

Distinguishing Adaptation and Adjustment:  
Effects on Communication and Safety Performance in Dynamic Work Environments

by  
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## Abstract

Title: Distinguishing Adaptation and Adjustment: Effects on Communication and Safety Performance in Dynamic Work Environments

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People are different in their capacities in adapting and adjusting to dynamic workplaces. Previous literature lacks the distinction between the two constructs, which results in a lack of understanding in how adaptation and adjustment influence other organizational variables such as performance. In the current study, I first summarize the current literature on these two constructs from a few different fields in psychology, discuss the theoretical distinctions of these two constructs, and propose that they should be defined as separate constructs. Then, I establish construct validities for both concepts by developing nomological networks for both adaptation and adjustment based on the newly proposed framework and previous empirical evidence. Next, in three separate studies, an adaptation and adjustment scale were developed, pilot tested, and used for hypothesis testing, respectively. In the first study, the scale is created and evaluated for content validity. The second study pilot tests and evaluates the psychometric properties of the scale. The third study uses a healthcare provider sample to establish parts of the adaptation and adjustment nomological networks. Results provide evidence for two separate constructs.

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## CHAPTER 1 INTRODUCTION

Careers in dynamic work environments are complex. In order to be successful, individuals are required to regularly deal with the demands of their environment. An employee's capacity for handling changing demands can influence their performance in the workplace (Pulakos, Arad, Donovan, & Plamondon, 2000). For instance, imagine how the position of software developers has changed over the course of the past twenty years. Software developers now optimize applications for use on phones, tablets, and other electronic devices (Linares-Vasquez, Vendome, Tufano, & Poshyvanyk, 2017). Another change software developers are facing are changes in methodology from a development standpoint to one of making more agile systems. systems development methodologies to agile methodologies (Chan & Thong, 2009). Software developer's capacity to change has been tracked recently to show that 79% of developers have failed to adapt and adjust to these new changes in the field (Chan & Thong, 2009). Developers who do not enact and accept change are not able to sustain technological advances in software development and therefore, not able to perform up to changing standards (Lenberg, Tengberg, & Feldt, 2017). This is an example of the need to adapt and adjust to change transcends just software developers to employees across fields.

The strategies used to handle changes differ among individuals based on their personal characteristics and the impact these strategies have on employee performance also differs. The use of adaptation and adjustment strategies may result in overcoming changes or becoming paralyzed by changes that influence an employee's ability to perform (Bonanno, 2004). Therefore, organizations must have a better understanding of the adaptation and adjustment strategies individuals employ in the workplace.

Additionally, knowledge of which strategies employees use based on their individual differences can assist organizations in selecting people who are likely to use beneficial strategies.

When employers know how employees react to change, they can anticipate employee reactions in dynamic situations, which can assist employers in many organizational processes. Organizations can develop an understanding of how their employees act through an understanding of The Job Demands Resource Model (JD-R model). The JD-R model demonstrates the relationship between demands and resources on job strain and motivation, which impacts organizational outcomes such as performance (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001).

Demands are aspects of work that require an employee to maintain a psychological, cognitive, or emotional state (Demerouti & Bakker, 2011). Demands are particularly salient in dynamic workplaces that are riddled with change. Resources help reduce demands of sustaining physical and psychological effort and skills (Demerouti & Bakker, 2011). For example, resources can mitigate the impacts of demands on job strain (Bakker, Demerouti, & Euwema, 2005). In order to reduce job strain, personal resources, such as adaptation and adjustment strategies can be used in high-demand, dynamic, work environments. When demands are high, personal resources such as the ability to adapt and adjust are necessary (Demerouti & Bakker, 2011). These personal resources alleviate some job strain, which allows an employee's performance to not falter.

In industrial and organizational psychology, adaptation and adjustment have been used interchangeably with a focus on treating both constructs as adaptive behavior (e.g., Niessen, Swarowsky, & Leiz, 2010). This lack of clarification has led to inconsistent results in empirical studies and has limited researchers' ability to assess how each of them influences performance, specifically in dynamic work situations

(Baard, Rench, & Kozlowski, 2014; Stokes, Schneider, & Lyons, 2010). Therefore, distinguishing between these two terms is necessary for understanding the impact of each construct on employees' behaviors at work differentially.

To broaden the knowledge of adaptation and adjustment definitions, the literature search was expanded to include clinical and cultural psychology. Adjustment has been well defined within clinical psychology in the form of adjustment psychiatric disorders. Although it provides more clarity to how to define adjustment, the clinical definition is clearly not appropriate for the workplace, because it is a psychiatric diagnostic definition for individuals who are outside a normal distribution (American Psychiatric Association, 2013). In addition, adaptation and adjustment have also been defined within cultural psychology, but there is disagreement as to how adaptation and adjustment are distinguished. Despite the benefits of some distinctions that have been made, there is still ambiguity as to how cultural adaptation and adjustment are defined.

In the current study, definitions for adaptation and adjustment are proposed based on cultural and clinical psychology as well as theoretical evidence and empirical evidence from workplace adaptation research. These pieces of evidence are used to distinguish adaptation as an individual's capacity to change behaviors and cognition to fit into a new environment and adjustment as an individual's capacity to change subjective feelings experienced while trying to fit in.

Each construct, adaptation and adjustment, is proposed to be predicted by personality, regulatory focus, and goal orientation uniquely. Adaptation is expected to be predicted by extraversion, neuroticism, promotion-focus, learning goal orientation, performance prove goal orientation, safety climate attitudes, and role-breadth self-efficacy. Adjustment is predicted by neuroticism, prevention-focus, stress recognition, and performance-avoid goal orientation. The individual differences that predict adaptation and adjustment can lead to different performance results (Chen, Gully,

Whiteman, & Kilcullen, 2000). Therefore, adaptation and adjustment relate also impact performance differently.

When an environment is constantly changing, a reliance on safety performance is vital to continue operating at safe levels (Griffin et al., 2014). The capacity for how individuals adapt and adjust to change and address unknown risks are especially important for employers to know. Adjustment is therefore hypothesized to predict silence behaviors and preventative voice behaviors. Adaptation is hypothesized to predict safety participation and promotive voice behaviors. Both adjustment and adaptation may occur at the same time, but these impacts have not been thoroughly researched.

