	-	-
Marketing	2	1.25	1	1	1	2	1.061
Legal	1	16.00	16	16	16	16	16.000
Private Equity	1	1.00	1	1	1	1	1.000
Government	1	3.00	3	3	3	3	3.000
Real Estate	1	5.00	5	5	5	5	5.000
Non-Profit	1	1.00	1	1	1	1	1.000
Risk Management	1	1.00	1	1	1	1	1.000
Website Design	1	3.00	3	3	3	3	3.000
Software Development	2	4.50	5	1	1	8	4.950
Public Service	1	6.00	6	6	6	6	6.000

Note: [a]Missing tenure data for 10 individuals in healthcare; [b]Missing tenure data for 1 individual in energy; [c]Missing tenure data for 1 individual in brewing.
*Missing tenure data on 6 individuals and their sector

Descriptive Statistics

Results of the aggregate sample means, standard deviations, correlations, and reliabilities are reported in Table 1. Internal reliabilities were strong for all variables, the exception being promotion, suppression, and hindrance stress constructs. These constructs bordered acceptability. Caution should be exercised when interpreting correlations, considering the diversity of the two samples represented by demographic metrics. Aggregate data establishes a comparative between the two data samples.

Table 7

Aggregate Samples: Descriptive Statistics and Correlations

Variable	M	SD	1	2	3	4	5	6	7	8
1. Grit	4.07	0.47	**.88**							
2. Promotion	4.01	0.58	.40**	**.81**						
3. Prevention	4.47	0.51	.42**	.52**	**.88**					
4. Reappraisal	3.81	0.67	.31**	.21**	.25**	**.91**				
5. Suppression	2.69	0.83	.09	.08	.12	.13	**.81**			
6. Challenge	3.22	0.86	-.21**	-.03	-.01	-.08	-.17	**.91**		
7. Hindrance	2.54	0.86	-.07	-.01	.03	-.02	.13	.43**	**.80**	
8. WE	4.40	0.51	.37**	.28**	.27**	.30**	.00	.07	-.12	**.95**

Note: n = 164; Chronbach's Alphas are in boldface on the diagonal.
         WE = Work Engagement.
         **p<.01; *p<.05.

Internal reliabilities for Group 1, the nursing staff, followed a trend similar to the aggregate (Table 8). However, a gradual decline of correlations occurred when comparing Group 1 to the global data set. Highlights of Group 1 indicate all variables have a significant correlation to grit, the exception being suppression. Also of interest is that all measures correlate to work engagement except suppression and stressor appraisal (challenge and hindrance).

Table 8

Group 1: Descriptive Statistics and Correlations

Variable	M	*SD*	1	2	3	4	5	6	7	8
1. Grit	4.03	0.45	**.86**							
2. Promotion	4.04	0.53	.39**	**.80**						
3. Prevention	4.57	0.45	.48**	.46**	**.89**					
4. Reappraisal	3.77	0.67	.31**	.22*	.34**	**.92**				
5. Suppression	2.72	0.81	.19*	.24**	.20*	.16	**.82**			
6. Challenge	3.24	0.84	-.24**	.05	.04	-.04	-.19	**.91**		
7. Hindrance	2.47	0.87	-.15	.03	.13	.01	.03	.47**	**.81**	
8. WE	4.40	0.46	.50**	.34**	.41**	.30**	.16	.04	-.02	**.94**

Note: n = 119; Chronbach's Alphas are in boldface on the diagonal.
WE = Work Engagement.
**p<.01; *p<.05.

Similar to the aggregate and Group 1, internal reliabilities were consistent, except for hindrance stress (Table 9). The alpha for this metric dropped to .76. Notable statistical differences of this group include declines in the variable correlations. Interestingly, Group 2 does not support the relationship between grit and work engagement. The standard of deviation of the means for this group was found to increase in comparison to Group 1. An increase suggests a slight inconsistency of respondents identifying with the instruments.

Table 9

Group 2: Descriptive Statistics and Correlations

Variable	M	SD	1	2	3	4	5	6	7	8
1. Grit	4.19	0.50	**.91**							
2. Promotion	3.91	0.70	.50**	**.82**						
3. Prevention	4.21	0.57	.54**	.60**	**.84**					
4. Reappraisal	3.92	0.66	.29	.23	.22	**.89**				
5. Suppression	2.62	0.88	-.12	-.22	-.07	.08	**.82**			
6. Challenge	3.17	0.91	-.14	.00	-.13	-.17	-.10	**.92**		
7. Hindrance	2.73	0.83	.05	-.05	-.04	-.15	.40**	.36*	**.76**	
8. WE	4.40	0.61	.15	.21	.09	.32*	-.31*	.12	-.34*	**.97**

Note: n = 45; Chronbach's Alphas are in boldface on the diagonal.
WE = Work Engagement.
**p<.01; *p<.05.

Model Fit and Path Analysis

To test the proposed serial mediated model (see Figure 1), AMOS was used because of the software's ability to calculate statistics for the model as a whole. Importantly, path analysis, a form of structural modeling, was used to analyze the path relationships between the measured variables. Proceeding as such is important for understanding the complex relationships within the proposed model by determining the most significant relationships. When performing path analysis, maximum likelihood estimation was used to predict the hypothesized paths. This type of analysis is able to show models that best fit the data. This section will discuss the results of the a priori model, specific to model fit and hypotheses.

Model Testing – Aggregate

Observed variable paths were used to test the proposed model of grit-to-work engagement. Aggregately, the proposed serial mediated model had a poor fit to the data ($\chi^2 (14) = 125.925, p < .000$; RMSEA = .221; NFI = .421; CFI = .409). The chi-square indicates the null hypothesis should be rejected because of the p-value being significant.

According to MacCallum, Browne, and Sugawara (1996), RMSEA estimate values of .01, .05, and .08 are associated with excellent, good, and poor fit, respectively. In the case of this model, .221 is beyond the poor fit value of .08. The Bentler-Bonnett Index or Normed Fit Index (NFI) is another metric used to gauge model fit. A value above .90 is considered marginal; whereas, greater than .95 is viewed as a good fit (Bentler & Bonett, 1980). In the case of this model, the value of .421 is deficient for meeting the threshold. In summary, path analysis indicates a poor fit of the model to the data; of the four indices provided, none support the null hypothesis.

It was determined that the model in Figure 2 was over identified, evidenced by degrees of freedom equaling 14. This meant there were more equations than unknown parameters. This particular model has eight measurable variables, 14 free parameters, seven fixed-error terms for the endogenous variables, and one error term for the exogenous variable. The equation for calculating the degrees of freedom is listed below; "k" represents the number of variables in the model:

$$df = \left[\frac{k(k+1)}{2}\right] - [(free\ paramters) + (fixed\ error\ terms\ of\ endogenous\ variables) + (error\ term\ of\ exogenous\ variable)]$$

To test the aggregate data hypotheses, standardized path coefficients from the AMOS output are presented in Figure 2. Because the model of this study is proposed as fully serial mediated, the restrictive model is adhered to when comparing the individual groups. Again, the findings from the aggregate data are mainly for illustrative purposes. Results of the hypotheses are as follows:

Hypothesis 1: As predicted, the path between grit and promotion focus was positive and significant ($\beta = .40$, $p < .01$).

