

Why so stressed?  
Effects of Challenge, Hindrance, and Threat Stress on Work Engagement

Jack Sadek

A Thesis

In the

John Molson

School of Business

Presented in Partial Fulfillment of the Requirements  
for the Degree of Master of Science (Business Administration) at  
Concordia University Montreal, Quebec, Canada

October 25, 2018

**CONCORDIA UNIVERSITY**

**School of Graduate Studies**

This is to certify that the thesis prepared

By: Jack Sadek

Entitled: Why so stressed? Effects of Challenge, Hindrance, and Threat Stress on Work Engagement

and submitted in partial fulfillment of the requirements for the degree of

**Master of Science (Business Administration)**

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Signed by the final Examining Committee:

\_\_\_\_\_ Chair  
Dr. Jordan LeBel

\_\_\_\_\_ Examiner  
Dr. Linda Dyer

\_\_\_\_\_ Examiner  
Dr. Amir Shoham

\_\_\_\_\_ Thesis Supervisor  
Dr. Muhammad Jamal

Approved by \_\_\_\_\_  
Chair of Department or Graduate Program Director

\_\_\_\_\_ 2018 \_\_\_\_\_  
Dean of Faculty

## Abstract

The current study expanded the Challenge-Hindrance Model of Stress (Cavanaugh et al., 2000) to also include threat stress (Tuckey et al., 2015) and studied how these different types of stress influence employee work engagement (Schaufeli et al., 2002; Schaufeli et al., 2010). Research has shown that job resources (Bakker & Demerouti, 2008) and personality (Mäkikangas et al., 2013) are important constructs that help explain an employee's level of work engagement. Therefore, this study analyzed the moderating effects of the job resource, social support (Cobb, 1976), and the personality trait, hardiness (Kobasa et al., 1982) known to buffer the effects of stress. A total of 148 employees from an international pharmaceutical service company located in Montreal, Quebec took part in this study. Multiple regression analysis showed that hindrance and threat stress were negatively related to work engagement. Furthermore, social support moderated the relationship between challenge stress and work engagement such that in the presence of social support challenge stress had a significant positive relationship with work engagement. Although the study did not find any significant moderating effects for hardiness, the construct had a high correlation with work engagement. The study expands the literature on stress by differentiating between hindrance and threat stress which in turn expands the challenge-hindrance model. Furthermore, it suggests that hindrance and threat stress are types of stress that practitioners should try to limit, while also suggesting they provide social support for employees when they are faced with a challenge stress, in order for them to stay engaged in their work.

*Keywords: work engagement, hardiness, social support, challenge stress, hindrance stress, threat stress*

## Acknowledgements

The last two and a half years in the MSc program and my dissertation would not have been possible without the help of several individuals who guided me and helped me along the way.

I would like to thank Dr. Muhammad Jamal who has not only been a great supervisor but also a great mentor. His guidance throughout my time in the MSc. has been very enlightening and for that I thank him. I would like to also thank my committee members Dr. Linda Dyer and Dr. Amir Shoham, who guided me and provided amazing feedback to complete my thesis. Without your help, this would not have been possible.

To my parents, Hossam Sadek and Dr. Lilian Latchinian, thank you for always pushing me to try my best. You have been amazing parents and mentors and I can always count on your wisdom to guide me through any challenge. I can only dream of achieving what you have accomplished in your lives and I hope this thesis takes me one step closer to that goal. There is also my brother Jason who, although I don't see very often (even though we live together supposedly), should realize that he pushes me to work harder every day, through his own dedication to his research, and for that I thank you. Thank you to Nairy and Sarkis Khalafaghian, who has been the best aunt and uncle someone could ask for. You're always there when Jason and I need anything and for that, I could never repay you. To my cousins, Mgo and Garinee, thank you for being great role models and supporting me throughout the years.

To my friends George, Pierre, Mario, and Ari: although you drive me a bit crazy at times (which is all the time) thank you for your continuous support. Your friendship means the world to me and without your presence, I know the last two and a half years would have been filled with a lot fewer laughs.

And finally to my girlfriend Andrea. You were there at the beginning and at the end of my journey. You've always been there to pick me up during tough times and share some laughs during the good times. You challenge me to be a better person every day and to strive for greatness. I can only hope to inspire you as much as you have inspired me. You're my best friend and I will always be there for you.

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## **Why so stressed? Effects of Challenge, Hindrance, and Threat Stress on Work Engagement**

Stress is a term often used to describe people that are overwhelmed with work or other duties. The common denominator in the models of stress created by researchers is that stressors cause strains on the employees (Jex, 1998) which subsequently leads to behaviors such as absenteeism and turnover, and increases in health care costs (Stambor, 2006). This represents a significant financial burden estimated to cost organizations \$300 billion a year (Stambor, 2006). The feeling of stress, which is termed “strain,” is a psychological or physiological response to the different stressors an individual is exposed to in his or her environment (e.g., Caplan, Cobb, French, Harrison, & Pinneau, 1980; Kahn, Wolfe, Quinn, Snoek, & Rosenthal, 1964; Lazarus, 1966; McGrath, 1976). Due to its many connotations and definitions, it is important that we clearly define the construct of stress in the context of our research. A stressor can be anything in a person’s life that causes strain displayed through a variety of behaviors such as anxiety and exhaustion (Jex, 1998, Lepin et al., 2005, p.764). Stressors can appear in many forms, including major life events such as moving, retirement, and divorce (Pengilly & Dowd, 2000) or less significant events that create obstacles in a person’s daily routine (Thoits, 1985). Regardless of the source, the individual has to learn to change his or her behavior to adjust the stressor (Brown, Bhrolchain, & Harris, 1975).

Historically, stress has been studied as a unidimensional construct, which provides individuals with vital information regarding their ability to adapt to high demands from their environment (Dewa, Thompson, & Jacobs, 2011; Jamal, 2007; Jamal 2011). Several models have been proposed throughout the years attempting to explain stress, all of which emphasize the stress-strain relationship. Past models include the Demands-Control Model, the Cybernetic

Model, and the Role Stress Model which are highlighted below. The Demands-Control Model (Karasek 1979, 1989; Karasek & Theorell, 1990) describes the relationship between job demands and job control that influence an employee's strain. The Cybernetic Model proposed by Cummings and Cooper (1979) focuses on the discrepancy between the goals individuals set and the feedback they receive from their environment, such as feedback from a superior, as the main cause of strain. Feedback leads to an adaptive response by the individual to fix any divergence from their goals to restore the balance. Hobfoll (1989) theorized that individuals seek and protect certain resources that will help them adapt to their environment, and any threat to the acquired resources would be considered a strain. In the Role Stress Model, the three most common forms of role stress are role conflict, role ambiguity (Beehr & Newman, 1978; Kahn et al., 1964; Katz & Kahn, 1978) and role overload (Beehr & Glazer, 2005). In this model the individual either: has two incompatible roles (e.g. role conflict); doesn't fully understand the job assigned to them (e.g. role ambiguity); or has too many tasks assigned to them, with not enough resources or time to accomplish them (e.g. role overload).

Research has linked the appearance of stressors to health issues such as heart disease, cancer, and psychological distress (Dohrenwend B.S. & Dohrenwend B.P., 1974, 1981; Thoits, 1983). In the workplace, acute stressors have been linked to diseases such as musculoskeletal diseases (Bongers, de Winter, Kompier, & Hildebrandt, 1993; Carayon, Smith, & Haims, 1999). In addition, chronic stressors have been shown to reduce immune system function (Segerstrom & Miller, 2004), and also promote the development of metabolic dysfunction that is associated with diabetes and heart disease (Chandola et al., 2006). While stressful situations are said to conjure "adaptive efforts by the human organism that are faulty in kind or duration, lower 'bodily resistance' and enhance the probability of disease occurrence" (Holmes & Masuda, 1974, p. 68),



such notions fail to consider individual differences, such as personality traits, past experiences, an individual's social surrounding (Selye 1956) that make everyone's reaction to stress unique. Although most research has discussed stress as a negative aspect of our lives that we should diminish, others have proposed that stress provides positive benefits (Kobasa, Hilker, & Maddi 1977; Kobasa, 1979). Stress sends cues to an individual to seek new resources and skills, therefore, avoidance of stress may lead to a lost opportunity to enhance ourselves (Kobasa, Hilker, & Maddi 1977; Kobasa, 1979).

Past research has focused on the relationship of stress on organizational outcomes such as job performance (Jex 1998; Jamal, 2007; 2011; 2016), job satisfaction (Bradley & Cartwright, 2002), and organizational commitment (Jamal, 2011) to name a few. This study will focus on a multidimensional model of stress, which includes challenge, hindrance and threat stress (Cavanaugh et al., 2000; Tuckey et al., 2015) and its relationship on a construct that has grown attention in recent years: work engagement (Bakker & Albrecht, 2018). In the past, researchers believed that work engagement was simply the opposite of burnout and would use the Maslach Burnout Inventory (MBI) scale to measure work engagement (Maslach & Leiter, 1997). However, over the years work engagement has been identified as its own unique construct consisting of three characteristics of vigor, absorption, and dedication, which measure how eager an employee is involved in their work (Schaufeli et al., 2002). The current body of evidence indicates that the construct of work engagement has notable consequences to organizational outcomes. For example, research has found a positive relationship between employees who are highly engaged in their work and taking initiative (Hakanen, Perhoniemi, & Toppinen-Tammer, 2008). These engaged individuals are eager to master their skills and enhance their knowledge regarding their field of work (Hyvönen, Feldt, Salmela-Aro, Kinnunen & Makikangas, 2009). In

their study of managers, Hyvönen et al. (2009) found that engaged managers were more likely to push their team to achieve their goals, increase productivity, and were more likely to look for new ways to improve team functions.