Employees may engage or adapt to a new methodology or change but may also voice their concerns of how the methodology have a negative impact for the organization. A more concrete example includes a case of a new method employed by an organization to cut down on factory accidents. The new method involves employees marking safety completion tasks on a sheet of paper that is turned into management each day. Employees who use an adaptation strategy may adopt the new method and voice ways this can be further improved as to avoid future issues as well as attend meetings about improving factory safety. Employees who use an adjustment strategy may remain silent about issues that become present or only voice concerns of current issues instead of proactively voicing future issues. Employees may adopt the method, or adapt, but not change their disdain for the change. It may not be possible or likely that employees will adapt without adjusting. Individuals that adapt without adjustment may perform differently compared to those who adapt and adjust. This is important to note because high demands and low resources likely lead to high job stress. Additionally, if only one of these strategies is focused on or defined inaccurately, then the system by which employees are selected will not be an accurate predictor of performance.

One aspect of performance is comprised of communication behaviors, such as voice and silence behaviors. A challenging aspect of change is the lack of protocol often associated with it, thus a need for idea generation is vital (Detert & Edmondson, 2011). Individual's ability to speak up and participate in a dynamic environment as well as their ability to regulate their feelings during these activities is important in order to thrive in a workplace riddled with change and ambiguity. Therefore, the proposed study examines the relationship between adaptation and adjustment with voice and silence behaviors. The distinction between these two constructs provides more clarity regarding their relationships to task and contextual performance. These outcomes are used to test propositions and the scales developed for adaptation and adjustment.

In order to examine adaptation and adjustment, personality, goal orientation, self-regulatory focus, and safety attitudes is explained in the current study. A series of studies are conducted to distinguish adaptation and adjustment include scale development, scale psychometric evaluation, and hypothesis testing. The first study and second study establish content validity and psychometric properties of an adaptation and adjustment scale. The third study tests several hypotheses to establish construct validity. Together, these three studies further examine the nomological network of adaptation and adjustment.

## **CHAPTER 2**

### **LITERATURE REVIEW**

In this literature review, previous definitions and frameworks of adjustment and adaptation from the workplace, clinical, and cultural perspectives are examined. This review informs the development of new definitions for these two constructs. In addition, the knowledge from current literature is used for scale developments and to establish a nomological network and construct validity for adaptation and adjustment.

First, the workplace perspective is discussed to illustrate the current frameworks within the field. Following this, the clinical and cultural perspectives are evaluated and used to expand upon current workplace research. The status of all three fields then informs the expansion of the workplace perspective on adaptation and adjustment. A nomological network is proposed and outlines the differences between their two strategy predictors and outcomes.

#### **Workplace Perspective**

A thorough review of the inconsistencies in the ways in which adaptation is defined and approached provides valuable insight in conceptualizing adaptation accurately. The following section reviews and highlights these inconsistencies.

Within the IO field, adaptation has been defined within either one of the two overall perspectives of adaptation: domain general and domain specific (Kozlowski & Rench, 2009). Domain specific focuses in on performance change and process approaches with a view of adaptive ability as specific to knowledge and skills that can be trained (Baard et al., 2014). Domain general, viewing adaptive ability as stable traits and performance constructs applicable in multiple settings, is more commonly used (Baard et al., 2014). The domain general approach contains the performance

construct approach as well as the individual difference approach. The following sections discuss the four conceptualizations of adaptation within the domain specific and domain general perspectives. This study then focuses on adaptation and adjustment as behaviors through the remainder of the paper.

### **Performance Change Framework**

The performance change approach has been the most researched out of the four approaches with research in both the team and individual arenas (e.g., Broder & Schiffer, 2006; Dormann & Frese, 1994; Hollenbeck, Free, Humphrey, Garza, & Ilgen, 2011; LePine, 2005; Marks, Zaccaro, & Mathieu, 2000; Scaduto, Lindsay, & Chiaburu, 2008). The nature of this conceptualization also lends itself to mostly experimental designs (e.g., Bell & Kozlowski, 2008; Chen, Thomas, & Wallace, 2005; DeRue, Hollenbeck, Johnson, Ilgen, & Jundt, 2008; Holladay & Quiones, 2003; Joung, Hesketh, & Neal, 2006; Lang & Bliese, 2009; LePine, Colquitt, & Erez, 2000; Zaccaro, Banks, Kiechel-Koles, Kemp, & Bader, 2009). Within the performance change framework, research investigates adaptability as the ability to transfer skills and training as well as the ability to transfer skills and training over time (Baard et al., 2014).

Within the performance change approach, the transfer of training is a concern and adaptation refers to the ability to apply and generalize training materials to a new setting (e.g., Dormann & Frese, 1994; Ivancic & Hesketh, 2000). Overall, it examines the influence of inputs such as induction training, individual differences, and team structure modifications on performance in a new situation (Baard et al., 2014). Keith and Frese (2008) found that error management training, an input, has been found to significantly predict adaptive transfer according to meta-analytic findings ( $d=.80$ ). Other inputs, such as role knowledge, self-efficacy, and individual skill have also been found to be significantly account for 46% of the variance in individual adaptive

performance (Chen et al., 2005). The change in performance is identified as adaptation performance according to this approach. The amount of change in performance notated can be influenced by inputs, such that gains in expertise knowledge can affect adaptive performance for example (Dane, 2010). The process of applying training results in performance change, which is conceptualized as adaptive performance. For example, an employee with high adaptive performance has used their training and applied it to a new task that may be more difficult than the tasks in training (Keith & Frese, 2005). This approach falls under the domain specific perspective because it assesses job specific skill acquisition and application. In sum, the transfer of training approach assesses an individual or team's adaptive performance as a change due to the ability to generalize and apply strategies learned.

The longitudinal performance change approach conceptualizes adaptive performance as a change in performance over time rather than just after training one time (Baard et al., 2014). This approach is beneficial in understanding how performance changes. For example, adaptive strategies may be needed to change behaviors when a task has changed to be somewhat similar to training, but sometimes this task may be changed again back to a similar training situation. This could be especially important when context plays a piece in what behaviors are needed in the situation. For example, employees who are taught strategies to provide customer service with a kind attitude may experience that the context of a situation in which a customer is unreasonably aggressive, that kind customer service is not the correct strategy. The employee must adapt to this situation and apply another customer service strategy. The employee must adapt again to a new situation in which the following customer is reasonable and the correct behaviors are to provide kind service.