Hypothesis 2: Contrary to the hypothesis, the path between grit and prevention focus was positive and significant ($\beta = .42$, $p < .01$).

Hypothesis 3: As hypothesized, the path between grit and cognitive reappraisal was positive and significant ($\beta = .32$, $p < .01$).

Hypothesis 4: Contrary to the hypothesis, the path between grit and expression suppression was positive and not significant ($\beta = .09$, *ns*).

Hypothesis 5: Contrary to the hypothesis, the path between promotion focus and challenge stressors was negative and not significant ($\beta = -.03$, *ns*).

Hypothesis 6: Contrary to the hypothesis, the path between prevention focus and challenge stressors was positive and not significant ($\beta = .04$, *ns*).

Hypothesis 7: Contrary to the hypothesis, the path between cognitive reappraisal and challenge stressors was not significant ($\beta = -.06$, *ns*).

Hypothesis 8: As predicted, the path between expression suppression and challenge stressors was negative and significant ($\beta = -.13$, $p < .05$).

Hypothesis 9: Contrary to the hypothesis, the path between prevention focus and hindrance stressors was not significant ($\beta = .03$, *ns*).

Hypothesis 10: Contrary to the hypothesis, the path between promotion focus and hindrance stressors was not significant ($\beta = -.03$, *ns*).

Hypothesis 11: Contrary to the hypothesis, the path between expression suppression and hindrance stressors was not significant ($\beta = .13$, *ns*).

Hypothesis 12: Contrary to the hypothesis, the path between cognitive reappraisal and hindrance stressors was not significant ($\beta = -.04$, *ns*).

Hypothesis 13: Contrary to the hypothesis, the path between challenge stressors and work engagement was not significant ($\beta = .15$, *ns*).

Hypothesis 14: As hypothesized, the path between hindrance stressors and work engagement was negative and not significant ($\beta = -.18$, $p < .01$).

FIGURE 2

Full Serial-Mediated Path Model Results – Aggregate Groups
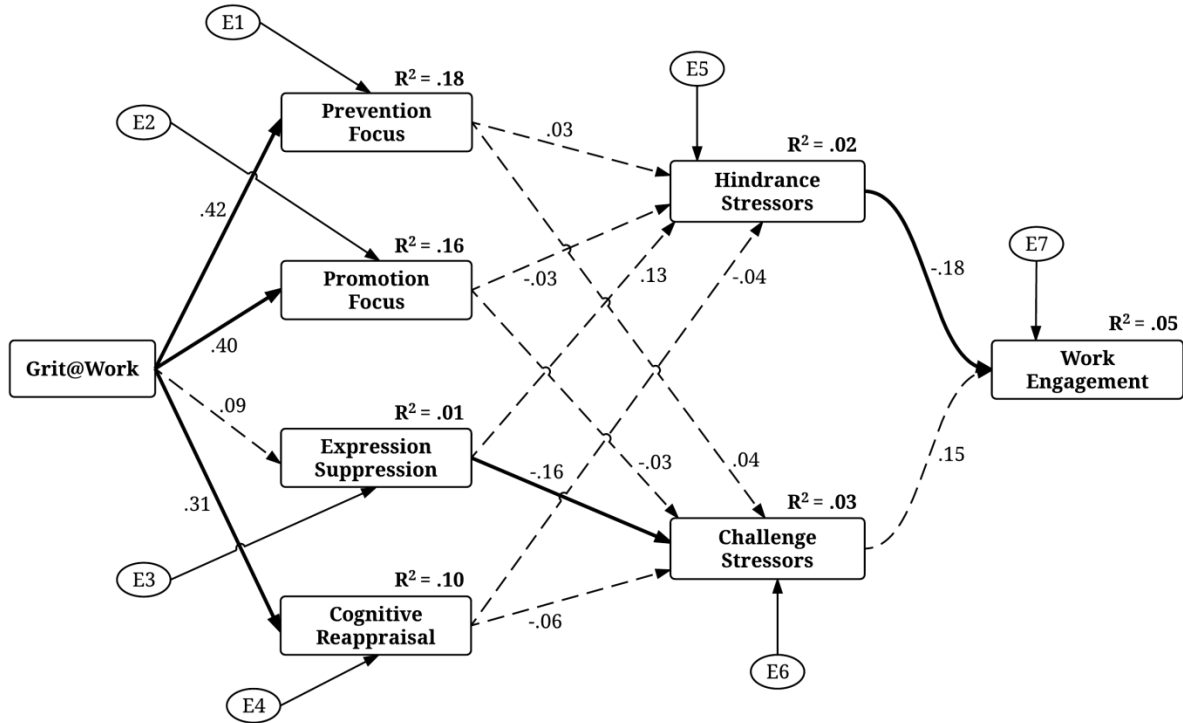
Note: χ^2 = 125.93, *df* = 14, *p* < .001; RMSEA = .22; CFI = .40. Solid lines are significant at *p* ≤ .05. Dashed line is non-significant. N=164.

Model Testing – Group 1 (Nursing-Related Sample)

Nursing-related staff data by itself was used to test the proposed model of this study. When considering only this data, the serial mediated model had a poor fit to the data (χ^2 (14) = 116.524, *p* < .000; RMSEA = .249; NFI = .390; CFI = .371). Because of a significant p-value, the null hypothesis of the chi-square is rejected. As mentioned earlier, a minimum RMSEA value of .05 suggests a good fit. In the case of this model, .249 is beyond the minimum value and further confirms a poor fitting model. The NFI value of

.39 is deficient for meeting the minimum .90 threshold, thus further supporting the challenges to the model and data.

The same hypotheses tested by the aggregate data were tested by this data set. Results of the standardized path coefficients from the AMOS output are presented in Figure 3. R^2 values are presented in the figure. Considering all paths as a whole, the restrictive full mediation model explains .01 of the work engagement variance. The nursing staff data best explains a prevention focus tendency when individuals have grit ($R^2 = .23$). Another finding of this group was a minimal coefficient of determination value for stressor appraisal. Challenge and hindrance stress had values of .02 and .05, respectively. Results of the hypotheses are as follows:

Hypothesis 1: As predicted, the path between grit and promotion focus was positive and significant ($\beta = .38$, $p < .01$).

Hypothesis 2: Contrary to the hypothesis, the path between grit and prevention focus was positive and significant ($\beta = .48$, $p < .01$).

Hypothesis 3: As hypothesized, the path between grit and cognitive reappraisal was positive and significant ($\beta = .31$, $p < .01$).

Hypothesis 4: Contrary to the hypothesis, the path between grit and expression suppression was positive and significant ($\beta = .19$, $p < .05$).

Hypothesis 5: Contrary to the hypothesis, the path between promotion focus and challenge stressors was negative and not significant (β = -.05, *ns*).

Hypothesis 6: Contrary to the hypothesis, the path between prevention focus and challenge stressors was positive and not significant (β = .11, *ns*).

Hypothesis 7: Contrary to the hypothesis, the path between cognitive reappraisal and challenge stressors was negative and not significant (β = -.03, *ns*).

Hypothesis 8: As predicted, the path between expression suppression and challenge stressors was negative and significant (β = -.20, $p < .05$).

Hypothesis 9: Contrary to the hypothesis, the path between prevention focus and hindrance stressors was not significant (β = .15, *ns*).

Hypothesis 10: Contrary to the hypothesis, the path between promotion focus and hindrance stressors was not significant (β = -.04, *ns*).