Researchers have clearly shown the uniqueness of the work engagement (Hallberg & Schaufeli, 2006) and the goal of future research should be not only to further explain the relations work engagement has with these constructs, such as job satisfaction, organizational commitment, and others, but also show the value in doing such research on understanding work engagement better (Bakker, Albrecht, & Leiter, 2011). This paper will focus on developing a better understanding how different types of stress, specifically challenge, hindrance, and threat stress influence an employee's level of work engagement while looking at how moderators can influence the relationship.

## Challenge and Hindrance Stress

The transactional model of stress proposed by Lazarus & Folkman (1984) focuses on the interactions between the individual and their environment to explain how he or she may experience stress and strain. In this model, individuals go through a two-step process which helps them assess their situation; first they must analyze and decipher if the stressor is a threat to them; second, if they have made the decision that it is a threat, they must choose the appropriate coping mechanism to handle the situation (Lazarus & Folkman 1984). Coping can be defined as “the thoughts and behaviors used to manage the external and internal demands of situations that are appraised as stressful” which in turn influences our behaviors (Folkman & Moskowitz, 2004, p. 745). Therefore, it is the interaction between the stressor and the coping mechanism the

individual chooses that will regulate the level of strain (Lazarus & Folkman,1984). This framework is the foundation of the challenge hindrance model.

The challenge-hindrance model divides stress into two categories, challenge stress and hindrance stress. Challenge stressors are the types of work demands that have the potential for producing positive consequence, such as gaining experience, if the employee can overcome them (Cavanaugh, Boswell, Roehling & Boudreau, 2000). Hindrance stressors, i.e. organization politics, red tape, encumber an employee from completing their tasks and are considered impediments to employees' growth and advancement (Cavanaugh, et al.,2000). Although challenges stressors have been linked to anxiety, depression, (LePine et al.,2005), and anger (Tuckey, Searle, Boyd, A.Winefield, & H. Winefield, 2015), when employees feel that they have something to gain from overcoming a challenge stressor, such as an opportunity to learn or develop their own skills, they will feel more motivated and increase their commitment towards completing their tasks ( Ryan & Deci,2000;Crawford, Lepine & Rich, 2010). Empirical evidence suggests that challenge stressors have beneficial organizational outcomes through positive changes in employee behavior such as continuance commitment, organizational citizenship behavior, and decreased levels of turnover and absenteeism (Boswell, Olson-Buchanan, & LePine, 2004; LePine et al., 2005; Podsakoff et al., 2007). A possible reason for the favourable outcomes of challenge stressors are its positive relationship with high motivation of individuals it benefits (LePine et al.,2005). As with challenge stressors, hindrance stressors can also elicit negative emotions, anxiety, and attitudes (Boswell, et al., 2004; Rodell & Judge, 2009), and are positively related to psychological distress (Ruehlman & Wolchick, 1988). Despite this an employee's behavioral response is different when facing hindrance stressors as compared to challenge stressors. Employees will waste energy trying to get rid of any hindrance stressor, such

as red tape or an organizational obstacle (Hobfoll,2001; Tuckey et al., 2015) which in turn will increase emotional exhaustion, (Webster, Beehr, & Love, 2011; Halbesleben, 2006), decrease their motivation (LePine et al., 2005), and dedication (Crawford et al., 2010). Considering that challenge and hindrance stressors both elicit similar negative emotions, one may ask why is there such a difference in the behavioral response of an individual to these distinct stressors? We can begin to unravel the answer to this question by looking back to the transactional model of stress (Lazarus & Folkman 1984), which acknowledges that an individual's appraisal of the stressors they face will be different, therefore it's how the person reacts to the stress that defines the type of stress they experience.

One of the first studies to analyze the differential effects of challenge and hindrance stressors (Cavanaugh et al., 2000), found that challenge stressors were positively related with job satisfaction, and were negatively related to job search. Hindrance stressors had the opposite effect, having a negative relationship with job satisfaction and a positive one with the job search. In a more recent study by Jamal and Ahmed (2012), they found contrary results to past research: both challenge and hindrance stressors were positively related to burnout and health issues while also being negatively related to job satisfaction. Furthermore, when comparing Type A and Type B individuals, they found that in the face of high challenge stressors Type B individuals reported higher rates of burnout and health problems than Type A individuals. Furthermore, Type A individuals who dealt with high levels of hindrance stressors reported more burnout than Type B individuals (Jamal & Ahmed, 2012). This study lends support to the idea that personality may play an integral role in the way challenge/hindrance model affects organizational outcomes (Jamal & Ahmed, 2012). In a follow up study using the Challenge/Hindrance Model, Jamal (2016) studied the moderating effects of social support on the relationship of these stressors on

Job Performance and Turnover motivation. Social support was found to be more beneficial for individuals facing hindrance stress than challenge stress, as they were able to maintain their level of performance, however, both types of stress were negatively related to job performance (Jamal, 2016).

The challenge-hindrance model of stress has also been used to study the relationship of stress between work and non-work interference (Wood & Michaelides, 2016). In their study Wood and Michaelides (2016) defined work and non-work interference as the response an individual would have when dealing with a work-nonwork conflict which causes pressure (Carlson & Grzyacz, 2008). They used enthusiasm, which was defined as, “a manifestation of high motivation,” (Wood & Michaelides, 2016, p. 6), as a mediator while also measuring transient and routine levels of challenge and hindrance stress. Interestingly, the field views enthusiasm as the opposite end of depression which has been shown to be positively associated with challenge stressors (Podsakoff et al, 2007). Routine stress was used to measure general stress over time, which is associated with chronic stress, while transient stress was utilized to assess how individuals react to unusual events that require the individual to adapt to the new situation, which can be considered acute stress (Wood & Michaelides, 2016). Enthusiasm was found to mediate the relationship between both challenge and hindrance stressors and work and non-work interference. Although both challenge and hindrance stress both had a positive effect on work non-work interference, challenge stress was positively associated with enthusiasm, while hindrance stress was negatively associated with enthusiasm (Wood & Michaelides, 2016).

Rodell and Judge (2009) studied potential negative behaviors that could arise from challenge and hindrance stressors, by analyzing their relationship with organization citizenship and counterproductive behaviors. Using various emotions as mediators, Rodell and Judge found

that challenge stressors have contradictory but indirect effects on citizenship behavior. Attentiveness had a positive mediating effect on citizenship behavior, however, anxiety had a negative mediating effect on citizenship behavior. Furthermore, challenge stressors were found to have a negative relationship with counterproductive behavior, and a positive indirect relationship with citizenship behavior through anxiety, which induces avoidance type coping behaviors, a derivative of counterproductive behavior (Rodell & Judge, 2009). As a result, the study suggests that citizenship behavior may be affected by the type of challenge stressor which either promotes (i.e. job responsibility) through attentiveness, or demotes ( i.e. time constraints) through anxiety, citizenship behavior ( Rodell & Judge, 2009). The argument for challenge stressors being coined as “good” stress is therefore not always justified as there are “negative influences of these stressors on discretionary behaviors” (Rodell & Judge, 2009, p1448).

Hindrance stressors, on the other hand, were positively associated with counterproductive behaviors, through the indirect effects of anger and anxiety (Rodell & Judge, 2009). Anger is a common reaction to these types of stressors as they may be perceived as a threat, while anxiety is induced as the individual does not believe they can manage the stressor (Cavanaugh et al., 2000; Lazarus, 1991). Neurotic individuals were found to respond to hindrances with more anger compared to non-neurotic individuals (Rodell & Judge, 2009), which demonstrates that individual personality traits play a significant role in how stressors are perceived. In addition, hindrances were also found to have a significant indirect effect on citizenship behavior through anxiety. As with challenge stressors, when an individual feels anxiety, their coping mechanism of choice is avoidance (Lazarus,1991). A minor hindrance stressor such as role ambiguity can decrease citizenship behavior, but more severe hindrance stressors such as red tape that induce

anger could have a two-fold effect of decreasing citizenship behavior and increasing counterproductive behaviors (Rodell & Judge, 2009).

While the challenge and hindrance model of stress has helped researchers better understand the negative and positive effects of stressors on organizational outcomes such as development and challenge (Cavanaugh et al., 2000), job satisfaction (Podsakoff et al., 2007), performance (LePine et al., 2005) and work engagement (Crawford et al., 2010), it is still rather limited. Previous studies utilizing the challenge and hindrance model relied on the strict definitions of challenges and hindrances rather than measuring the appraisal of the various stressors (Webster, et al., 2011). Furthermore, the findings of these studies discussed above in some cases were contradictory, proving that further research is needed to better understand the model. As organizational behavior researchers, one of our goals is to constantly review and adapt models in order to reflect an individuals' environments, but also to better understand how individuals within an organization think, feel, and deal with obstacles they face in their daily work lives. As seen above, models to assess stress are constantly being improved and new models are being developed. The challenge and hindrance model in a recent study by Tuckey, et al. (2015) was expanded to include another type of stress: threat stress. They based this study on all the facets of a transactional model of stress (Lazarus & Folkman, 1984) which states that individuals will decide for themselves if the stressor is: an opportunity to gain knowledge and master a skill (challenge stress); harmful to them (hindrance); or a threat.

## What is the difference between a Threat and Hindrance?

Threat stress is an essential part of the transactional model of stress that has been omitted from the challenge and hindrance model (Tuckey et al., 2015). It is important to distinguish between threat and hindrance stressors to gain a better understanding of how each influence employee outcomes. A stressor that threatens an individual in either a physical or psychological way, is distinguishable than a stressor that hinders a person from completing a task, their responsibilities and achieving their goals (Semmer, McGrath & Beehr, 2005). For the purpose of this study, a threat will be defined as “...varying forms of workplace aggression and victimization, which thwart employees’ psychological needs for belonging, trust in others, self-worth, and influence over the environment (see Aquino & Thau, 2009)” ( Tuckey et al., p. 7).