Lang and Bliese (2009) explored this phenomenon and found that over time predictors of adaptation have a different relationship with task performance, such that high cognitive ability have a positive relationship to task performance but does not

necessarily have a relationship with an employee's ability to perform well after a change has been made in their environment over time. Overall, the performance change approach is useful in evaluating the transfer of training, but adaptability is needed even when there has been no training to transfer from. For example, a manager may encounter an employee with a medical emergency, but not all managers receive medical training. This manager would need to adapt to a demanding environment, but with lack of training to transfer from. Therefore, this approach does not capture all adaptive strategies, because it has a strong focus on using skills learned in training.

### **Process Framework**

Adaptation as a change in performance has been argued within the performance change framework, but how this change occurs is conceptually argued by the process framework of adaptation cycles (Burke, Stagl, Salas, Pierce, & Kendall, 2006; Kozlowski, Gully, Nason, & Smith, 1999; Kozlowski, Watola, Nowakowski, Kim, & Botero, 2009). This cycle consists of situation assessment, plan formulation, plan execution, and team learning (Burke et al., 2006). Each phase is further characterized as having a unique process that impacts the next overall phase (Rosen, Bedwell, Wildman, Fritzsche, Salas, & Burke, 2011). This is beneficial in understanding the mechanisms by which the change in performance is made in order to improve training, but in quick response situations, it is not feasible to measure each phase. Since each phase and subset of processes cannot be measured, it is better to understand an individual's capacity for change in order to understand the process of responding to change. In addition, this approach is largely focused on team processes as opposed to individual processes (Kozlowski & Bell, 2008; Kozlowski, Gully, Salas, & Cannon-Bowers, 1996; Yukl & Mahsud, 2010). Other drawbacks to this approach include inconsistency in conceptual mechanisms, lack of empirical research, and lack of generalizability (Baard et al., 2014).

### **Individual Differences Framework**

Adaptation has often been focused on training transfer, but researchers have also explored adaptability as an individual difference (Baard et al., 2014). I-ADAPT theory is a popular conceptual approach within the individual differences framework (Baard et al., 2014). Unique to this approach, adaptability is viewed as a stable trait determined by knowledge, skills, abilities, and other characteristics (Ployhart & Bliese, 2006). Research that has used this approach has found that adaptability significantly predicts performance through explanatory mechanisms, such as perceived organizational support (Cullen, Edwards, Casper, & Gue, 2014). There is limited empirical support using the I-ADAPT scale otherwise though.

Common conceptualizations of adaptation as an individual difference include: “one’s ability to change behaviors to meet the requirements of the situation” (Griffin & Hesketh, 2005); “an ability to respond to a changing environment but also a set of abilities, skills, and motivations that an individual has to be proactive or reactive to changes in different situations” (Ployhart & Bliese, 2006); “an individual’s ability to alter behaviors to meet the demands of a new situation, event, or changed environment” (Pulakos et al., 2002). These definitions fail to capture all reactions to change, which also include how individuals feel while changing their behaviors, or as this paper conceptualizes as adjustment. Some of the largest weaknesses of this approach are the inconsistency in theoretical evidence, conceptualizations, and measures used to evaluate adaptation (Baard et al., 2014).

### **Performance Construct Framework**

There has been confusion in terms of where adaptation fits into the performance paradigm. Researchers have not concluded if adaptation is distinctive of performance dimensions, such as organizational citizenship behaviors (OCBs), task

performance, and counterproductive work behaviors (CWBs; Baard et al., 2014). Some researchers suggest adaptive performance is a performance dimension on its own (Allworth & Hesketh, 1999; Campbell, 2012; Ghitulescu, 2013; Griffin, Neal, & Parker, 2007; Griffin, Parker, & Mason, 2010; Koopmans et al., 2011; Pulakos et al., 2000). Several researchers that claim adaptive performance is captured in the measurement of task performance and/or contextual performance (Schmitt, Cortina, Ingerick, & Wiechmann, 2003; Campbell, McCloy, Oppler, & Sager, 1993; Johnson, 2001). The controversy over whether adaptive performance is a distinct measurement of performance has yet to be resolved. This confusion has contributed to the lack of clarity as to what adaptation performance is and how it should be measured.

Additionally, these researchers further suggest that there may be a positive relationship between adaptive performance and task performance. Shoss, Witt, and Vera (2012) echo the notion that adaptive performance is associated with task performance. Shoss and colleagues (2012) make the argument that adaptive performance is concerned with competency acquisition as opposed to competency expression. An explanation for this inconsistency in performance distinction is that adaptation currently measures two strategies, adaptation and adjustment. Both of these constructs have different relationships with performance. In sum, there is question as to if adaptive performance is a unique aspect of performance and if there is one strategy that influences performance. This paper attempts to address these concerns by clarifying the definitions of adaptation and adjustment with theory to develop concise measures of both.

## **Clinical Perspective**

The workplace perspective has focused heavily on adaptation in comparison to adjustment. Therefore, a review of clinical field was performed to gain insight on the use of the term adjustment in psychology. The question of adjustment to dynamic

situations has been addressed by clinical psychologists. The current Diagnostic and Statistical Manual of Mental Disorders (DSM-5) is used by psychologists and psychiatrists to diagnose patients with mental disorders (American Psychiatric Association, 2013). In DSM-5, mental disorders are defined as:

“a syndrome characterized by clinically significant disturbance in an individual’s cognition, emotion regulation, or behavior that reflects a dysfunction in the psychological, biological, or development processes underlying mental functioning. Mental disorders are usually associated with significant distress or disability in social, occupational, or other important activities.” (American Psychiatric Association, 2013, p. 20).

Adjustment disorders, a mental disorder included in the DSM-5, fall under the category of trauma- and stressor- related disorders, which also includes posttraumatic stress disorder and acute stress disorder (American Psychiatric Association, 2013). Adjustment disorders are characterized by an emotional response to a stressful event or change when coping mechanisms fail (Patra & Sarkar, 2013). The criteria by which adjustment disorders are diagnosed include: emotional or behavioral symptoms in response to an identifiable stressor that does not last longer than six months after the stressor has been terminated, symptoms that do not reflect normal bereavement, and severe distress or significant impairment in social, occupational, or other important areas of functioning (American Psychiatric Association, 2013). Example stressors include business crises or failing to reach an occupational goal, which relate to workplace demands that often occur in dynamic environments. At work, in a competitive environment in which employees must reach sales goals or demands, if an employee is not able to adjust properly, then they may begin to fixate, or focus, on the stressors (American Psychiatric Association, 2013).