Hypothesis 11: Contrary to the hypothesis, the path between expression suppression and hindrance stressors was not significant (β = .02, *ns*).

Hypothesis 12: Contrary to the hypothesis, the path between cognitive reappraisal and hindrance stressors was not significant (β = -.04, *ns*).

Hypothesis 13: Contrary to the hypothesis, the path between challenge stressors and

work engagement was not significant (β = .06, *ns*).

Hypothesis 14: Contrary to the hypothesis, the path between hindrance stressors and

work engagement was not significant (β = -.05, *ns*).

FIGURE 3

Full Serial-Mediated Path Model Results – Nursing-Related Staff
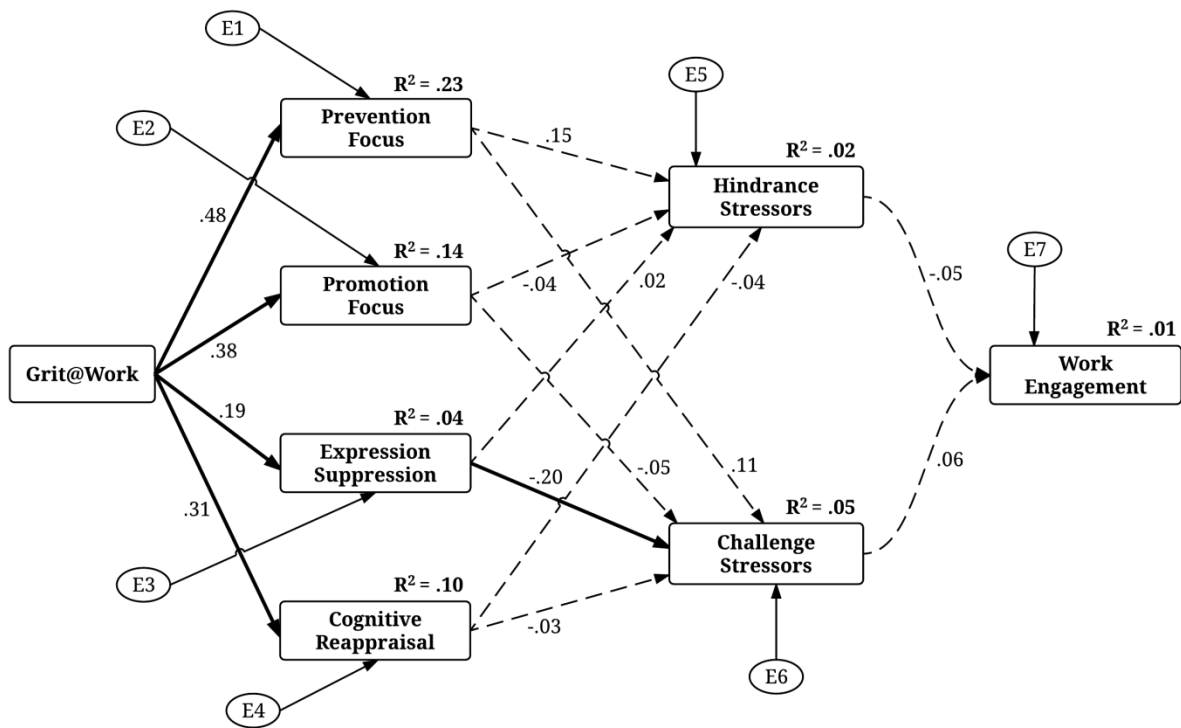
Note: $\chi^2 = 116.52$, *df* = 14, *p* < .001; RMSEA = .24; CFI = .37. Solid lines are significant at *p* ≤ .05. Dashed line is non-significant. N=119.

Model Testing – Group 2 (Business Executive Sample))

To understand the extent to which business executives may differ or share similarities to work engagement, such individuals were analyzed independent of the nursing staff. This sample group was analyzed to determine the model fit of the data and hypotheses patterns. Path model results of the business executive group are represented in Figure 4. When testing the model for grit to be serial mediated to work engagement, a poor fit of the data was found (χ^2 (14) = 32.48, p < .003; RMSEA = .173; NFI = .622; CFI = .681).

Looking at all paths as a whole, the restrictive full mediation model explains .25 of the work engagement variance. Compared to Group 1, the business executives provide greater insights on work engagement. Interestingly, participants within Group 2 (N = 45) are approximately a third of the size of Group 1 (N = 119). Group 2 had significant paths to both regulatory focus tendencies when considering grit. A notable difference is that the executive group explained almost twice the variance of the promotion factor. Results of the hypotheses are as follows:

Hypothesis 1: As predicted, the pathway between grit and promotion focus was positive and significant (β = .50, p < .01).

Hypothesis 2: Contrary to the hypothesis, the path between grit and prevention focus was positive and significant (β = .54, p < .01).

Hypothesis 3: As hypothesized, the path between grit and cognitive reappraisal was positive and significant (β = .29, p < .05).

Hypothesis 4: Contrary to the hypothesis, the path between grit and expression suppression was not significant ($\beta = -.12$, *ns*).

Hypothesis 5: Contrary to the hypothesis, the path between promotion focus and challenge stressors was not significant ($\beta = .13$, *ns*).

Hypothesis 6: Contrary to the hypothesis, the path between prevention focus and challenge stressors was not significant ($\beta = -.18$, *ns*).

Hypothesis 7: Contrary to the hypothesis, the path between cognitive reappraisal and challenge stressors was negative and not significant ($\beta = -.15$, *ns*).

Hypothesis 8: Contrary to the hypothesis, the path between expression suppression and challenge stressors was not significant ($\beta = -.07$, *ns*).

Hypothesis 9: Contrary to the hypothesis, the path between prevention focus and hindrance stressors was negative and not significant ($\beta = -.04$, *ns*).

Hypothesis 10: Contrary to the hypothesis, the path between promotion focus and hindrance stressors was positive and not significant ($\beta = .12$, *ns*).

Hypothesis 11: As predicted, the path between expression suppression and hindrance stressors was positive and significant ($\beta = .43$, $p < .01$).

Hypothesis 12: Contrary to the hypothesis, the path between cognitive reappraisal and hindrance stressors was not significant (β = -.20, *ns*).

Hypothesis 13: As hypothesized, the path between challenge stressors and work engagement was positive and significant (β = .27, p < .01).

Hypothesis 14: As hypothesized, the path between hindrance stressors and work engagement was negative and significant (β = -.43, p < .05).