*Table 1: Types of Stressors considered to be Threats*

Types of stressors considered to be Threats	
Workplace Bullying/Harassment	Einarsen & Raknes, 1997
Customer Service stressors	Dormann & Zapf, 2004
Job Insecurity	Elst, Van den Broeck, De Witte, & De Cuyper, 2012; Waenerlund, Virtanen, & Hammarstrom, 2011
Abusive Supervisors	Tepper, 2007

As seen in the table above, these types of stressors would fall under the category of a “threat” as it goes beyond only hindering an employee from accomplishing their task and can cause harm to an employee physically and psychologically (Tuckey et al., 2015). Another important distinction between a threat and a hindrance stressor is that overcoming an obstacle such as a hindrance stressor may eventually result in a constructive outcome for the employee whereas when faced with a threat, the employee is strictly focused on trying to avoid any negative consequences (Semmer et al., 2005). The effort put into the avoidance of threats will require the employee to seek the resources necessary to minimize the harm (Hobfoll, 2001).



However, these resources are finite and as employees seek more resources to deal with the threat, they will experience emotional exhaustion (Halbesleben, 2006) not only from seeking these resources but also from the emotions associated with having to deal with the threat (Scott & Howard, 1970).

A distinguishing characteristic between challenge and hindrance stress and threat stress are that challenge and hindrance stress are opportunities to adapt because individuals can use their own cognitive resources to learn from the stress and develop an adaptive behavior (Christopher, 2004). In the case of a threat, energy is usually exhausted on damage control, which is a key distinction between challenge/hindrance stressors and threats (Christopher, 2004). Tuckey et al. (2015) supported the three-dimensional challenge-hindrance-threat structure through factor analysis. In addition, they distinguished threat appraisal from challenge and hindrance appraisal which further supported the concept that threat stressors are important in the analysis of organizational stressors. While past research has considered role conflict or role ambiguity as hindrance stressors (Cavanaugh et al., 2000), they can also be perceived as a threat, when considering the appraisal of the stress, as individuals' experiencing these stressors exhibit of anxiety, anger, hostility (Tuckey et al., 2015). Hindrance stressors could thereby be narrowed down to organizational constraints that leave individuals feeling tired and depleted of energy (Tuckey et al., 2015). Interestingly in their research Tuckey et al. (2015) found that challenge and threat stressors were positively correlated possibly due their connection to negative outcomes, even though challenges give the individual an opportunity to gain a positive outcome while threat stressors only promote negative feelings.

## Work Engagement

The definition of work engagement has been a subject of debate within the field of business research sometimes being described as “emotional involvement or commitment” or “the state of being in gear” (Schaufeli & Bakker, 2010). According to practitioners engaged employees demonstrate organizational commitment and extra-role behavior and go out of their way for the betterment of the organization (Bakker et al., 2011). From the perspective of researchers, the construct has evolved since its inception by Kahn (1990) who initially defined it as “harnessing of organization members’ selves to their work roles: in engagement, people employ and express themselves physically, cognitively, emotionally, and mentally during role performance” (p.694). This definition was later expanded and distinguished from other concepts, such as being psychologically present, by defining it as when “people feel and are attentive, connected, integrated and focused in their role performance” (Kahn, 1992, p.322). The concept was further expanded by Rothbard (2001) who explained work engagement as a two-dimensional construct consisting of an individual’s attention on a task and absorption. Rothbard defined attention as “the cognitive availability and the amount of time one spends thinking about a role” (p.656) and absorption as “the intensity of one’s focus on a role” (P.656). Harter et al. (2002) defined work engagement in broader terms describing an individual’s connection with their work on an intellectual, physical, and emotional way. Others viewed engagement in terms of energy spent by an individual when trying to achieve the goals assigned to them (Macey et al., 2009). In a controversial study, Maslach and Leiter argued that work engagement is the opposite of burnout (Maslach & Leiter, 1997) and used the same measure of burnout, MBI, to assess engagement. The findings of this study were contradicted in a Confirmatory Factor Analysis (CFA) analysis by Schaufelli, Salanova, Gonzalez-Roma, and Bakker (2002), which found that

the two constructs of burnout and engagement were indeed distinct. The analysis confirmed the three-factor structure of burnout which includes cynicism, exhaustion, and -inefficacy, and described three factors of engagement: vigor, dedication, and absorption. With the findings of Schaufelli et al. (2002) in mind, it is therefore not sufficient to say that engagement is simply the opposite of burnout, but rather its own distinct construct with multiple dimensions (Schaufeli et al., 2002).

In a follow-up study, Schaufeli, Bakker, and Salanova (2006) confirmed findings that burnout and engagement were separate constructs. The dimensions of vigor and dedication, have been described as the opposites of exhaustion and cynicism, respectively (Schaufeli & Taris, 2005). Furthermore, exhaustion and vigor have been categorized as descriptors of the energy level of an individual, while cynicism and dedication were grouped together as identification (Gonzales-Roma, Schaufeli, Bakker, & Lloret, 2006). Contrary to these descriptions of the dimensions of work engagement, Demerouti et al., (2010) found that although cynicism and dedication were indeed opposites of the same construct, exhaustion and vigor were found to be independent of each other. As seen above, the definition of work engagement is still disputed, therefore for the purpose of my study, I utilize Schaufeli, Salanova, Gonzalez-Roma and Bakker's (2002) definition of work engagement that describes the construct as " a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption" (Schaufeli et al., 2002, p. 74). Definitions of the aspects of work engagement are defined in the table below.

*Table 2: Three Aspects of Work Engagement*

<b>Three aspects of Work Engagement</b>
“Vigor is characterized by high levels of energy and mental resilience while working, the willingness to invest effort in one’s work, and persistence even in the face of difficulties”
“Dedication refers to being strongly involved in one’s work and experiencing a sense of significance, enthusiasm, inspiration, pride, and challenge”
“Absorption is characterized by being fully concentrated and happily engrossed in one’s work, whereby time passes quickly and one has difficulties detaching oneself from work”
<b>Adapted from (Schaufeli &amp; Bakker, 2010, p.13)</b>

When exploring a construct, it is important to not only define the construct but also to differentiate it from imitators. Although similar to concepts such as job satisfaction and organizational commitment, work engagement is distinct as those constructs focus on the feelings of an individual regarding their job, while engagement deals with the behaviors of the individual (Bakker, 2011; Bakker, 2014). It has also been distinguished from job embeddedness which describes factors that keep an employee from leaving the organization such as, job fit, social connections, and the opportunity cost associated with leaving the job (Halbesleben & Wheeler, 2008). Both constructs were found to be empirically distinct from each other, but both explained variances in job performance. Work engagement is manifested in the “employees’ experience of work activity, and not the predictors or outcomes of these experiences” (Bakker & Leiter, 2010, p.182).

Workaholism is another construct commonly associated with work engagement, however, the two are widely different. Workaholism describes individuals who choose to work whether they have been given instructions to do so, are constantly thinking about work, and are “...excessively hard workers” (Bakker, Schaufeli, Leiter, & Taris, 2008, p. 191). Workaholics are obsessed with work and considered compulsive workers. (Schaufeli, Taris, & Bakker, 2006;

Scott, Moore, & Miceli, 1997) These traits lead to damaging effects on health, social relations, and happiness (Bakker, Demerouti, & Burke, 2009). On the other hand, the dimension of vigor within work engagement is commonly associated with workaholism despite having many positive benefits. Vigor, according to Shirom (2010), includes three interconnected states: physical strength, cognitive liveliness, and emotional energy, which each give individuals a sense of joy. Vigor has also been associated with having health benefits such as promoting healthy habits and improving immunity (Shirom, 2010). In addition, vigor has been found to be negatively correlated with deleterious physiological markers such as inflammation biomarkers (Shirom, Toker, Berliner, Shapira, & Melamed, 2008).

Research has shown that work engagement has many positive organizational outcomes. As argued by Bakker (2011), engaged workers display positive emotions which help with developing their own personal resources (Fredrickson, 2001); employees are healthier, which means that they can focus more on their work; engaged individuals create their own resources known as job crafting (Wrzesniewski & Dutton, 2001); they are able to transfer their engagement to others surrounding them (Bakker & Xanthopoulou, 2009); and engaged workers improve their relationships with their family (Wayne, Grzywacs, Carlson, & Kacmar, 2007). Engaged workers have also been known to exceed expectations and receive high ratings from colleagues (Bakker, Demerouti, & Verbeke, 2004). Although they do feel tired at the end of the day, as some might feel from burnout (exhaustion), they perceive this feeling of exhaustion in a positive light as it is related to their accomplishments of the day (Bakker, Albrecht, & Leiter 2011). Finally, they work because it is a pleasant aspect of their life, unlike a workaholic who works hard due to an inner drive (Gorgievski, Bakker, & Schaufeli, 2010).