In the past, adjustment disorders have been referred to as “waste basket” disorders, due to their lack of behavioral markers and clear relationship to environmental factors (Andreasen & Wasek, 1980; Despland, Monod, & Ferrero, 1995). Within the primary care setting, 11%-18% of patients with a clinical psychiatric disorder have been found to be adjustment disorders (Patra & Sarkar, 2013). In hospital psychiatric consultation settings, however, it is one of the most common diagnoses reaching 50% of diagnoses (American Psychiatric Association, 2013). Whereas clinically diagnosed adjustment disorders may not be widely prevalent in the workplace, researchers should be cognizant of what they are measuring and the diction that is used by researchers.

Previous IO literature focuses on adaptation as a reaction to new environments but does not emphasize the emotional/cognitive impact that stress can cause employees when dealing with change. Clinical psychology provides new information on how demands can impact individuals if they do not have resources, such as strong adjustment. Although the clinical field brings to light more information about adjustment, it is not appropriate for the workplace. Clinical psychology defines adjustment within the context of disorders. Adjustment disorders are not clearly defined and tend to be seen as a “catch all” disorder that people with a large range of emotional responses to stress. Additionally, the clinical field does not have a validated measure to assess adjustment, which makes workplace assessment impossible. The clinical perspective also is deficient in its’ characterization of adaptation. Altogether, the clinical perspective provides some insight on how adjustment is defined outside of the workplace perspective. Other fields within psychology also can provide more information on adaptation and adjustment like cultural psychology.

## **Cultural Perspective**

The cultural perspective provides several definitions for adaptation and adjustment outside the field of workplace psychology. Ward (2001) has defined intercultural adaptation within the sociocultural domain as the alteration of behavior in order to fit a changed environment or as a response to social pressure. Similarly, Yoo, Matsumoto, and LeRoux (2006) define intercultural adaptation as “the process of altering one’s behaviors or cognitions in relation to a different environment, in order to better interact with the environment to achieve desired end goals” (p. 246). Matsumoto, Hirayama, and LeRoux (2006) suggest Berry’s Four Basic Acculturation Strategies Model is the most representative model of intercultural adaptation. In this model, adaptation is defined in reference to behavioral changes in reaction to novel cultural environments (Berry, Kim, & Boski, 1988). The model focuses on interaction styles based on the balance between home and host country values the individual identifies with (Berry et al., 1988).

The four interaction styles in the adaptation model include integration, marginalization, separation, and assimilation (Berry et al., 1988, figure 1). In the model, for example, if an individual places value on their home country identity and does not value relationships in a host country, then the individual most likely has a separation interaction style. They maintain their cultural identity and have little contact with host-culture individuals. If an individual were to value the maintenance of host-culture relationships, but not home country identity, then this individual would likely completely assimilate or behave similar to the host country natives. Integration has been suggested to be the most successful interaction style, and marginalization is suggested to be the least successful interaction style (Berry, 1997). Integration in the workplace could involve an employee maintaining their behaviors, while fitting into the culture and climate of the organization. This acculturation model, or cultural

adaptation model, is not appropriate for the workplace, because the workplace does not have as many behavioral response options. Individuals are expected to value the employer's (comparable to host country) rules and norms, which removes separation and marginalization responses altogether.

		Identification with Minority Group	
		Strong	Weak
Identification with Majority Group	Strong	Integration	Assimilation
	Weak	Separation	Marginalization

**Figure 1: Berry's Four Basic Acculturation Strategies**

Matsumoto, Yoo, and LeRoux (2007) argue that intercultural adjustment is different from intercultural adaptation, which is present in the acculturation model in that intercultural adjustment is “the subjective experiences that are associated with and result from attempts at adaptation, and that also motivate further adaptation” (p. 78). Emotions, subjective feelings, refer to passing reactions to events and serve to motivate behavior or adaptation (Matsumoto et al., 2007). Yoo and colleagues (2006) have found that those who are able to regulate and recognize their emotions are better able to interculturally adjust in new environments. Negative emotions use cognitive resources that are necessary for adaptive critical thinking behaviors. If an individual is overcome by negative emotions, then they may not have the resources to adapt (Matsumoto et al., 2007). Therefore, intercultural adaptation is a psychological outcome associated with intercultural adjustment (Matsumoto et al., 2007). For example, an individual in another country must be able to change their subjective feelings in order to change their behaviors to fit into their new environment.

Recent cultural adjustment research does not use the same language that Mastumoto and Juang (2016) suggest for defining adjustment. The definition of adjustment that has been used instead is expatriate adjustment characterized by three dimensions of general living conditions adjustment, interaction adjustment with host nationals, and work adjustment in regards to job requirements (Black, Mendenhall, & Oddou, 1991). Some researchers use Black and colleagues' (1991) adjustment as a process and some view it as a performance outcome (Shaffer, Harrison, & Gilley, 1999). This impacts the translation between the impacts of adaptation versus adjustment, which can each influence organizational outcomes differently.

The cultural perspective provides several definitions for both adaptation and adjustment. The conceptualizations of Matsumoto and colleagues (2007) has definitions for both adaptation and adjustment within the same framework. This provides evidence that the same can be done within IO psychology. Although adjustment and adaptation have been defined within cultural psychology, the drawbacks include the lack of application to the workplace. First, using the Matsumoto and Juang (2016) framework, adaptation and adjustment has a large focus on intercultural communication (Matsumoto et al., 2007). This does not provide a complete picture as to how individuals should adapt and adjust in the workplace. For example, dealing with uncertain and unpredictable work situations or learning new tasks are elements of adaptation and adjustment that are not encompassed by communication alone. Second, the intercultural adaptation framework of Berry (1997) does not apply to workplace values. Individuals who do not place value on company rules would not be selected or would be terminated, which removes half of the strategies within acculturation. Third, there is a focus on adaptation and adjustment as performance constructs (Berry, 1997; Black et al., 1991). Performance is important in an organization, but employers need to know what predicts desired performance.

Therefore, adaptation and adjustment should be distinguished as behaviors within the work context.

Additionally, this framework has several drawbacks in a dynamic context despite the wealth of knowledge gained from utilizing it (Matsumoto & Juang, 2016). It has a focus on entering a new environment in total, but in dynamic workplaces, there may be only one change that can be large or small. There is still some familiarity within the environment. For example, working and living in the United States then working and living in China is not on the same scale as being given a new task in the same workplace. The Matsumoto and Juang (2016) framework also views adjustment/adaptation as a process as opposed to a behavior. This approach works well within cultural psychology when an individual is transitioning into another culture. When change occurs in the workplace though, there is often an immediate response. An organization should measure what response their employees will likely have based on their adaptation and adjustment strategies. The cultural perspective expands upon research within IO, but still has drawbacks on inconsistency. Therefore, it cannot be directly applied within the workplace and more expansion on the IO perspective needs to occur.