FIGURE 4

Full Serial-Mediated Path Model Results – Business Executives
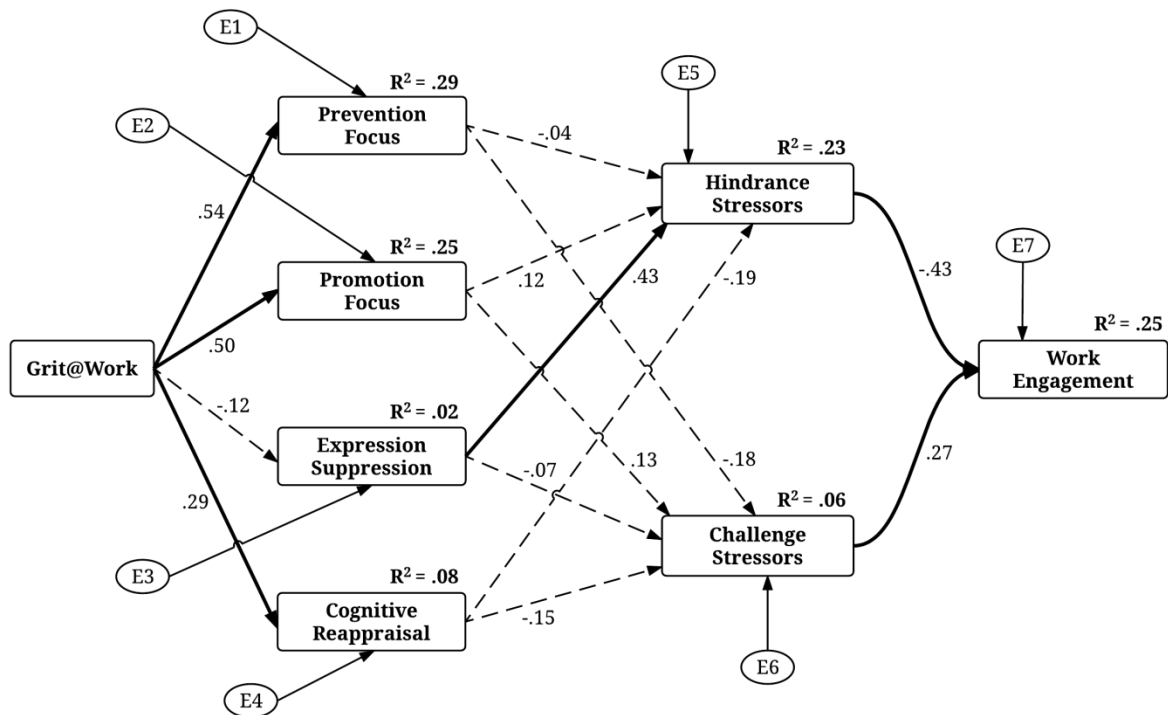
Note: χ^2 = 32.48, *df* = 14, *p* < .001; RMSEA = .17; CFI = .68. Solid lines are significant at *p* ≤ .05. Dashed line is nonsignificant. N = 45.

Chapter Four Summary

    Based on the theory proposed by this study, a model was specified in which grit predicted regulatory focus and emotional regulation subscales, which in turn predicted challenge and hindrance stress, which predicted work engagement. Overall, my hypothesized serial mediated model failed to have much support when comparing two groups independently or as an aggregate. Poor model fit of the data and failure of many hypothesized relationships support this observation. Based on the model complexity, some of these findings were not surprising. To review how the hypotheses were similar and different for the data samples, see the comparative group hypotheses analysis (Table 10). Findings from this table indicate strong support for grit to predict both regulatory focus constructions (promotion and prevention), regardless of the specific group. Interestingly, out of the 11 remaining hypotheses, five of the relationships are different between Group 1 and Group 2. While many of the hypotheses are not significant, an important takeaway is that the samples see things differently, thus providing some insights for the difference in R^2 between the path models of for each group.

Table 10

Comparative Group Hypotheses Analysis

Hypothesis # (Path)	REL$_{Predict}$	REL$_{Aggregate}$	Sig.	REL$_{Group\ 1}$	Sig.	REL$_{Group\ 2}$	Sig.
H1 (Grit → Pro)	+	+	**	+	**	+	**
H2 (Grit → Pre)	−	+	**	+	**	+	**
H3 (Grit → Rea)	+	+	**	+	**	+	*
H4 (Grit → Sup)	−	+	*ns*	+	*	−	*ns*
H5 (Pro → Cha)	+	−	*ns*	−	*ns*	+	*ns*
H6 (Pre → Cha)	−	+	*ns*	+	*ns*	−	*ns*
H7 (Rea → Cha)	+	−	*ns*	−	*ns*	−	*ns*
H8 (Sup → Cha)	−	−	*	−	*	−	*ns*
H9 (Pre → Hin)	+	+	*ns*	+	*ns*	−	*ns*
H10 (Pro → Hin)	−	−	*ns*	−	*ns*	+	*ns*
H11 (Sup → Hin)	+	+	*ns*	+	*ns*	+	**
H12 (Rea → Hin)	−	−	*ns*	−	*ns*	−	*ns*
H13 (Cha → Eng)	+	+	*ns*	+	*ns*	+	**
H14 (Hin → Eng)	−	−	*	−	*ns*	−	*

Note: REL = relationship between variables, Pro = Promotion Focus, Pre = Prevention Focus, Rea = Reappraisal, Sup = Suppression, Cha = Challenge Stressor, Hin = Hindrance Stressor, Eng = Work Engagement
**p<.01; *p<.05; ns = not significant.

CHAPTER V

DISCUSSION

This chapter provides the summary and discussion of the results from chapter 4. The research questions are revisited along with the findings for each question, so as to understand their theoretical contributions. Lastly, I discuss some recommendations for practical implications and future research.

Results of this study provide insights on grit as it is related to how a person regulates goal pursuits, manages emotions, and deals with stress relative to work engagement. While the originally hypothesized model was not supported, grit demonstrated the ability to predict regulatory focus attributes of both promotion and prevention. A possible interpretation is that an individual sees his or her goals, regardless of the lens, as a path to advance (promotion) or to maintain security (prevention). Also, the consistency of the interest factor plays a role in goal pursuit. Likely, the perseverance factor serves as energy for the gritty individual to stay on course when working toward goals. The consistency of interest and perseverance likely explain why gritty individuals are more likely to have traits of cognitive reappraisal.

To revisit the research questions that drove this study and the results for each, the next section addresses what this study found.

1. Does a person's job function determine how grit and work engagement are connected?

It is difficult to answer this question from the demographic and job role data. Job roles are suggestive as an explanation; however, such categorical description lacks sufficient evidence to be conclusively supportive. This being said, to some extent, a person's work engagement and grit are associated, but how much the connection exists as a result of job roles cannot be determined from this study. When evaluating the correlation coefficients and path models for the groups, independently, results show that the sample groups are so different that Group 1 should be evaluated for a different theory. Building on this observation, Group 1 workers demonstrated a strong correlation between work engagement and grit. Surprisingly, Group 2 did not show a significant relationship between the two measurements.

2. To what extent does grit affect motivational approaches, specific to the likeliness that something will cause pleasure or pain?

Findings of this study suggest gritty individuals use both factors of regulatory focus for their goal pursuits. Both the nursing staff and business executives indicated a significant correlation between the use of promotion or prevention focus strategies and grit. Prevention focus was favored slightly more in both samples, which was somewhat surprising considering a study by Duckworth and Eskreis-Winkler (2013). Evidence to support this preference included higher R^2 and greater correlations for both groups. Possibly, the "consistency of interest" factor of grit plays a role in shaping how individuals determine the appropriate goal pursuit strategy.

Duckworth and Eskreis-Winkler (2013) provided support to suggest grit may be related to growth mindsets and optimism. Findings from my study provide evidence of support between grit and promotion focus. To an extent, such a finding was not surprising considering promotion focus is concerned with achievement and accomplishment (Crowe & Higgins, 1997).