## Dark Side of Work Engagement

Work engagement has been shown to produce a variety of positive outcomes, however, its negative outcomes are commonly overlooked. Research has shown that positive organizational behavior constructs, such as high self-esteem, excessive optimism, overconfidence, and creativity, do have negative consequences, such as decreased goal achievement, persistence on a futile task, decreased performance, and fading productivity (Buehler, Griffin, & Ross, 1994; Armor & Taylor, 1998; Vancouver, Thompson, Tischner, & Putka, 2002; Vancouver, Thompson, & Williams, 2001; Ford & Sullivan, 2004). Job crafting is one such outcome of work engagement that may have negative organizational outcomes. The term job crafting first coined by Wrzesniewski and Dutton (2001) describes physical changes employees make regarding their job. This outcome is manifested in changes in an employee's tasks, changes in an employee's perception about work, and changes in boundaries that employees set with their colleagues or social surroundings while they are focusing on their job. It has been hypothesized that job crafting may be a result of employees' perception of their job as a sense of fulfillment in their lives (Wrzesniewski, McCauley, Rozin & Schwartz, 1997). Employees conducting job crafting manipulate their tasks and environment to provide more meaning to the tasks they are assigned to and personalize the job to their unique needs, subsequently increasing their work engagement (Bakker, Tims, & Derks, 2012; Tims, Bakker, & Derks, 2012). Could this be a negative aspect of individuals who are highly engaged? If they start to change their job to what they would like it to be, they may not be doing the tasks that they are responsible for. Although they might feel as if they are still being productive, from a management perspective if they aren't accomplishing the tasks assigned, any extra task that doesn't fall into their pre-defined roles in the organization may be seen as counter-productive.

Additional insight into the negative aspects of work engagement can be seen from the similarities between the behavior of a workaholic and an engaged employee. As discussed above there has been a clear distinction between workaholics and work engagement, nevertheless, engagement has been associated with employees working overtime and taking work home (Beckers et al., 2004), which can have negative consequences on work-life balance and lead to health issues (Geurts & Demerouti, 2003). Furthermore, engaged workers usually have high levels of energy and can be overly-aroused which could end up as a distraction from their work and interfere with their cognitive performance (Beal, Weiss, Barros, & MacDermid, 2005). In addition, these positive moods and emotions can interfere with the person's ability to process information by promoting heuristic as opposed to systematic cognitive processing (Martin & Close, 2001).

### Job Resources and Personality

Two main resources that have been associated with work engagement are job and person resources. Past research has shown that job resources, such as social support, feedback, and growth opportunities all play role in helping to decrease job demands and the negative consequences associated with them, helping individual complete their tasks, and further develop their skills (Bakker & Demerouti, 2008; Schaufeli & Salanova, 2007; Bakker & Demerouti, 2007; Schaufeli & Bakker, 2004). Job resources can act as either intrinsic motivators, as they help to fulfill individual needs (Deci & Ryan, 1985), or as extrinsic motivators, by convincing the employee to put forth more energy towards their responsibilities (Gagne & Deci, 2005). Whether the resources are intrinsic or extrinsic, employees have been shown to gain a sense of accomplishment from their job which leads them to be engaged in their work (Schaufeli & Bakker, 2004). In a model proposed by Bakker and Demerouti, (2008), in the face of high

demands, job resources such as social support, was shown to lead to high work engagement, which eventually leads to higher performance. The model considered both between and within-person differences, meaning it took into consideration days in which the individual has excess resources, (i.e. autonomy social support, etc.) and therefore would experience a high level of work engagement (Bakker & Demerouti, 2007; Bakker & Demerouti, 2008). For the purpose of this paper social support will be considered a job resource that will be explored as a moderator. Another important facet in facilitating work engagement is personal resources which are an individual's ability to have control over their situation and trust in their own skills to be able to survive in the environment (Hobfoll, Johnson, Ennis & Jackson, 2003). Having more personal resources has been linked to having a positive self-image and finding goals that align with their interests (Judge, Bono, Erez, & Locke, 2005).

In addition to job and personal resources, personality traits have also been shown to explain variances in work engagement (Mäkikangas et al. ,2013). In a qualitative review of research that has looked at the relationship between personality traits and work engagement Mäkikangas et al. (2013) found that out of the Big 5 traits Extraversion and Conscientiousness were found to be positively associated with work engagement while Neuroticism was negatively related. Therefore, since research has found there is a relationship between personality traits and work engagement, for the purpose of this study, hardiness will be studied as a moderator.



## Hardiness Personality Trait

The construct of Hardiness has been defined as “a constellation of personality characteristics that function as a resistance resource in the encounter with stressful life events” (Kobasa, Maddi, & Kahn, 1982, p. 169). Hardiness consists of three dimensions; commitment, control, and challenge (Kobasa, 1979; Kobasa & Maddi, 1977; Kobasa et al., 1982). These individuals who possess a high level of the personality trait tend to believe that they have some sort of control over their own life experiences, have a sense of commitment to the tasks and activities that they choose to pursue as they see a purpose in what they are doing, and finally see challenges as an opportunity to grow and learn. Hardiness has been shown to be a personality trait that individuals develop in the early stages of their life and also remains stable throughout their lifetime (Kobasa, 1979; Maddi & Kobasa, 1984).

Individuals who are highly committed can keep themselves engaged in the issue at hand, while those who have high control, can focus their energy and find the necessary solution to a problem (Florian et al., 1995). Having an internal locus of control has been shown to help individuals maintain their health in situations of high control and demand (Meier, Semmer, Elfering, & Jacobshagen, 2008). Finally, individuals who score high on the challenge factor have this inner belief that change is more beneficial to them than stability; that change leads to opportunities for the individual to develop (Brooks, 2003; Kaiseler, Polman, & Nicholls, 2009).

An important aspect of the hardy personality that must be understood is the way the individual sees the environment around them (Westman, 1990). These individuals will try to find the positive out of any negative event or situation and in turn, will transform it into a goal they have to achieve or obstacle to overcome (Westman 1990). By doing so these individuals can

minimize the negative health effects of a stressful situation by relying on problem-focused coping mechanism (Kobasa, 1982; Kobasa & Puccetti, 1983; Schlosser & Sheeley, 1985; Westman, 1987). For this reason, hardy and non-hardy individuals have shown to differ in the number of life events that they associate as being negative or stressful, and in the way they react to the situation (Rhodewalt & Zone, 1989). It is the way that these individuals perceive the event they face and how they interpret an objective reality in their thoughts (Westman, 1990).

Research has produced inconsistent results regarding hardiness: some have found that direct effects of hardiness on health (Banks & Gannon, 1988; Kobasa, 1979; Kobasa et al., 1981, 1982, 1983, 1985; Kobasa & Puccetti, 1983; Nowack & Hanson, 1983; Pollock, 1986; Wiebe & McCallum, 1986); while others have argued that hardiness moderates the impact stress has on outcomes such as health (Kobasa et al., 1982; Rhodewalt & Zoen, 1989). Therefore, it is important to further study the topic to better understand its role in the organizational setting. Another inconsistency in the study of hardiness as expressed by Soderstrom et al. (2000) are gender differences, as past studies have mainly focused on men (Kobasa, 1979), have found hardiness generalizable to both men and women (Ganellen & Blaney, 1984; Gentry & Kobasa, 1984; Rhodewalt & Agustsdottier, 1984; Rhodewalt & Zone, 1989), while others have argued that it is not generalizable between genders (Schmied & Lawler, 1986; Shepperd & Kashani, 1991; Wiebe, 1991) due to differences in the coping mechanisms men and women chose in dealing with a stressful situation (Wiebe, 1991; Williams, Wiebe, & Smith, 1992).

One of the initial studies on hardiness was by Kobasa (1979), who studied hardy executives and found that these individuals are able to adjust to any challenges or deviances in their life by being actively involved and having a sense of purpose. Instead of shying away from a challenge the hardy individual “throws himself into the new situation, utilizing his inner

resources to make it his own” (Kobasa, 1979, p. 9). Furthermore, their locus of control is what allows them to accept that although there might be outside forces that can influence their life, it is up to them what they make of it (Kobasa,1979).

Although hardiness has been shown to be a personality trait that develops early in life (Kobasa,1979; Maddi & Kobassa, 1984), could it be possible to nurture this personality trait in individuals? Research conducted by Eid, Johnsen, Bartone, & Nissetad (2008) on cadets going through a training program assessed student’s transformational leadership trait before, after, and six months after the training. They found that hardiness specifically the control aspect, predicted transformational leadership after the exercise and the commitment facet predicted transformational leadership six months after the exercise (Eid et al., 2008). The control facet seems to be salient when an individual is in the midst of dealing with a stressful situation (Eid et al., 2008). On the other hand, as time goes on, commitment emerged as the more salient characteristic, maybe in part because the individual has had time to reflect on the stressful experience and transform it into a positive learning experience (Eid et al., 2008). Although studies have shown the positive aspects of hardiness, it has been found that the control aspect of hardiness, can produce negative results where the individual can be over controlling of a situation and start to micromanage his or her subordinates (Eid et al.,2008).

Pengilly and Dowd (2000) studied the moderating effect of hardiness and social support on the relationship between stress and depression. Participants who were low on both social support and hardiness were found to have more of a chance to be depressed. Furthermore, individuals who had high stress, and low hardiness scores, were shown to score higher on the Beck Depression Inventory (BDI) when compared to individuals who were experiencing low stress and had low hardiness (Pengilly & Dowd, 2000). Individuals who possessed high

hardiness scored similarly on the BDI, in both situations of high and low stress. However, it is important to note that only the commitment component of hardiness was found to have moderating effects. Social support also had the same moderating effects as hardiness (Pengilly & Dowd, 2000). In a similar study of employee mental health, Hajebi et al. (2016) showed that married individuals were in a better state of mental health than single counterparts, perhaps due to the social support they receive. Also, they were able to show a reverse correlational between psychological hardiness and mental health, with individuals who were younger, single or widowed, female, and non-rotational shift workers to score lower on mental health and also on hardiness (Hajebi et al., 2016).