### **Expanding the Workplace Perspective**

The workplace adaptation perspective is indecisive on definitions (Stokes et al., 2010) and uses adaptation and adjustment interchangeably (e.g., Driskell, Goodwin, Salas, & O'Shea, 2006). Therefore, more concise definitions are needed within the workplace perspective. Leveraging the clinical, cultural, and workplace perspective downfalls, this study defines adaptation and adjustment as different behaviors and strategies in reaction to dynamic situations. The new perspective developed in this paper describes adaptation as the change of behaviors and cognition to fit into a changed environment and adjustment as the change of subjective feelings

experienced while trying to fit in. This conceptualization of adaptation and adjustment builds upon domain general research in that it does not evaluate the transfer of training in performance or the process by which performance is changed. Instead these constructs explore strategies used that impact performance differently across experiences.

Allworth and Hesketh (1999) introduced adaptive performance as the ability to cope with change and modify behaviors through non-cognitive and cognitive components. This is evidence that adaptation, as it is currently measured in IO, may actually be two constructs (Allworth & Hesketh, 1999). The cognitive aspect relates to adaptation, which is the ability to apply new behaviors, while the non-cognitive aspect relates to adjustment, which is the ability to cope with the change emotionally. This is similar to the distinction that Matsumoto and colleagues (2006) has made within cultural psychology. Allworth and Hesketh (1999) view adaptation as a variation of performance but has not investigated its relationship to other performance constructs, such as contextual performance and task performance. This study examines adaptation and adjustment as two distinct constructs that have different relationships to task and contextual performance.

Hypothesis 1: Adaptation and adjustment have discriminant validity.

### **Dimensions**

Adaptive performance has been often used as a multidimensional construct with eight dimensions (Pulakos et al., 2000). These dimensions include: handling emergencies or crisis situations, handling work stress, solving problems creatively, dealing with uncertain and unpredictable work situations, learning work tasks, technologies, and procedures, demonstrating interpersonal adaptability, demonstrating cultural adaptability, and demonstrating physically oriented adaptability. These

dimensions are often used, but the scale developed by Pulakos and colleagues (2000) has not been used throughout research on adaptability (Baard et al., 2014). For example, I-ADAPT has used this dimensionality to develop a scale measuring adaptability within a different framework (Ployhart & Bliese, 2006).

Huang, Ryan, Zabel, and Palmer (2014) used the seven cognitively based dimensions to segregate adaptation into proactive and reactive forms. Reactive forms of adaptation deal with prescribed demands, whereas proactive forms deal with changes initiated by the employee (Huang et al., 2014). Accordingly, proactive forms were solving problems creatively and learning work tasks, technologies, and procedures. Reactive forms included handling emergencies or crisis situations, handling work stress, and demonstrating cultural adaptability. Aspects of dealing with uncertain and unpredictable work situations had reactive and proactive focuses, depending on the competency definition (Huang et al., 2014). Dealing with the situation comfortably, is a reactive form, but implementing new methods is proactive (Huang et al., 2014). Demonstrating interpersonal adaptability also has a reactive and proactive form (Huang et al., 2014). The reactive form is characterized by flexibility in receiving new ideas, whereas the proactive form focuses on working within the politics of an organization.

Griffin and Hesketh (2003) also recognized proactive and reactive forms of adaptive behaviors in addition to tolerant forms. Proactiveness is used to describe an individual's influence on the environment, whereas reactiveness is the response to change the environment or oneself to create a fit. Tolerant behaviors are explained as the continuance of functioning during changing environments. Adaptation is how the environment or individual acts to minimize the demands of change (Griffin & Hesketh, 2003). Using the Minnesota Theory of Work Adjustment (Dawis & Lofquist, 1984), they separated the Pulakos and colleagues (2000) eight dimensions in proactive (i.e., solving problems creatively and handling emergencies or crisis situations),

reactive (i.e., learning work tasks, technologies, and procedures, demonstrating interpersonal adaptability, demonstrating cultural adaptability, and demonstrating physically oriented adaptability), and tolerant (i.e., handling work stress and dealing with uncertain and unpredictable work situations). However, this conceptualization does not address the influence on performance.

The Griffin and Hesketh (2003) framework is useful in applying theory to minimize the dimensions into a smaller number of factors, but these factors do not align with this study's argument. In this proposal it is discussed that different forms of behaviors may occur simultaneously and adaptation and adjustment two responses that individuals may have during change. These modifications are either initiating responses to a changing environment or retracting to less risky behaviors in which individuals avoid negative demands.

This study defines adaptation as the ability to change behaviors and cognition to fit into a new environment and adjustment as the change of subjective feelings experienced while experiencing change. Adaptation and adjustment are characterized by several of the dimensions from Pulakos and colleagues (2000) informed by Huang and colleagues (2014) as to how to parse the dimensions into two constructs. Adjustment dimensions include handling emergencies or crisis situations, handling work stress and demonstrating cultural adaptability. These dimensions align with adjustment due to their centrality around emotions. For example, handling work stress is defined by avoiding negative emotional states, such as anxiety. Adjustment is the change of feelings experienced while adapting, so these dimensions would be influenced by an individual's adjustment behavior.

Adaptation dimensions include solving problems creatively and learning work tasks, technologies, and procedures. Adaptation has a focus on changing behaviors and cognition. For example, acquiring knowledge and skills of learning work tasks,

technologies, and procedures would be influenced by behaviors in regards to changing cognition and skills, or adaptation. Dealing with uncertain and unpredictable work situations as well as interpersonal adaptability have reactive and proactive forms. The reactive forms were placed under adjustment and proactive forms placed under adaptation. This is because reactive forms reflect situations in which subjective feelings are especially important to be stable, and proactive forms involve behaviors that are used to initiate change and assist an individual in fitting into their environment. This was informed by Huang and colleagues conceptualizations.

Furthermore, adaptation and adjustment are not assumed to be orthogonal, because employees may need to adjust before they are able to adapt. For example, an employee who needs to behaviorally perform their job differently due to change may not be able to do so if they cannot get past the stress it may cause emotionally. Employees who adjust fine may or may not be able to behaviorally perform differently though. In other words, in order to change behaviors, employees may need to be emotionally able to but an employee who is emotionally adjusted does not necessarily have the ability to behaviorally change.