A question that may arise is whether or not individuals use both motivational approaches when working toward goals. Individuals do use both promotion and prevention focus regulatory strategies; however, they are likely to favor one over the other and adopt a general tendency (Halvorson & Higgins, 2013; Higgins, 1998). In the case of this study, participants favored prevention focus. This is important for understanding the tendency of people who are promotion or prevention focus-oriented and their general predisposition to goal pursuit.

3. Does grit play a role in an individual's emotional management and stress appraisal on the job?

Depending on the individual, grit may play a role in emotional management and stressor appraisal. Considering this study examined several demographic variables, and that Group 1 was predominantly female, whereas Group 2 was predominantly male, insightful findings came from the path models. For instance, the presence of grit in Group 1 revealed statistically positive relationships between cognitive reappraisal and expression suppression. Interestingly, suppression negatively influenced challenge stressors for the nursing-related staff. An interpretation of this finding is that when these individuals restrict their outward expressions, they appraise challenge stressors in a negative manner. In other words, a challenge stressor of job responsibilities or time

pressure is more likely to have an opposite impact. According to McCauley et al. (1994), challenge stressors are associated with fulfillment, achievement, and positive motivation. Results indicated by Group 1 support the idea that nursing staff are less likely to experience such attributes when they suppress their expressions, considering they have grit.

In a somewhat different finding, Group 2 revealed a significant relationship between grit and cognitive reappraisal, but not expression suppression. However, aside from the individuals having grit, the individuals indicated when they suppressed their outward expressions, they were more likely to experience hindrance stressors. This is important in that business executives are likely to induce hindrance stressors due to the ways in which they suppress their feelings. Another way to understand this observation is that suppressing expressions will likely cause a person to see job demands as obstacles and distract him or her from goal achievement. In a broader picture, the suppression influences the work engagement, considering hindrance is negatively associated with this outcome. to personal growth or as an interference to goal achievement

Both groups showed a significant relationship between grit and cognitive reappraisal. However, neither sample evidenced significant paths beyond this correlation. According to Duckworth and Gross (2014), when individuals use cognitive reappraisal, they control their own thoughts and impressions. Controlling these aspects of thinking likely provides for an "open" mind that assesses meaning before responding. Arguably, both groups of people, regardless of gender, are likely to use reappraisal when they identify with grit.

Methodological Implications

Unfortunately, there were fewer anticipated respondents in Group 1 than expected. Data collected for this study involved two time intervals. The initial recruitment for this sample was 242 nursing-related individuals. To be considered in this study, research prospects were advised to respond to a company-wide email sent by the director of informatics. Individuals that replied were provided to the researcher. Alternatively, nursing related workers could reply directly to the research from flyers that were posted through the hospital. The company-wide email was sent out to approximately 1,000 potential study prospects. Of the potential prospects, 61% (142 individuals) completed T1. Retention of T1 participants that completed T2 was 84% (123 individuals).

Incidentally, during this study it was discovered that many nurses do not rely on company-wide email as the main source of organizational communication. Rather, they use other forms of communication that are more common, specifically notes on whiteboards in break rooms, infrequent "in-service" staff meetings, monthly unit meetings, leadership meetings, among others. In the case of this study, recruitment mainly occurred through email and flyers.

The response rates from T1 and T2 to the sample pool were considered favorable and very positive. However, the greater population and increased sample this study could have reached is something to consider for future types of study, specific to large medical institutions. A few recommendations I would make when doing studies similar to this is for the researcher get approval to do a "road show" for nursing units, offer incentive in a way that is creative, and budget time to receive responses.

Performing a road show for individual units will allow for nurse-related staff to ask questions and familiarize themselves with the study. Because these individuals spend most of their time in face-to-face patient interaction, it makes sense that an effective way to connect with them is in a similar fashion. Importantly, the researcher should be considerate of optimal and inconvenient times to perform such information sessions, specific to shift changes and times when medicine and/or reports are updated.

This study was revised from the original incentive to comply with the Group 1 IRB. For each survey that was completed (i.e., T1 and T2), participants received the chance to win $25 gift cards. To focus on specific units, I recommend increasing the dollar amount of the incentive or offering something health related to the participants that the employing organization does not already provide (i.e., a screening test). An alternative to increasing the dollar amount may involve awarding a bonus pool of money to units that meet a specific threshold of participants. This being said, such incentive would be at the mercy of the organization's human resources department or IRB.

Lastly, time allotted to receive survey responses should be extended to one month when working with nursing-related staff. In many instances, nursing-related staff have irregular work schedules. Schedules can be problematic when the individual is meant to complete a survey that was sent to their work email, but they are not scheduled to work again for a few days. Also, company-wide emails exist, but they did not appear to be heavily relied upon for pertinent information. Because of busy schedules related to patient care, I would recommend one month to collect responses to a survey with weekly reminders.

Theoretical Contributions

The aim of this research was to examine how specific mediators play a connecting role between grit and work engagement. Essentially, it picks up where Rich and Kahn (year?) both left off by looking at several mediators from a process model perspective. While the proposed model did not fit the process model perspective, several important observations surfaced from this study. First, evidence supports the need to understand how grit may or may not influence work engagement. Another contribution was the support that suggested that the consequences of suppressing expressions play a role in how a person perceives stress. A third observation that could contribute to the current body of literature concerns stressor appraisal as it leads to work engagement. While not entirely supported by the study, a person's function at work may contribute to some degree to how they become engaged, manage emotions, and perceive stress.

Research suggest work engagement involves two important elements, job resources and personal resources (Bakker, Schaufeli, Leiter, & Taris, 2008; Hakanen, Perhoniemi, & Toppinen-Tanner, 2008; Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2007). This study is concerned with expanding the literature relative to a process model, specific to the personal resource area of work engagement. Hakanen et al. (2008) found that individuals utilize personal resources of optimism, resilience, and self-efficacy when engaged in work. Other personal resource characteristics of engagement include extraversion, conscientiousness, emotional stability, and psychological capital (Bakker & Leiter, 2010). West et al. (2015) suggested that these characteristics are also non-cognitive, much like grit. This being so, such skills might be learned over time as a child matures into adulthood. Evidence suggests parents and family have significant influence

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on a person's skill development (West et al., 2015). By considering the personal

resources of an individual along with his or her job role, this study provides several

theoretical contributions to the engagement literature. Furthermore, our understanding of

how an emotional management strategy plays a role in stress appraisal was also

insightful.

To build on the findings related to the first research question of this study, data from

two sample groups suggest job roles and possibly demographic attributes may determine

to an extent how people are engaged in their work. The job engagement survey (JES)

used in this study comprises work intensity, generalized emotions, and attentional focus

factors (Rich et al., 2010). To the researcher's knowledge, no other JES study has

compared and contrasted samples, specific to grit.

Nursing staff indicated that grittiness resulted in work engagement. To an extent, the

lesson of tortoise and hare in Aesop's fable could be compared to such a conclusion. The

tortoise, which could be characterized as gritty, finishes the race while the hare takes a

nap. Essentially, individuals with grit trait qualities are similar in that they are oriented to

achieve and accomplish in the face of obstacles and not as apt to waste time. A possible

parallel with the nursing staff is their being physically, emotionally, and cognitively

engaged when dealing with patients. Likely, a nurse shows interest in a patient's

improvement. The nursing staff member reasons using purposeful effort in the form of

grit. Interestingly, there was no support showing the business executives leveraged grit to

become engaged in their work. Considering the R^2 values from the path models of both

groups (see Figure 3 and Figure 4), this study clearly identifies processes that engage one

group of workers, but may not be the case for other types of employees.