## Coping

An important behavioral outcome of the personality trait of hardiness is how the individual copes with the stressful situation. Certain components of hardiness, specifically control and commitment, have been shown to help individuals view a challenge as less of a threat, providing them with the confidence that they can overcome the obstacle and also rely on more "...problem-focused and support-seeking strategies and on less emotion-focused and distance coping strategies" (Florian et al., 1995, p. 693). Problem focused and emotion focused coping (Lazarus & Folkman, 1984 ) are similar to approach and avoidance coping techniques which "... use cognitive and behavioral methods to address the stressful situation," (Soderstrom et al., 2000 p.314); the former being related to an problem focused strategy where the individual is trying to actively find a solution to the stressor, while the latter to an emotional coping strategy in which the individual's efforts are put into "avoiding active confrontation of the stressor or reducing emotional tension associated with the stressor (Soderstrom et al., 2000, p.314). Past research has consistently found that individuals who possess the hardiness personality trait will

rely on problem-focused coping mechanisms, (Kobasa & Puccetti, 1983; Schlosser & Sheeley, 1985; Westman, 1990; Williams et al., 1992).

There is debate regarding gender differences and choice of coping techniques, where some research has shown that women rely more on avoidance/emotional coping strategies (Billings & Moos, 1981; Fondacaro & Moos, 1989; Kvam & Lyons, 1991; Pearlin & Schooler, 1978; Ptacek, Smith, & Zanas, 1992). However other research has found contradictory evidence for approach methods, finding it more associated with men (Holahan et al., 1995; Kvam & Lyons, 1991; Ptacek et al., 1992; Ptacek, Smith, & Dodge 1994) while others have found women to use problem-focused coping (Vitaliano et al., 1985). Soderstrom et al. (2000) found that women rely more on avoidance coping strategies than men, more specifically the “focus on and venting of emotion strategy” (p. 324). Furthermore, hardiness and approach coping strategies were inversely related to symptoms of illness, which has been replicated in past research (Blake & Vandiver, 1988; Olff et al., 1993; Orr & Westman, 1990; Wiebe & McCallum, 1986) while low levels of hardiness and avoidance strategies were found to be directly related to stress and other illness (Blake & Vandiver, 1988; Holahan & Moos, 1985; Kobasa, 1982; Pearlin & Schooler, 1978). Interestingly, when comparing a corporate sample to that of a university (Soderstrom et al., 2000), the path of hardiness on health was more pronounced, as found in past research (Funk, 1992; Orr & Westman, 1990), whereas in the university setting it was nonexistent, implying that age and the life experiences that are associated with it, help individuals develop their hardiness, and in turn has a direct impact on health (Soderstrom et al., 2000). Hardiness has been shown to be a protective trait that helps to moderate the negative effects of stress on an individual which is a trait that strengthens with time and experience (Whitmer, Hurst, & Prins, 2009).

## Social Support

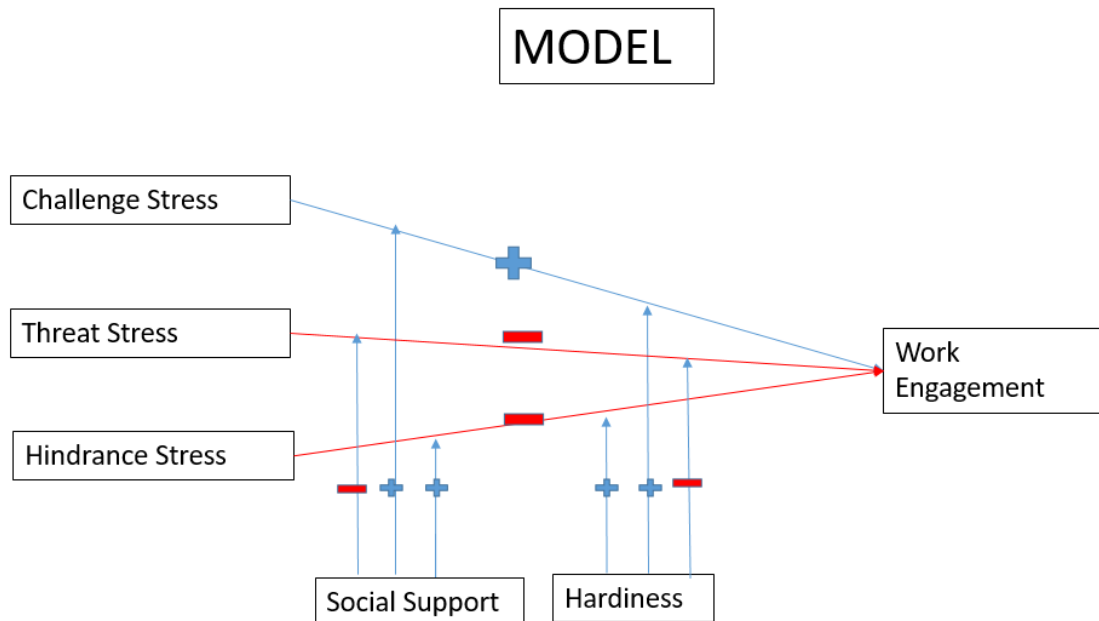
The concept of social support was initially defined by Cobb (1976) as “information leading the subject to believe that he is cared for and loved, esteemed, and a member of a network of mutual obligations” (P.300). Past research has shown that social support is a central moderator in the research of stress specifically in Western countries such as Canada and the US (Demirtas et al., 2015; Halbesleben, 2006). Xanthopoulou et al. (2008) found amongst a group of flight attendants that social support had a positive effect on both self-efficacy and work engagement and had an indirect effect on their performance through work engagement. Social support has been found to help the development of personal resources, such as satisfaction and work-family balance, by allowing the individual to share their positive experiences at work with other members, which in turn helps develop these resources (Ilies, X. Liu, Y. Liu, & Zheng 2017). There have been two main models that have been used to analyze social support: the direct model where an individual's social surroundings help them fulfill their basic needs such as receiving affection, which helps improve their overall health (Fiske, 1998); and the buffer model, where social support is seen as a conditioning variable that moderates the relationship between stressor and organizational outcomes such as job performance and turnover intention, amongst others (Bradley & Cartwright, 2002; Jamal 2016).

Kossek, Pichler, Bodner, & Hammer (2011) expanded the concept of social support by specifying the source of support (i.e supervisor, co-worker and the organization itself) and distinguishing between general support and content specific support. There are two types of social support that an individual can seek. There is the general social support that they receive from family members and others outside of the work environment. In addition, employees can receive workplace support which in the past has been defined as how much individual feels that

their well-being is a priority by those in their work environment and that there are the resources to help them with their well-being (Eisenberger, Singlhamber, Vandenberghe, Sucharski, & Rhoades, 2002; Ford et al., 2007). General support is the “degree to which employees perceive that supervisors or employers care about their global well-being on the job through providing positive social interactions” (Kossek et al., 2011, p.292), while Content specific support “involves perceptions of care and the provision of resources to reinforce a particular type of role demand” (p.292). By distinguishing the type of support an individual receives whether it is general or content specific, such as work-family support, and from whom they receive it, a supervisor or the organization, has an impact on work-family conflict (Kossek et al., 2011). Although having social support as a broad concept helps to cover a different type of support an individual receives, by specifying the type it allows us to provide context. As John (2006) has argued, context allows researchers to have a better understanding of the situation the individuals are in, which if not understood, can ignore a possible interaction between the situation and said, individual.

## Hypothesis and Model

Figure 1: Model



### Stress and Work Engagement

In this proposed model, challenge stressors will have a positive relationship with work engagement. An individual who faces a challenge stress has the opportunity to grow and learn once they overcome that stress (Cavanaugh et al., 2000). For this reason, it is proposed that these individuals will be more engaged with work when facing these types of stress. On the other hand, both threats and hindrance stressors will have a negative relationship with work engagement. Hindrance stressors i.e. red tape, organizational politics (Cavanaugh et al. 2000) and threat stress i.e. bullying, abuse, job security (Tuckey et al., 2015) will distract the employees from their tasks, therefore, it is proposed that they will be less engaged with their work. As argued by Tuckey et al. (2015) threat stressors are an important aspect to analyze and should be included in the challenge/hindrance framework of stress (Contrada,1989; Kobasa et al., 1982; Roth et al.,



1989; Wiebe, 1991), which has not been studied in the past when using challenge hindrance framework.

**H1:** Challenge stress will be positively related to work engagement.

**H2:** Hindrance stress will be negatively related to work engagement.

**H3:** Threat stress will be negatively related to work engagement.

### Resources, Personality Traits, and Work Engagement

In the presence of Hardiness, it is proposed that individuals who are high on hardiness will be able to better cope with challenge and hindrance stressors. Florian et al., (1995) showed that the control and commitment components of hardiness have helped individuals with dealing with challenges. Furthermore, in the presence of social support, individuals will be able to cope with challenge and hindrance stressors. Past research has shown the social support to be a buffer to stress (Demirtas, et al., 2015; Halbesleben, 2006) and also distinct types of stress such as challenge and hindrance stress (Jamal, 2016). However, it is proposed that these moderators have negative effects on the relationship between threats and work engagement. As individuals try to use their own personality (hardiness) or job resources (Social support) to deal with a threat, they will end up wasting more energy (Christopher,2004) and therefore leading them to be even less engaged at work. Social support has been used in the challenge /hindrance model of stress in the past (Jamal,2016) however to the best of our knowledge hardiness has not been studied as a moderator in this model.

**H4a:** Hardiness will moderate the relationship between challenge stress and work engagement. Individuals who are high on hardiness will be able to better handle the challenge stressor they face.

**H4b:** Hardiness will moderate the relationship between hindrance stress and work engagement. Individuals who are high on hardiness will be able to better handle the hindrance stressor they face.

**H4c:** Hardiness will moderate the relationship between threat stress and work engagement. Individuals who are high on hardiness will be less engaged at work due to spending too much energy trying to solve the threat stress.

**H5a:** Social support will moderate the relationship between challenge stress and work engagement. Individuals who have social support will be able to better handle the challenge stressor they face.