**Table 1: Construct Dimensionality Adapted from Pulakos et al. (2000) and Huang et al. (2014)**

<b>Dimension</b>	<b>Definition</b>	<b>Construct</b>
Handling emergencies or crisis situations	Handles pressure without getting upset, moody, or anxious	Adjustment
Handling work stress	Handles pressure without getting upset, moody, or anxious	Adjustment
Demonstrating interpersonal ability	Reactive form: willing to receive and accept new ideas, approaches, and strategies Proactive form: recognizes and works within the political environment of an organization	Reactive form: Adjustment Proactive form: Adaptation
Dealing with uncertain work situations	Reactive form: deals comfortably with unclear situations and problems Proactive form: effectively implements new methods and systems	Reactive form: Adjustment Proactive form: Adaptation
Solving problems creatively	Takes action without the direction of others and generates creative ideas and perspectives	Adaptation
Learning work tasks, technologies, and procedures	Actively acquires knowledge, skills, and abilities to remain current with job requirements	Adaptation
Demonstrating cultural adaptability	Respects, values, and leverages individual differences	Adaptation

### **Discriminant Validity**

This section discusses constructs that may appear similar to adaptation and adjustment. Adaptation is differentiated from resilience and problem-focused coping, while adjustment is differentiated from emotion-focused coping.

Resilience encompasses adaptive, learning, and networking-leveraging behaviors used to impact the proactive effort to increase resource use and availability (Kuntz, Naswall, & Malinen, 2016). Employees high in the ability to adapt would be able to use resilience behaviors effectively, which would result in higher performance. Resilience has been found to be a mediator in the relationship between adaptation and performance (Masten, Best, & Garmezy, 1990). Adaptability may have a cap of ability within individuals, whereas resilience behaviors have been found to not be fixed (Russo, Murrough, Han, Charney, & Nestler, 2012). This is beneficial, because it may show that individuals may be able to overcome their capacity of dealing with change through resilience.

Problem-focused coping is another construct that appears similar to adaptation, whereas emotion-focused coping may appear similar to adjustment, but these coping strategies can be differentiated from adaptation and adjustment. Coping is a strategy used in response to stress (Coyne & Lazarus, 1980). Problem-focused coping is a coping strategy that appraises a stressful situation as one that can be altered and emotion-focused coping is the appraisal of a stressful situation by regulating emotions (Folkman & Lazarus, 1980).

Throughout coping literature, adaptation is often used as an outcome (Suls & Fletcher, 1985) and adaptive is defined as “the effectiveness of coping in improving the adaptational outcome, for example, morale, physical health, and social functioning” (Lazarus, 1993, p.237). Problem-focused and emotion-focused coping are different from adaptation and adjustment in that they are appraisals that allow for adaptation and adjustment. For example, individuals with a problem-focus coping style appraise situations such that they can be changed behaviorally and then make those changes or adapt. Individuals with an emotion-focused style of coping appraise situations as ones that can be managed through controlling emotions and therefore adjust.

Additionally, these constructs are different in that coping strategies are a reaction to stress and adaptation and adjustment are reactions to change. Although change can be stressful, it may not always be stressful. Therefore, coping strategies are not always needed. For example, a positive change may occur that has limited stress for employees, but they must still change their behaviors to fit the situation, but do not need appraise a stressful situation. Coping strategies may influence adaptation and adjustment but are not the same constructs.

Hypothesis 2: There is discriminant validity between adaptation and resilience and problem-focused coping.

Hypothesis 3: There is discriminant validity between adjustment and emotion-focused coping.

## **Nomological Network**

### **Antecedents**

#### *Exposure to Previous Stressors*

Exposure to previous stressors may be one of the most predictive of adaptation and adjustment. Research has shown that in cases of avoidance of thoughts and emotions provoking negative thoughts has been seen as maladaptive (Bonanno & Singer, 1990; Weinberger, 1990). Research has also shown that in cases of childhood sex abuse victims, individuals who partake in repressive coping are able to foster behaviors that assist in long-term health benefits compared to those who are not repressive (Bonanno, Noll, Putnam, O'Neil, & Trickett, 2003). Other mental-health effects have been found from exposure to adversity and trauma, which occur through resilient behaviors (Weiss, Saraceno, Saxena, & van Ommeren, 2003). Seery, Holman, and Silver (2010) have also found positive effects of adversity that has occurred more

than once but also less than five times in a lifetime to be lower functional impairment and global distress as well as higher life satisfaction. It is important to note that these effects were compared to individuals who had high (five or more events) and low levels (less than two events) of adversity. Therefore, moderate adversity and exposure to stressors is predictive of the level of adaptability and adjustment an individual has.

Proposition 1: Experience to previous stressors predicts adaptation and adjustment.

### *Cognitive Processing Speed*

Additionally, cognitive processing speed may also be an antecedent to adaptation and adjustment. Through qualitative interviews with individuals who had been in traumatic and emergency incidents, Leach (2004) investigated a “freezing” response to danger. Through these interviews, Leach suggests that there is a normal-like distribution in reactions to danger in which the upper 10-15%, middle 75%, and lower 10-15% of the population processes knowledge to react behaviorally in vastly different ways. The upper echelon is able to process the information, assess the situation, prepare a plan of action, and then execute it with little affective impairment. The majority of the population is comprised of individuals who have impaired reasoning but behave with automaticity in a reflexive manner. The last 10-15% may experience paralysis, the inability to modify emotions, and other counterproductive behaviors that may sabotage rescue efforts.

An individuals’ speed of processing impacts the extent to which people can use their personal resources. There are individual differences in working memory process speed, which extends to longer than 10 seconds when the conditions are not optimal (Baddeley & Logie, 1992). Therefore, because individuals react differently to change in an environment, they may perform differently. Leach (2004) discusses that a majority of individuals may experience automatic behavior and an override on

affective capacities if they have a slower processing speed. For example, if an employee with high cognitive processing speeds is facing with a novel issue, then they will be able to fully change behaviors and use the correct emotions for the situation with more ease than an employee that is not able to process the change and therefore cannot adapt or adjust.

Proposition 2: Cognitive processing speed predicts adaptation and adjustment.

### *Regulatory Focus*

Higgins' (1998) grounded Regulatory Focus Theory and suggested that promotion and prevention are two foci used in the workplace. In a meta-analysis, Lanaj, Chang, and Johnson (2012) defined promotion as a focus that "regulates nurturance needs and involves striving for ideals through advancement and accomplishment" (p. 998). This meta-analysis also defined prevention as a focus that "regulates security needs and involves fulfilling duties & obligations through vigilant and responsible behaviors" (Lanaj et al., 2012, p. 998). These foci are particularly salient in dynamic workplace environments riddled with change. Each focus has been found to have different predictors as well as relationships to performance dimensions.