The emotional management strategy of suppression played a different role for each group in stressor appraisal. Evidence suggests that nursing-related staff who mask their facial expressions or are unauthentic with their emotions are more likely to misinterpret challenge stressors. Challenge stressors are associated with demands that serve as "opportunities for learning, growth, and achievement" (Colquitt, LePine, & Wesson, 2015, p. 145). The misreading of challenge stressors is supported by the work of Niedenthal, Krauth-Gruber, and Ric (2006). They found that expression suppression plays a role in reducing positive emotions. Most likely, a decline in positive emotions influences the lens through which stressors are perceived. This finding is in line with how Kühn, Gallinat, and Brass (2011) described suppression as involving an individual in self-control expressions and outward emotional responses.

In contrast to the nurses, when business executives mask their emotional expressions, they indicate a likeliness to experience greater hindrance stressors. However, caution should be exercised with all interpretations of this study because the sample sizes are small. Based on a conclusion by John and Gross (2004), suppression can be associated with unauthenticity in the person's inner self and outer behavior. Therefore, it makes sense that a person may resort to viewing job demands as obstacles to personal growth. It is possible that the unauthentic psychological effects on the person play a part in prompting the person to believe he or she is a victim of missed opportunities at the organization and so perceive the organization as deceitful. It is more likely that the decision to reduce emotion expression takes a toll on the perceptional lens of stress. In other words, a guilty conscious may shape how stressors are perceived. Concerning this topic, Sheldon et al. (1997) discussed how authenticity, which involves consistency of

behavior and feelings, has a healthy impact on the mind. The brain is not oriented to deceive. This finding is not to say all business executives resort to suppression. The takeaway is that when they choose to practice suppression, there is an increased likeliness that they will move toward hindrance stress appraisal.

Suppression can be thought of as mental preoccupation involving impression management (Leary & Kowalski, 1990; Vohs et al., 2005). Sometimes it can hinder finding positives in certain stressful situations. Buck (2003) found that gender type is associated with suppression, especially males. While this study did not stratify gender to confirm this finding, the samples predominantly represent genders and may be fruitful for further analysis concerning suppression and stressor appraisal. Importantly, cognitive reappraisal, the other form of emotional management, was not found to support stress perceptions for either sample group.

Another contribution from this study is an insight from the path models related to stressor appraisal and work engagement. The stressor appraisal of hindrance or challenge orientation do not appear to play a significant role in how nursing-related staff engage in work (Figure 3). In contrast, business executives confirm that hindrance and challenge stressors have both negative and positive influences (Figure 4), respective to engagement (Crawford, LePine, and Rich (2010). Prior research considers the effect suppression has on hindrance stressors for such individuals. Importantly, my study evidences that two unique samples illustrate different ways that stressor appraisal leads to work engagement.

Several contributions resulted from this study. First, the relationship of grit and work engagement can be different for different people. Unfortunately, evidence is suggestive but not definitive to support categorical variables of demographics or job role functions.

This study provided an insightful look at how suppressing expressions and emotions can play a role in stressor appraisal. Lastly, this study found stressor appraisal drives work engagement for business executives, but not for nursing-related staff. This is in contrast to a study by Crawford et al. (2010), which did not arrive at a similar result in their meta analyses of stressor appraisal to work engagement.

Practical Recommendations

To extend some of the theoretical contributions pragmatically, several possible applications result from this study. First, from what we know about grit, Duckworth has provided many studies to support its ability to predict achievement-based outcomes. Research by Coomer (2016) and this study suggest that measurability of grit is function-based, specific to work. If we know a person has grit traits, we can assume he or she will bring a unique trait to employment and are less likely to experience burnout. Essentially, they are more likely to persist in the face of challenges. Considering the origin of grit is from the conscientious factor of the Big 5 (Duckworth et al., 2007; Duckworth & Quinn, 2009; Suzuki et al., 2015), it can be inferred that individuals with grit will have greater tendencies to be thorough in their work and possibly be more ethical (Walumbwa & Schaubroeck, 2009). This is important for the nursing-related staff data, considering the significant and strong correlation of .50 (see Table 8).

From a practical point, this study suggests caregivers are more likely to have a consistent interest, thus identifying with a purpose when they exert effort. In contrast, managers and executives in the business world are not as likely to have a consistent interest in their work. Unfortunately, the reason for this is not entirely clear, based on this study. Possibly, the described categorical variables, unknown factors, or possibly

sampling errors could be attributed to this difference. For purposes of this study, nursing-related staff are more likely to have clear expectations of their discrete job duties. Stated differently, ambiguity in job function is less of an issue in light of the extensive training and frequent "in service" staff meetings experienced by nursing-related staff. Business managers likely have more undefined areas of responsibilities, but greater accountability if business performance suffers. This being said, the consistency of interest for the business managers may be less specifically because of their responsibilities.

The consistency of an interest factor and its relation to grit necessitates a connection between the individual and organizational goals. I recommend integrating effective goal striving and self-concordance findings from Sheldon and Elliot (1999). This requires the individual to list three personal and professional goals. Over time, the individual answers questions as to how they are progressing toward such goals. In a sense, this provides an accountability for the "gritty" individual. Essentially, these questions work as a reminder for the nurses and an initiator for the business managers. The questions are expected to become very powerful when the organization adjusts its goals in such a way as to be meaningful for the employee and the organization itself. This being said, the organization should try to strive for continuity between its long-term objectives and those of the employees to establish an interest connection. Goal identification could be done with current employees or during the interview process. This recommendation allows the organization to learn what is important to its employees. With this knowledge, the organization could integrate goals and achievements that connect with the employee. It is possible that synergist performance and engagement between the employee and the organization occur when a meaningful connection results between both parties.

Another practical implication from this study is that organizations need to "rethink" how they encourage authenticity in employees. This statement can only go so far because individuals ultimately make their own choices. As Epictetus said, "Decide to construct your character through excellent actions and determine to pay the price of a worthy goal," thus the onus of truth is on the person. Arguably, in a culture and climate that encourages transparency and acknowledges that humans make errors, workers may relax some of their tendencies to suppress emotions. This is not to say all emotions should not be encouraged. To the contrary, this paper is of the position that suppression is involved in the decision for which a person may have a cognitive dissonance as to how they respond in a situation. For example, a close friend of mine recently started a new job at a charter school. It was a chaotic situation because the school was new and an administration change had just occurred. Essentially, teachers were trying to get in sync with the new elementary principal. After the second day on the job, my friend said that the principal asked her, "How are things going?" This question was asked in the company of many other teachers. As such, my friend resorted to suppression and did not mention the chaos and her concerns in the hope that things would get better over time. This anecdote demonstrates the need behind my recommendation that organizations rethink specifically about whether criticism while amongst peers is encouraged or penalized. Employees should feel at ease when raising their hand to ask for help.