**H5b:** Social support will moderate the relationship between hindrance stress and work engagement. Individuals who have social support will be able to better handle the hindrance stressor they face.

**H5c:** Social support will moderate the relationship between threat stress and work engagement. Social support will have a negative impact on the relationship between threat stress and work engagement, as individuals will perceive they are able to handle the threat and waste too much energy.

## Method

The present study was conducted among employees of an international pharmaceutical service company in Canada. Several employees were invited through internal communication to participate in the study. Data were collected through a structured questionnaire. With the help of the human resource department of the company, in order to invite employees to participate, emails were sent to employees with an anonymous link of the survey provided by Qualtrics (Qualtrics.com). Employees were assured anonymity and confidentiality and were informed that the study was about work attitudes. Participants were only required to complete one survey which took no more than 15 minutes to complete. Furthermore, participants were informed of their right to stop the survey at any time without any consequences. An example of the consent form can be found in Appendix A.

### Sample Characteristics.

Surveys were distributed twice, the first round between May 3<sup>rd</sup> to May 24<sup>th</sup> yielding 129 responses over a three-week period and the second round between June 29<sup>th</sup> and July 19 yielding 42 responses over a three-week period. In total there were 148 completed surveys (N= 85 Females and N=59 Males), four participants did not disclose their gender. Out of all participants, 37.9% were less than 40 years old, 28% identified as between the age of 40 and 49, while 29% identified as over the age of 50. All participants were full time employees, with a mean of 9.18 years of service (N=133, Max=37 Min=.16 SD=8.351).

## Measures

### Challenge and Hindrance Stress (Cavanaugh, et al. 2000)

Challenge and Hindrance stress were assessed using a six and five item scale respectively developed by Cavanaugh et al. (2000). Participants were asked to indicate their level of stress experienced on a five-point Likert scale ranging from (1) signifying no stress and (5) a great deal of stress. Examples of items for challenge stress include “The amount of time I spend at work” and hindrance stress “The lack of job security I have”. In the original study by Cavanaugh et al. (2000) challenge stress had a reliability coefficient of  $\alpha = .87$  while hindrance stress had a reliability coefficient of  $\alpha = .75$ . In the present study, the reliability coefficient for challenge stress in this study was  $\alpha = .929$ ,  $M=3.46$   $SD=.851$ . The reliability coefficient for hindrance stress was  $\alpha = .788$   $M=2.82$   $SD=.868$ .

### Threat Stress (Feldman, Cohen, Hamrick, and Lepore,2004)

Threat stress was assessed using a scale developed by Feldman, Cohen, Hamrick, and Lepore (2004) which included three items. Participants were asked to indicate how stressful aspects of their job would affect them indicating so on a five-point Likert scale from (1) strongly disagree to (5) strongly agree (e.g. “They will result in negative outcomes”). The reliability coefficient for threat stress in this study was  $\alpha = .900$   $M=2.73$   $SD=.988$ .

### Hardiness (Bartone,1995)

Hardiness was assessed using a fifteen-item scale DRS-15, developed by Bartone (1995). Participants were asked to indicate whether they agreed with statements (e.g. “Changes in routine are interesting to me.”) on a four-point scale from (0) not at all true to (4) completely true. Six of the items in the scale were negatively keyed. As some items were negatively worded, the reverse score was calculated these items the reliability coefficient was found to be  $\alpha = .829$   $M=2.05$   $SD=.382$ .

### Social Support (House, 1981)

Social support was assessed by four items using a scale developed by House (1981) with questions regarding how much they could depend on individuals such as their supervisor, co-workers, spouse and friends (e.g. “How much is each of the following people willing to listen to your work-related problems?”). Respondents were required to indicate the level of support from (0) not at all to (4) very much. To simplify the scale the category of a spouse was merged with the friends and relatives’ category. The reliability coefficient in this study was  $\alpha = .829$   $M=2.14$   $SD=.496$ .

### Work Engagement (Schaufeli et al., 2009)

Work engagement was assessed using the shortened nine item version of the UWES scale developed by Schaufeli Bakker and Salanova (2006). They found that the shortened version of the original 17 item UWES showed internal consistency and test-retest reliability (Schaufeli et al., 2006). Participants were asked to indicate to what extent they agreed with statements (e.g. “My job inspires me.”) using a seven-point Likert scale ranging from (0) never to (6) always/ every day. The reliability coefficient in this study was  $\alpha = .918$   $M=4.31$   $SD=.967$ .

*Table 3 Measure Descriptives*  
**Measure Descriptives**

<b>Variables</b>	<b><math>\alpha</math></b>	<b><i>M</i></b>	<b><i>SD</i></b>
Challenge Stress	.929	3.46	.851
Hindrance Stress	.788	2.82	.868
Threat Stress	.900	2.73	.988
Hardiness	.829	1.97	.340
Social Support	.829	2.14	.496
Work Engagement	.918	4.31	.967

n=148

## Data Analysis

For the purpose of this study, SPSS 22 was used to test all hypotheses. Outliers were identified as any that were above 3.29 or below -3.29. After checking for outliers, it was found there were no significant outliers among independent and dependent variables. Furthermore, Variables were also tested for multicollinearity by analyzing the variance inflation factors (VIF) which were all found to be less than 10 (Amiot & Sansfaçon, 2011; Kleinbaum, Kupper, & Muller, 2007).

## Results

### Correlation Results

A Pearson's correlation analysis was performed to assess the relationships among independent and dependent variables. Table 2 shows that ten out of the fifteen pairs of variables were significantly correlated. Hindrance stress was negatively correlated with work engagement (\* $r=-.311$ ,  $p<.01$ ), hardiness ( $r=-.297$ ,  $p<.01$ ) and social support ( $r=-.361$ ,  $p<.01$ ) while positively related to challenge stress ( $r=.196$ ,  $p<.05$ ) and threat stress ( $r=.445$ ,  $p<.01$ ). Threat stress was found to be negatively correlated with work engagement ( $r=-.306$ ,  $p<.01$ ), hardiness ( $r=-.218$ ,  $p<.01$ ) and social support ( $r=-.195$ ,  $p<.05$ ). Hardiness had a positive correlation with work engagement ( $r=.540$ ,  $p<.01$ ) while social support was positively related to work engagement ( $r=.183$ ,  $p<.05$ ). The average correlation among the three stress scales was .253.

*Table 4: Intercorrelation Among Variables*  
**Intercorrelation Among Variables**

Variable	1	2	3	4	5	6
Challenge Stress (1)	--					
Hindrance Stress (2)	.196*	--				
Threat Stress (3)	.125	.445**	--			
Hardiness (4)	-.109	-.297**	-.218**	--		
Social Support (5)	.052	-.361**	-.195*	.132	--	
Work Engagement (6)	-.144	-.311**	-.307**	.540**	.183*	--

\*p<.05; \*\*p<.01.  
n=148

### Stress and work engagement

A multiple regression analysis was conducted to test the relationships between the three types of stress and work engagement. The combination of variables used to predict work engagement which included challenge stress, hindrance stress, threat stress, and the moderator interactions between these variables and the moderators of social support and hardiness were statistically significant,  $F(9,138) = 4.272$   $p < .001$ . The  $R^2_{adj}$  value was .167 which signifies that 16.7% of the variance in work engagement was explained by the model.

The results did not support the relationship between challenge stress and work engagement, therefore, Hypothesis 1 is not supported. Hindrance stress found to be negatively related to work engagement ( $\beta = -.201$ ,  $p < .05$ ) which supports Hypothesis 2. Threat stress was also found to be negatively related to work engagement ( $\beta = -.245$   $p < .05$ ) which supports Hypothesis 3. Hardiness did not interact with any of the independent variables, therefore,

hypothesis 4 was not supported. Furthermore, the interaction between Challenge stress and Social Support was found to be positively related to work engagement ( $\beta = -.240$   $p < .01$ ) which supports Hypothesis 5a. Social support did not interact with hindrance or threat stress, therefore, hypothesis 5b and 5c were not supported.

*Table 5: Simultaneous Multiple Regression Analysis Summary*  
**Simultaneous Multiple Regression Analysis Summary**

<b>Variable</b>	<i>B</i>	<i>SEB</i>	$\beta$
Hindrance Stress	-.045	.02	-.201*
Challenge Stress	-.007	.015	-.035
Threat Stress	-.08	.028	-.245*
Threat Stress X Social Support	.029	.081	.031
Hindrance Stress X Social Support	-.116	.085	-.121
Challenge Stress X Social Support	.252	.083	.240**
Challenge Stress X Hardiness	-.049	.068	-.059
Hindrance Stress X Hardiness	.143	.084	.16
Threat Stress X Hardiness	.066	.085	.07
Constant	5.735	.382	

*Dependent Variable: Work Engagement*

*Note.*  $R^2 = .218$ ;  $F(9,138) = 4.272$ ,  $p < .001$ .

\* $p < .05$ ; \*\* $p < .01$ .