Individuals with a promotion focus tend to be more flexible, a skill that is required in changing workplaces (Wu, McCullen, Neubert, & Yi, 2008). Employees with a promotion focus also are more likely to center their attention on growth and development (Crowe & Higgins 1997; Van Dijk & Kluger 2004). Additionally, individuals with a promotion focus tend to have higher self-efficacy, internal motivation, and a higher openness to experience (Lanaj et al., 2012). There is evidence for a relationship between performance prove goal orientation and approach temperaments with promotion foci (Ouschan, Boldero, Kashima, 2007; Sullivan, Worth, Baldwin, & Rothman, 2006; Summerville & Roese, 2008). Performance prove

orientation is the orientation to set goals that aim to achieve superior abilities (Vandewalle, 1997) and has been shown to be positively related to self-efficacy, similarly to promotion foci (Porath & Bateman, 2006; Parker & Collins, 2010). Approach temperaments are a general sensitivity to affectively react and behave towards stimuli (Elliot & Thrash, 2002). Approach temperaments are correlated to extraversion, positive affectivity, behavioral activation, learning goal orientation (Lanaj et al., 2012). Promotion focus has shown to be correlated to OCBs and negatively related to CWBs (Wallace, Johnson, & Frazier, 2009; Lanaj et al., 2012).

Adaptation is related to promotion-focus because it has proactive qualities. Those with a promotion-focus make behavioral changes as to keep up with nurturing their need to advance past the change. For example, an employee with a focus on achievement and striving to be the best, will not let change stunt their growth. Therefore, they change their behaviors as a reaction to change. Adjustment may not be related to promotion-focus, because for individuals with a promotion-focus they may have negative feelings towards the change, but this does not stop them from changing their behaviors to meet achievement goals. While promotion focus has relationships to performance prove goal orientation, approach temperaments, and OCBs, prevention focus has different relationships to goal orientation, temperaments, and performance.

Hypothesis 4: Promotion-focus positively relates to adaptation.

During times of change, regulatory fit has been found to be more important for individuals with a prevention focus compared to individuals with a promotion focus (Petrou, Demerouti, & Hafner, 2013). These individuals focus their center of attention onto the avoidance of failure (Brebels, De Cremer & Sedikides 2008). Prevention focus is positively related to avoidance temperaments and performance avoid goal orientation (Ayduk, May, Downey, & Higgins, 2003; Haws, Dholakia & Bearden, 2010; Grant & Higgins, 2003). Prevention focus has been shown to be related to safety

behavior (Wallace & Chen, 2006; Lanaj et al., 2012; Wallace, Little, Shull, 2008) and account for 34% of the variance in CWBs (Lanaj et al., 2012). Additionally, prevention focus has a negative relationship with OCB-I and a non-significant relationship with OCB-O and task performance (Wallace et al., 2009; Lanaj et al., 2012). The regulatory focus individuals have influences individual performance.

Adjustment may be related to prevention-focus due to their focus on being responsible. Individuals with a prevention-focus change their subjective feelings during change as to remain responsible. For example, an employee with high prevention-focus and has a new desk mate in the office, may initially not be happy with the change, but change their opinion of the situation in order to be a respectable desk mate. Therefore, prevention-focus and adjustment are related.

Hypothesis 5: Prevention-focus positively relates to adjustment.

### *Personality*

Although personality has been a focus in predicting adaptation, some personality traits, such as conscientiousness and openness to experience have shown inconsistencies in their relationship to workplace adaptation (Jundt, Shoss, & Huang, 2015). These inconsistencies may stem from multiple different definitions and measurements used in studies. Some personality facets may predict both adjustment and adaptation, whereas some may only predict one or the other. For example, conscientiousness may assist an individual in picking up on emotional cues as well as notice specific behaviors that may need to change to a situation, but neuroticism may only impact the ability to change subjective feelings in adjustment and not impact adaptation. The following section reviews the relationship between personality (openness, conscientiousness, extraversion, and neuroticism) and adaptation and adjustment.

Nettle (2006) defines openness to experience as the acceptance of novel situations, which is evolutionarily beneficial in dynamic environments. Openness has been positively related to adaptation in novel situations (Kurtz, Puher, & Cross, 2012), but not to adaptation as a performance construct (Woo, Chernyshenko, Stark, & Conz, 2013; Huang et al., 2014). Griffin and colleagues (2007) found openness to be the strongest predictor of adaptive performance, compared to proficiency and proactivity. Lanaj and colleagues (2012) found non-significant correlations between openness and both approach and avoid temperaments, both of which relate to adaptation and adjustment.

There is support for openness in relation to adjustment as openness has been found to be related to intercultural adjustment (Matsumoto et al., 2006). Research has also found that openness is positively related to proactivity (Neal, Yeo, Koy, & Xiao, 2012), suggesting it may be related to adaptation. Openness is needed in order for people to accept change and work with it, therefore it is related to the ability to change behaviors and feelings or adaptation and adjustment. Individuals need to be open to performing tasks differently so that they can use a variety of behaviors to accomplish tasks. For example, an employee that is not open to the change of a procedure, may be resistant to learning and implementing the procedure, which suggests openness would be related to adaptation. Furthermore, if the employee is not open to the new procedure, they will likely not be open to changing their feelings towards the procedure and will not adjust.

Hypothesis 6: Openness positively predicts adaptation.

Hypothesis 7: Openness positively predicts adjustment.

Conscientiousness allows an individual to notice small changes needed in behaviors and feelings in order to fit into an environment and therefore, would be

important to adapt and adjust. Behaviorally, conscientiousness has a strong, positive relationship to proactivity (LePine & Van Dyne, 2001; Tidwell & Sias, 2005) and adaptive performance (Griffin & Hesketh, 2005; Griffin et al., 2010; Marlow, 2016; Shoss et al., 2012). Researchers have found that conscientiousness relates to achievement orientation (Barrick, Mount, & Li, 2013; Pulakos et al., 2000).

Evolutionary perspective would support that conscientiousness may relate more to prevention foci with a need for order and routine, or dependability (Nettle, 2006). LePine and colleagues (2000) found that low conscientiousness individuals made more beneficial behavioral decisions compared to high conscientiousness individuals, with the argument being that there is a difference between dependability (related to order) and volition (related to achievement striving). Prevention foci may relate to adjustment, whereas the achievement-orientation may relate to adaptation. Additionally, conscientiousness has been found to be related to both prevention and promotion foci, therefore both adaptation and adjustment are predicted by conscientiousness (Lanaj et al., 2012).