Another application of this research is the suggestion that a worker's tendency to align with hindrance stressors may be an indicator of future problems in the workplace. Findings in this study suggest once business managers view job demands as obstacles, a path toward disengagement likely begins. A worker's performance and engagement

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decline because they become distracted by organizational politics, role ambiguity, and job security concerns (LePine et al., 2004; LePine et al., 2005; Sacramento et al., 2013). Because hindrance-oriented individuals likely have difficulty facing challenges, it is not surprising that suppression of emotions can directly lead to a hindrance stress appraisal. This recommendation is that managers take notice when employees begin to show a trend of decreased motivation and negative organizational outlook. Identifying the onset of indicators of hindrance stress may help to prevent burnout. Furthermore, intervening as a manager may help get to the root of the problem that is prompting unauthentic behavior through suppression. The eye-opening paradox of unauthenticity may stem from the culture and climate of the organization and not just the employee's decision. In essence, the organization itself may facilitate a hindrance stressor for many employees.

Limitations and Future Research

In considering all research, this dissertation has limitations. It would have been preferable to have more participants from the individual nursing units. This would have allowed unit stratifications to examine human tendencies with specificity. Data for several demographic variables were collected to identify differences between the sample groups. Job role classifications were used to differentiate the sample groups based on commonality of work functions. Classifying the samples as such is the best way to contrast the groups versus other possible descriptions in this study.

One additional limitation of this study is the categorical descriptions of Grit@Work, which identify lowest and highest levels of individuals. This research was concerned with analyzing the presence of grit related to work engagement and answering questions of "how" from a mediator-process perspective. The degree of grit, quantified as a level

categorically within the sample, lower = 10% and 25%, middle = 50%, and top = 75% and 90%, were not analyzed. The main reason for this is that the sample in this study was not large enough. Furthermore, analyzing the data to this extent would have been beyond the scope and aim of this research.

An area for future research is that consideration of other applications of grit beyond work engagement. Taken a step further, the likeliness that other non-cognitive traits are application-based may be a fruitful area of exploration. To support the likeliness of such traits being application based, measurements have been developed related to self-efficacy and smoking cessation (Etter, Bergman, Humair, & Perneger, 2000; Spek et al., 2013), subjective resilience (Jones & Tanner, 2015), and dispositional optimism (Lemola et al., 2010). The point of these contributions is to evidence that broader non-cognitive traits are expandable to discrete applications and functions.

Another avenue to extend findings from this study is to explore the extent that different moods of a gritty individual might work to facilitate or hinder work engagement, specific to nursing-related staff. Lastly, the organizational culture and climate for which gritty individuals flourish relative to engagement could expand the research from this study along with the applied Grit@Work metric by Coomer (2016).

Conclusion

To understand the extent that a non-cognitive trait plays in a person experiencing work engagement, this study looked at mediators as possible processes from several domains. Such mediators were a premise to understand *how* people may use tendencies to facilitate a psychological connection with work engagement. Grit has evidenced strong predictability for student retention at West Point, advancement in a spelling bee, and Ivy

League undergraduate GPAs (Duckworth & Quinn, 2009). I argued that Grit@Work is a more specific and application-based construct that would predict a state of work engagement. This construct did correlate to work engagement for nursing-related staff, but not for business executives. Caution should be exercised when interpreting this relationship because explanations may be related to sampling error or demographics not evaluated in this study. Arguably, this study provides evidence to increase our understanding of how suppression of emotions influences stressor appraisal for different groups of people. Thirdly, an interesting observation surfaced in this study related to stress appraisal and work engagement. Data from this research suggests different attributes of workers may play a role in how stressors affect involvement relative to work engagement. While the complex processed model of this study failed to fit the data in the path models, several paths and correlations provided insightful contributions. This research provided insights for how possible job classifications may shape individuals and their tendencies related to work engagement.

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APPENDIX A

STUDY MEASURES

Grit@Work (Coomer, 2016)

Here are a number of statements that may or may not apply to you. For the most accurate score, when responding, think of how you compare to most people, not just the people you know well, but most people in the world. There are no right or wrong answers, so just answer honestly!

Select the appropriate response using the following scale:

1	2	3	4	5
Not like me at all	Not much like me	Somewhat like me	Mostly like me	Very much like me

Please answer every statement, even if you are not completely sure of your response.

1*.	At work, I have been obsessed with a certain idea or project for a short time but later lost interest.	1	2	3	4	5
2.	At work, I am diligent.	1	2	3	4	5
3.	At work, I am a hard worker.	1	2	3	4	5
4*.	I set goals at work but often change them.	1	2	3	4	5
5*	I have focused on a project at work but later lost interest.	1	2	3	4	5
6*.	On work projects lasting more than a few months, I tend to lose my focus.	1	2	3	4	5
7*.	I like to jump to new projects at work before completing current projects.	1	2	3	4	5
8.	I like to finish the work projects I begin.	1	2	3	4	5
9.	When it comes to getting my work done, I am a diligent worker.	1	2	3	4	5
10.	I work hard to get my work completed.	1	2	3	4	5
11.	I would work years to achieve a goal at work.	1	2	3	4	5
12*.	I have difficulty staying focused on my work goals	1	2	3	4	5
13*.	My interest in certain work projects changes from year to year.	1	2	3	4	5
14*	New pursuits at work draw my attention away from current pursuits.	1	2	3	4	5
15.	I am not easily discouraged at work.	1	2	3	4	5
16.	I have conquered a significant challenge at work by overcoming obstacles.	1	2	3	4	5

* Reverse Scored Item

Regulatory Focus at Work (Higgins et al., 2001)

Please rate how often you focus on these thoughts and activities when you are working:

1	2	3	4	5
Never	Rarely	Occasionally	Frequently	Constantly

1. Accomplishing a lot at work.   1 2 3 4 5
2. Getting my work done no matter what.   1 2 3 4 5
3. Getting a lot of work finished in a short amount of time.   1 2 3 4 5
4. Work activities that allow me to get ahead.   1 2 3 4 5
5. My work accomplishments.   1 2 3 4 5
6. How many tasks I can complete.   1 2 3 4 5
7. Following the rules and regulations.   1 2 3 4 5
8. Completing work tasks correctly.   1 2 3 4 5
9. Doing my duty at work.   1 2 3 4 5
10. My work responsibilities.   1 2 3 4 5
11. Fulfilling my work obligations.   1 2 3 4 5
12. On the details of my work.   1 2 3 4 5

Emotional Regulation (Gross & John, 2003)

We would like to ask you some questions about your emotional life, in particular, how you control (that is, regulate and manage) your emotions. The questions below involve two distinct aspects of your emotional life. One is your emotional experience, or what you fell like inside. The other is your emotional expression, or how you show your emotions in the way you talk, gesture, or behave. Although some of the following questions may seem similar to one another, they differ in important ways. For each item, please answer use the following scale:

1	2	3	4	5
Strongly Disagree	Disagree	Neither	Agree	Strongly Agree

1. When I want to feel more positive emotion (such as joy or amusement), I can change what I'm thinking about.   1 2 3 4 5
2. I keep my emotions to myself.   1 2 3 4 5
3. When I want to feel less negative emotion (such as sadness or anger), I change what I'm thinking about.   1 2 3 4 5
4. When I am feeling positive emotions, I am careful not to express them.   1 2 3 4 5
5. When I'm faced with a stressful situation, I make myself think about it in a way that helps me stay calm.   1 2 3 4 5
6. I control my emotions by not expressing them.   1 2 3 4 5
7. When I want to feel more positive emotion, I change the way I'm think about the situation.   1 2 3 4 5
8. I control my emotions by changing the way I think about the situation I'm in.   1 2 3 4 5
9. When I am feeling negative emotions, I make sure not to express them.   1 2 3 4 5
10. When I want to feel less negative emotion, I change the way I'm thinking about the situation.   1 2 3 4 5

Hindrance & Challenge Stress (Marcie A Cavanaugh et al., 2000)

Please indicate the amount of stress you associate with each of the following items using the 5-point Likert scale provided.