Table 6: Summary of Supported Hypotheses

**Summary of Supported Hypotheses using the Moderated Model**

<b>Hypotheses</b>	<b>Independent Variable</b>	<b>Dependent Variable</b>	<b>Supported/Not Supported</b>
<b>Hypothesis 1:</b> Challenge stress will be positively related to work engagement.	Challenge Stress (CS)	Work Engagement (WE)	Positive relationship was not supported.
<b>Hypothesis 2:</b> Hindrance stress will be negatively related to work engagement.	Hindrance Stress (HS)	WE	Supported
<b>Hypothesis 3:</b> Threat stress will be negatively related to work engagement.	Threat Stress	WE	Supported
<b>Hypothesis 4a:</b> Hardiness will moderate the relationship between challenge stress and work engagement. Individuals who are high on hardiness will be able to better handle the challenge stressor they face.	Hardiness(HD) CS	WE	Not Supported
<b>Hypothesis 4b:</b> Hardiness will moderate the relationship between hindrance stress and work engagement. Individuals who are high on hardiness will be able to better handle the hindrance stressor they face.	HD HS	WE	Not Supported
<b>Hypothesis 4c:</b> Hardiness will moderate the relationship between threat stress and work engagement. Individuals who are high on hardiness will be less engaged at	HD TS	WE	Not supported

work due to spending too much energy trying to solve the threat stress.			
<b>Hypothesis 5a:</b> Social support will moderate the relationship between challenge stress and work engagement. Individuals who have social support will be able to better handle the challenge stressor they face.	Social Support (SS) CS	WE	Supported
<b>Hypothesis 5b:</b> Social support will moderate the relationship between hindrance stress and work engagement. Individuals who have social support will be able to better handle the hindrance stressor they face.	SS HS	WE	Not supported
<b>Hypothesis 5c:</b> Social support will moderate the relationship between threat stress and work engagement. Social support will have a negative impact on the relationship between threat stress and work engagement, as individuals will perceive they are able to handle the threat and waste too much energy.	SS TS		Not Supported

## Discussion

The present study examined how different types of stress influence employee work engagement. Work engagement was not analyzed as simply the opposite of burnout but rather its own independent construct with three distinct dimensions of vigor, absorption, and dedication. This study investigated a three dimension model of stress which included challenge, hindrance, and threat stress and its relationship on work engagement. As job resources (Bakker & Demerouti, 2008) and personality (Mäkikangas et al., 2013) have been identified as important constructs in understanding work engagement, social support and hardiness were analyzed as moderators. A multiple regression analysis was conducted and it was found that hindrance and threat stress both had negative relationships with work engagement as expected. A significant relationship between challenge stress and work engagement was not found. However, there was a significant relationship found when social support was included as a moderator.

Hindrance stress was found to have a significant negative relationship with work engagement. This was expected as hindrance stress such as red tape and office politics (Cavanaugh et al., 2000), impede an employee from completing their tasks, and have been shown to decrease employees' level of work engagement, specifically the aspect of dedication (Crawford et al., 2010). Therefore, as employees were faced with a hindrance stress, this negatively influenced their level of work engagement. Threat stress was also found to have a significant negative relationship with work engagement. In the past, research has not distinguished between a hindrance and threat stress. However, as shown by Tuckey et al. (2015) the two constructs are indeed unique. While hindrance stress may impede an employee (Cavanaugh et al., 2000) a threat stress can cause physical or psychological harm (Tuckey et

al.,2015). From this study, it can be concluded that as employees are faced with a threat stress this will negatively influence their level of work engagement.

Challenge stressors such as work demands, time constraints, and more responsibility, were expected to help the employee gain experience if they can overcome the challenge (Cavanaugh et al., 2000). Although past research has found that challenge stress can improve work engagement (Crawford et al., 2010), this study did not find any significant relationship between the two constructs. Hence this study did not have any support for the idea that when an employee is faced with a challenge stress that it will improve their work engagement. When social support was included as a moderator, challenge stress did have a significant relationship with work engagement. Therefore, we can conclude that when individuals are faced with challenge stress they rely on their social surrounding to help them overcome the challenge stress and be engaged in their work.

Social support has been shown to be an important buffer to stress (Demirtas, et al., 2015; Halbesleben, 2006) and a moderator between hindrance stress and organizational outcomes such as job performance (Jamal, 2016). Furthermore, it has been identified as a job resource that individuals use to help improve their level of work engagement (Bakker & Demerouti, 2008). Despite these findings, social support was not found to be a significant moderator for either hindrance or threat stress. This may be since when an employee is facing this type of stress they do not feel comfortable discussing it with their social surrounding, especially for a threat stress. If an employee is experiencing either physical or psychological harm in the work place they may feel uncomfortable sharing their experience with another colleague, friend, or partner.

The role of personality has been suggested to be a construct related to work engagement (Mäkikangas et al. ,2013). In this study, the personality trait of hardiness was not found to be a

significant moderator for any type of stress, although past research has demonstrated that it does act as a buffer to stress (Kobasa et al., 1982). Interestingly, the construct did have a strong correlation with work engagement ( $r=.536$ ,  $p<.01$ ). Furthermore, by looking at the specific dimensions between hardiness and work engagement in the table below, we can see there are significant strong correlations between the two constructs. All the dimensions had a significant correlation amongst them ( $p<.01$ ). This lends support that the hardiness personality does have some type of relationship with work engagement. Further research on the relationship between the two constructs could help us understand how hardiness helps an individual overcome the challenges they face throughout the day to stay engaged in their work. More specifically, research can be conducted on how the different aspects of hardiness, commitment, challenge and control, the three dimensions of hardiness relate to the three dimensions of work engagement, vigor, dedication and absorption. Perhaps some dimensions of hardiness such as commitment, may play a more important role in determining if an employee is more or less engaged in his or her work.

Table 7: Intercorrelation between dimensions of Work Engagement and Hardiness

**Intercorrelation between dimensions of Work Engagement and Hardiness**

<b>Variables</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>
Total Work Engagement (1)	1							
Total Vigor (2)	.902**	1						
Total Dedication (3)	.924**	.787**	1					
Total Absorption (4)	.884**	.667**	.734**	1				
Total Hardiness (5)	.536**	.521**	.509**	.446**	1			
Total Commitment (6)	.588**	.583**	.605**	.425**	.808**	1		
Total Control (7)	.369**	.327**	.360**	.346**	.792**	.546**	1	
Total Challenge (8)	.320**	.329**	.255**	.292**	.773**	.390**	.386**	1

n=150

\*\*=p<.01

## Practical Contributions

The goal of this study was to investigate the relationship between a three-dimensional model of stress and work engagement. For practitioners, this study can help to better understand the types of stress they should identify and limit (i.e. hindrance and threat stress) while also providing social support for those who are encountering any type of challenge stress. It is important for managers to familiarize themselves with the type of stress an employee is facing, more specifically between hindrance and threat stress. Limiting a hindrance stress such as red tape or office politics can help employees be more engaged with the tasks assigned. However, ignoring a potential threat stress can have far more consequences beyond decreasing work engagement. If an employee is facing bullying at work, not only will they be less engaged at work, but they may endure physical or psychological harm. This could result in decreased performance, absenteeism and may even lead to employee turnover. Furthermore, allowing for behaviors that are perceived as a threat may give the impression to other employees that, threatening behavior is permitted within the workplace. Therefore, the consequences of letting a threat stress persist are not to be taken lightly.

Although this study did not find any significant relationship between challenge stress and work engagement, past research has found a positive relationship between the two (Crawford et al., 2010). Furthermore, this study was able to show that in the presence of social support challenge stress did have a significant positive relationship with work engagement. From a managerial point of view, it would, therefore, be important to provide employees with the necessary social support for them to overcome challenges such as more responsibility or time constraints, for the employee to be engaged in their work. Limiting hindrance and threat stress and providing the necessary resources to overcome a challenge stress, should be a priority for

managers as work engagement has been shown to have positive relationships with organizational outcomes such as performance, organizational citizenship behavior and creativity (Bakker et al.,2014).

## Limitations and Future Research

As with any study, this one comes with its limitations. First, the sample size was quite small, which, may make the results unreliable. The sample itself may have influenced the results as well. Sampling was conducted at two different points in time, the first round in May of 2018 which resulted in 129 responses and the second between June and July which resulted in 38. The sample size of the second round of sampling may have been affected by the timing, which was between June and July, a period where individuals may have been on vacation. Furthermore, there is low external validity as this study was conducted within a single organization. Due to ethical considerations, data on education, position within the organization, and ethnicity were not allowed to be collected. Therefore, differences amongst individual's perception of stress from various positions within the organization could not be analyzed. This would have helped in understanding for example how a manager of a team perceives a challenge stress as compared to a lower level employee. All data on the independent and dependent variables were collected together, which does not allow for any inferences to be made regarding changes in behavior over a certain period (Mook, 2001).

This study did not find any significant relationship between challenge stress and work engagement. However, it is important to note that in past research, the use of challenge stress in studying organizational outcomes has resulted in conflicting results. For example, a study by Wallace et al. (2009) found a positive relationship between challenge stress and performance



while other studies such as Jamal (2016) found an inverse relationship. One possible reason for the conflicting results is the location of the studies. For example, the study by Jamal (2016) was conducted in the Gulf States of the Middle East, while the study by Wallace et al., (2009) was conducted in the United States. Perhaps there might be cultural considerations that may have to be considered when analyzing challenge stress. The current study was conducted in Montreal, Quebec, Canada, which has a vast multicultural demographic which is different than those found in the United States. This may have played a role as to why a significant relationship was not found. Another consideration could be the industry type. Past studies have gathered their data from locations such as the Louisiana Office of Motor Vehicles (Wallace et al.,2009) and hospitals (Jamal, 2016). The sample for this study was collected from a pharmaceutical services company where norms may be different. On the one hand, time constraints in a pharmaceutical services company may be the norm, therefore employees do not feel any pressure when they have deadlines. On the other hand, in a company such as the Louisiana Office of Motor Vehicles (Wallace et al.,2009) time constraints may not be as common. As such, when an employee is faced with any kind of time constraint, they perceive it as a challenge stress. What may be considered a challenge stress in one industry does not necessarily translate to other industries. Further research is required to better understand how variables such as culture and industry type can influence individuals' perception of challenge stress.