1 Produces no stress	2 Produces minimal stress	3 Produces medium stress	4 Produces increased stress	5 Produces a great deal of stress

1.	The number of tasks and or assignments I have.	1	2	3	4	5
2.	The amount of time I spend at work.	1	2	3	4	5
3.	The volume of work that must be accomplished in the allotted time.	1	2	3	4	5
4.	Time pressures I experience.	1	2	3	4	5
5.	The amount of responsibility I have.	1	2	3	4	5
6.	The scope of responsibility my position entails.	1	2	3	4	5
7.	The degree to which politics rather than performance affects organizational decisions.	1	2	3	4	5
8.	The inability to clearly understand what is expected of me on the job.	1	2	3	4	5
9.	The amount of red tape I need to go through to be my job done.	1	2	3	4	5
10.	The lack of job security I have.	1	2	3	4	5
11.	The degree to which my career seems "stalled."	1	2	3	4	5

JES (Rich et al., 2010)

Below are statements that describe how a person feels about their job. Please choose the level of agreement that each statement relates to you in your current job.

Select the appropriate response using the following scale:

1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree

Please answer every statement, even if you are not completely sure of your response.

1.	I work with intensity on my job.	1	2	3	4	5
2.	I exert my full effort to my job.	1	2	3	4	5
3.	I devote a lot of energy to my job.	1	2	3	4	5
4.	I try my hardest to perform well on my job.	1	2	3	4	5
5.	I strive as hard as I can to complete my job.	1	2	3	4	5
6.	I exert a lot of energy on my job.	1	2	3	4	5
7.	I am enthusiastic in my job.	1	2	3	4	5
8.	I feel energetic at my job.	1	2	3	4	5
9.	I am interested in my job.	1	2	3	4	5
10.	I am proud of my job.	1	2	3	4	5
11.	I feel positive about my job.	1	2	3	4	5
12.	I am excited about my job.	1	2	3	4	5
13.	At work, my mind is focused on my job.	1	2	3	4	5
14.	At work, I pay a lot of attention to my job.	1	2	3	4	5
15.	At work, I focus a great deal of attention on my job.	1	2	3	4	5
16.	At work, I am absorbed by my job.	1	2	3	4	5
17.	At work, I concentrate on my job.	1	2	3	4	5
18.	At work, I devote a lot of attention to my job.	1	2	3	4	5

APPENDIX B

IRB APPROVAL LETTER

Oklahoma State University Institutional Review Board

Date: Tuesday, May 26, 2015

IRB Application No   BU1525

Proposal Title: A dash of grit, a smidgen of stressor management, and a pinch of regulatory tendencies to be engaged

Reviewed and Processed as: Expedited

Status Recommended by Reviewer(s): Approved   Protocol Expires: 5/25/2016

Principal Investigator(s):

Justin Keeler   Julian Craig Wallace
1 Brilliante Circle   OSU Tulsa 306 N. Hall
Hot Springs, AR 71909   Tulsa, OK 74106

The IRB application referenced above has been approved. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in section 45 CFR 46.

☰ The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

As Principal Investigator, it is your responsibility to do the following:

1. Conduct this study exactly as it has been approved. Any modifications to the research protocol must be submitted with the appropriate signatures for IRB approval. Protocol modifications requiring approval may include changes to the title, PI advisor, funding status or sponsor, subject population composition or size, recruitment, inclusion/exclusion criteria, research site, research procedures and consent/assent process or forms
2. Submit a request for continuation if the study extends beyond the approval period. This continuation must receive IRB review and approval before the research can continue.
3. Report any adverse events to the IRB Chair promptly. Adverse events are those which are unanticipated and impact the subjects during the course of the research; and
4. Notify the IRB office in writing when your research project is complete.

Please note that approved protocols are subject to monitoring by the IRB and that the IRB office has the authority to inspect research records associated with this protocol at any time. If you have questions about the IRB procedures or need any assistance from the Board, please contact Dawnett Watkins 219 Cordell North (phone: 405-744-5700, dawnett.watkins@okstate.edu).

Sincerely,

Hugh Crethar, Chair
Institutional Review Board

CURRICULUM VITAE
Justin B. Keeler, MBA

Ouachita Baptist University   Office Phone: (870) 245-5251
Hickingbotham School of Business   Cell Phone: (970) 492-5926
HH 309, Box 3689   E-mail: Keelerj@obu.edu
Arkadelphia, AR 71998

ACADEMIC APPOINTMENTS

Instructor of Finance[1], Ouachita Baptist University, Arkadelphia, AR (2014 – present)

EDUCATION

Candidate for Ph.D., Management, Oklahoma State University (2013 – 2016);
Advisor: Craig Wallace

MBA, General, Southern Methodist University (2008 – 2010)

B.S., Accounting, University of Central Oklahoma (2004 – 2005)

RESEARCH INTERESTS

Primary Research Interests
My primary area of interest revolves around predicting, explaining, and enhancing human decision-making, specific to areas of behavior and social science at the individual and collective levels by integrating the theories of sensemaking, motivation, and emotion with higher-level organizational constructs such as leadership and performance.

Specific Areas of interest
- prospect theory, psychological contracts, personal financial planning
- positive psychology (grit, flow), work engagement, mindset/performance

RESEARCH IN PROGRESS

Dissertation: *A Dash of Grit, a Smidgen of Stressor Management and a Pinch of Regulatory Tendencies to be Engaged?*
Status: analyzing and writing

No Mental Rest for the Weary: Do Personality Traits Explain how Stress Leads to Reasoned Importance?
Status: revisions with co-authors
PROFESSIONAL SERVICE

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[1] Tenure track faculty appointment

College and University

Member, Student Life Committee, Ouachita (2016)
Invited Speaker, University Colloquium Series, Ouachita (2014)

Department

Member, Technology & Media Committee, Hickingbotham School of Business, Ouachita (2015)

Ad hoc Reviewer

Engaged Management Scholarship

Professional Affiliations

Academy of Management: Mgmt., OB, HR, & Research Methods Divisions (2013 – present)
Society of Industrial/Organizational Psychology (2013 – present)
The American Finance Association (2016 – present)

TEACHING

Student Advising

Honors thesis committee member: Shelby Reams (2016)

Business plan competition advisor: Barkley Legens (2014-2016), Brooke Schmidt (2014-2016), Matt Mainiero[2] (2014-2015), Jalen Jones (2014-2015), Mitch Bledsoe (2014-2015), Tanner Trantham (2014-2015), Jayson Harris (2014-2015), Jon Jacks (2014-2015), Jared Lantzsch (2014-2015)

Undergraduate Course Instructor

Ouachita Baptist University
FINN 2033: Personal Finance (4 semesters)
MGMT 3023: Management Information Systems (3 semesters)
MGMT 3053: Small Business Management (2 semesters)

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[2] Team leader, business concept was a finalist in the Governor's Cup, a state-wide competition of business plans between universities.