The personality trait of hardiness that did not have a significant moderating effect in this study. Due to past research showing that it acts as a buffer to stress (Kobasa et al., 1982), it was hypothesized that it would buffer the different types of stress used in this study. One possible explanation for the current results could be language. As discussed by Hystad et al. (2010) the DSR-15 scale developed by Bartone (1995) has been used in numerous regions such as Asia and

the Middle East, where researchers found low reliability of the measure (Chan, 2000; Ghorbani Watson, & Morris, 2000). This current study was conducted in Montreal, Quebec a bilingual province in Canada, mostly dominated by the French language. Therefore, perhaps language and culture may have affected the way participants interpreted the questions. Future research could focus on how language and cultural differences may play a role in how individuals define hardiness.

## Conclusions

The present study attempted to contribute to the literature on work engagement by studying how different types of stress influence an employee's level of work engagement. It also attempted to expand the literature on stress by using a three-dimensional model of stress to analyze any differences. The findings suggest that a three-dimensional model of stress is warranted in analyzing its effect on organizational outcomes. Additionally, social support was found to help improve the relationship between challenge stress and work engagement when present. Although hardiness was not found to be a significant moderator, its high positive correlation with work engagement suggests that there is more to be explored in the field. There is still room for research to discover and analyze how individuals perceive stress, how it influences their level of engagement, and how individuals use resources to cope with them. The present study shows that future research should further explore the three-dimensional model of stress and explore the types of resources and personality influence work engagement.

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## Appendix A

### Consent form and Cover Letter

Dear Participant,

You are invited to participate in a research study conducted by Jack Sadek, from the MSc. Program in Management at the John Molson School of Business, Concordia University. The present research study is concerning work attitudes.

In this study, you will be asked to fill out a questionnaire. You do not have to participate in this research. If you do participate, you can stop at any time. The survey should take approximately between **10 and 15 minutes** to complete. There are no negative consequences for not participating or stopping in the middle. It will not be possible to identify you from this list.

If you have questions about the scientific or scholarly aspects of this research, please contact Jack Sadek. You may also contact faculty supervisor Dr. Muhammad Jamal.

If you have concerns about ethical issues in this research, please contact the Manager, Research Ethics, Concordia University, 514.848.2424 ex. 7481 or [oor.ethics@concordia.ca](mailto:oor.ethics@concordia.ca).

Thank you for your participation.

Jack Sadek  
Email:[jacksadek@gmail.com](mailto:jacksadek@gmail.com)  
Cell:514-942-3892

Dr. Muhammad Jamal  
Email:[muhammad.jamal@concordia.ca](mailto:muhammad.jamal@concordia.ca)  
Phone: 514-848-2424 ext 2935

**I understand the consent form above and by clicking next I agree to participate in this study.**

## Appendix B

### Challenge and Hindrance Stress (Cavanaugh et al., 2000)

The number of projects and or assignments I have.

Produces no stress	Produces little stress	Average	Produces some stress	Produces a great deal of stress
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The amount of time I spend at work.

Produces no stress	Produces little stress	Average	Produces some stress	Produces a great deal of stress
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The volume of work that must be accomplished in the allotted time.

Produces no stress	Produces little stress	Average	Produces some stress	Produces a great deal of stress
--------------------	------------------------	---------	----------------------	---------------------------------

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Time pressures I experience.

Produces no stress	Produces little stress	Average	Produces some stress	Produces a great deal of stress
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The amount of responsibility I have.

Produces no stress	Produces little stress	Average	Produces some stress	Produces a great deal of stress
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The scope of responsibility my position entails.

Produces no stress	Produces little stress	Average	Produces some stress	Produces a great deal of stress
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The degree to which politics rather than performance affects organisational decisions.

Produces no stress	Produces little stress	Average	Produces some stress	Produces a great deal of stress
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The inability to clearly understand what is expected of me on the job.

Produces no stress	Produces little stress	Average	Produces some stress	Produces a great deal of stress
--------------------	------------------------	---------	----------------------	---------------------------------

The amount of red tape I need to go through to get my job done.

Produces no stress	Produces little stress	Average	Produces some stress	Produces a great deal of stress
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The lack of job security I have.

Produces no stress	Produces little stress	Average	Produces some stress	Produces a great deal of stress
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The degree to which my career seems "stalled".

Produces no stress	Produces little stress	Average	Produces some stress	Produces a great deal of stress
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## Appendix C

### Threat Stress (Feldman et al., 2004)

Please think about the stressful aspects of work you have encountered today, and assess how they are likely to affect you.

They may be a negative experience for me.

Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
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They will result in negative outcomes.

Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
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They are going to have a negative impact on me.

Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
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## Appendix D

### Social Support (House et al., 1978)

How much can each of these people be relied on when things get tough at work?

	Not at all	A little	Somewhat	Very much
A: Your Immediate Supervisor (Boss)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
B: Other people at work (Colleagues)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
C: Your Spouse, Friends, Family	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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How much is each of the following people willing to listen to your work related problems?

	Not at all	A little	Somewhat	Very much
A: Your Immediate Supervisor (Boss)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
B: Other people at work (Colleagues)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
C: Your Spouse, Friends, Family	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How much is each of the following people helpful to you in getting your job done?

	Not at all	A little	Somewhat	Very much
A: Your Immediate Supervisor ( Boss)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
B: Other people at work (Colleagues)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
C: Your Spouse, Friends, Family	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

---

Please indicate how true each of the following statements is of your immediate supervisor.

	Not at all true	Not too true	Somewhat True	Very True
My supervisor is competent in doing his/her job	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My Supervisor is very concerned about the welfare of his/her employees	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My supervisor goes out of his/her way to praise good work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Appendix E

### Hardiness (Bartone, 1995)

Most of my life gets spent doing things that are meaningful.

Not at all true

A little true

Quite true

Completely True

---

By working hard you can nearly always achieve your goals.

Not at all true

A little true

Quite true

Completely True

---

I don't like to make changes in my regular activities.

Not at all true

A little true

Quite true

Completely True

---

I feel that my life is somewhat empty of meaning.

Not at all true

A little true

Quite true

Completely True



Changes in routine are interesting to me.

Not at all true	A little true	Quite true	Completely True
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How things go in my life depends on my own actions.

Not at all true	A little true	Quite true	Completely True
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I really look forward to my work activities.

Not at all true	A little true	Quite true	Completely True
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I don't think there's much I can do to influence my own future.

Not at all true	A little true	Quite true	Completely True
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I enjoy the challenge when I have to do more than one thing at a time.

Not at all true

A little true

Quite true

Completely True

---

Most days, life is really interesting and exciting for me.

Not at all true

A little true

Quite true

Completely True

---

It bothers me when my daily routine gets interrupted.

Not at all true

A little true

Quite true

Completely True

---

It is up to me to decide how the rest of my life will be.

Not at all true

A little true

Quite true

Completely True

Life in general is boring for me.

Not at all true

A little true

Quite true

Completely True

---

I like having a daily schedule that doesn't change very much.

Not at all true

A little true

Quite true

Completely True

---

My choices make a real difference in how things turn out in the end.

Not at all true

A little true

Quite true

Completely True

## Appendix F

### Work Engagement (Schaufeli et al.,2002)

The following 9 statements are about how you feel at work. Please read each statement carefully and decide if you ever feel this way about your job. If you have never had this feeling, select "0" (zero). If you have had this feeling, indicate how often you feel it by selecting the number from 1 to 6 that best describes how frequently you feel that way.

At my work, I feel that I am bursting with energy.

Never (0)	Almost Never/ A few times a year or less (1)	Rarely/ Once a month or less (2)	Sometimes/ A few times a month (3)	Often/Once a week (4)	Very Often/ A few times a week (5)	Always/ Every Day (6)
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At my job, I feel strong and vigorous.

Never (0)	Almost Never/ A few times a year or less (1)	Rarely/ Once a month or less (2)	Sometimes/ A few times a month (3)	Often/Once a week (4)	Very Often/ A few times a week (5)	Always/ Every Day (6)
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I am enthusiastic about my job.

Never (0)	Almost Never/ A few times a year or less (1)	Rarely/ Once a month or less (2)	Sometimes/ A few times a month (3)	Often/Once a week (4)	Very Often/ A few times a week (5)	Always/ Every Day (6)
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My job inspires me.

Never (0)	Almost Never/ A few times a year or less (1)	Rarely/ Once a month or less (2)	Sometimes/ A few times a month (3)	Often/Once a week (4)	Very Often/ A few times a week (5)	Always/ Every Day (6)
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When i get up in the morning, I feel like going to work.

Never (0)	Almost Never/ A few times a year or less (1)	Rarely/ Once a month or less (2)	Sometimes/ A few times a month (3)	Often/Once a week (4)	Very Often/ A few times a week (5)	Always/ Every Day (6)
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I feel happy when I am working intensely.

Never (0)	Almost Never/ A few times a year or less (1)	Rarely/ Once a month or less (2)	Sometimes/ A few times a month (3)	Often/Once a week (4)	Very Often/ A few times a week (5)	Always/ Every Day (6)
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I am proud of the work I do.

Never (0)	Almost Never/ A few times a year or less (1)	Rarely/ Once a month or less (2)	Sometimes/ A few times a month (3)	Often/Once a week (4)	Very Often/ A few times a week (5)	Always/ Every Day (6)
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I am immersed in my work.

Never (0)	Almost Never/ A few times a year or less (1)	Rarely/ Once a month or less (2)	Sometimes/ A few times a month (3)	Often/Once a week (4)	Very Often/ A few times a week (5)	Always/ Every Day (6)
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I get carried away when I am working.

Never (0)	Almost Never/ A few times a year or less (1)	Rarely/ Once a month or less (2)	Sometimes/ A few times a month (3)	Often/Once a week (4)	Very Often/ A few times a week (5)	Always/ Every Day (6)
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