There is evidence to support a relationship between conscientiousness for both adaptation and adjustment. Individuals that are not conscientious will be more likely to miss cues of change that are needed in order to trigger the change of behaviors and subjective feelings. Additionally, conscientious individuals may change their behaviors and feelings, but just for different reasons through promotion and prevention foci (Lanaj et al., 2012).

Hypothesis 8: Conscientiousness positively predicts adjustment.

Hypothesis 9: Conscientiousness positively predicts adaptation.

Wihler, Meurs, Wiesmann, Troll, and Bickle (2017) have found a positive relationship between adaptive performance and extraversion. Extraversion has also

been shown to allow individuals to have more initiative and is related to approach temperaments (Hogan & Bickle, 2013; Lanaj et al., 2012). Through meta-analytic procedures, Tornau and Frese (2012) found that extraversion is related to proactive behaviors. This has been further supported by Wu, Parker, and Bindl (2013). Within the evolutionary perspective, extraversion is essential to seeking rewards and exploration (Nettle, 2006). Extraverted individuals are more likely to have approach temperaments (Elliot & Thrash, 2002) and are less likely to be resistant to change; however, the way specific extraversion facets relate to adaptation may differ (Huang et al., 2014).

Ambition, rather than sociability, is related to adaptation (Huang et al., 2014).

Ambition is defined as having self-confidence, energy, and leader-like characteristics (Hogan, 1986). Those who score high on ambition focus on achieving results and success, take initiative, and are persistent in task performance, they tend to voice their opinions on initiatives and guide others to follow and adhere to business goals (Hogan, 1986). Negatively, they may become discouraged without room for advancement and may not utilize other's input in idea generation (Hogan, 1986). Ambition has been found to be the most important predictor of proactive forms of adaptation (Huang et al., 2014). Extraversion is related to proactivity, as opposed to reactivity, and therefore predicts adaptation alone. Extraverted individuals who have a focus on ambition will have more resources to access assistance in making behavioral changes in reaction to change. For example, extraverted individuals have a broader social network, in which they can further learn from and then change their behaviors.

Hypothesis 10: Extraversion positively predicts adaptation.

Nettle (2006) describes the benefits of emotional stability in terms of flight and fight responses to the environment. Organizations do not want individuals to retreat or

use a flight response in dynamic environments. Organizations benefit from having individuals who want individuals to approach the situation with innovation and the resources available to fight (Huang et al., 2014). Emotional stability is related to novel situation adjustment (Ali, Van der Zee, & Sanders, 2003) as well as to coping with work stress (Pulakos et al., 2002; Zhang, et al., 2009). Emotional stability has been found to be the most important predictor of reactive forms of adaptation (Huang et al., 2014).

Adjustment and emotional stability have been used interchangeably in the prediction of reactive forms of adaptation (Huang et al., 2014). Operationally, those who score high are able to stay calm under pressure, adjust to challenges, such as heavy workloads, and are resilient when there are stressors (Hogan, 1986). Negative performance implications for those who score high on this measure include a level of calmness that may be resistant to understanding when others are stressed, high self-efficacy that results in the disregard of negative feedback, and a discounting of mistakes and misunderstanding of the level of their OCBs (Hogan, 1986).

Additionally, Matsumoto and colleagues (2008) have found emotional stability to be an important predictor of intercultural adjustment. Individuals who have low neuroticism will be able to adjust their feelings during change through being more emotionally stable. The range of emotions often expressed is smaller for those with low neuroticism, so changing from one to another is a smaller leap. Individuals with high neuroticism may express extreme positive and negative emotions and if a situation requires a more neutral expression, these individuals will have a more difficult time changing their feelings between one another.

Hypothesis 11: Neuroticism negatively predicts adjustment.

### *Role Breadth Self-Efficacy*

Role breadth self-efficacy (RBSE) has shown to have importance in terms of proactive behaviors, which are relevant to adaptation (Wu et al., 2013; Hwang, Han, & Chiu, 2015; Sonnentag & Spsychala, 2012; Onyishi & Ogbodo, 2011). RBSE is defined as “an employee’s perceived capability of carrying out a broader and more proactive set of work tasks that extend beyond prescribed technical requirements” (Parker, 1998, p.835). In times of change that require going beyond task work, individuals with high RBSE will be better able to change their behaviors. RBSE increases positive reactions to change (Hornung & Rousseau, 2007). If individuals are more positive going into dynamic situations, then they will be able to handle the changes required in behaviors better. It is predictive of behaviors that are riskier in initiation such as adaptation (Parker, 1998, 2000). RBSE is not related to adjustment because it is not predictive of compliant or responsibility driven actions, such as adjustment is related to (Parker 1998, 2000).

Hypothesis 12: Role Breadth Self-Efficacy predicts adaptation.

### *Goal Orientation*

Goal orientation has two overall dimensions, which are learning goal orientation and performance goal orientation (Dweck, 1986; Dweck & Leggett, 1988). These are described as seeking the acquirement of skills and knowledge for novel situations and the demonstration of one’s ability by validation of competence or avoiding negative views of competence, respectively. Vandewalle (1997) suggests that learning goal orientation is more adaptive in response, whereas performance goal orientation is maladaptive in response. The reasoning given is that performance goal orientation withdraws individuals from tasks as they make attributions to their

competence, whereas learning goal orientation response is characterized by more effort and the enjoyment of a challenge (Vandewalle, 1997).

The two-factor structure has further broken-down performance goal orientation into two components: performance prove and performance avoid. The difference between these performance goal orientations is the desire to prove competence and a desire to avoid negative judgements of competence, respectively (Vandewalle, 1997). As learning new procedures, technologies, and skills is present in the adaptation dimensions, learning goal orientation would be related to adaptation.

Additionally, the characteristics of the performance avoid goal orientation suggest relation of adjustment as it is concerned with the avoidance of negativity and performance prove is more proactive, like adaptability, in the face of change. Adjustment is predicted by performance avoid goal orientation because it is related to not showing incompetence, which can be avoided by changing negative feelings towards positive ones. For example, an employee who is negative about a change and expresses so may be seen as less able to deal with the change. Additionally, employees who have a learning goal orientation and performance prove goal orientation may be more likely to look for ways to either learn more about how to change their behaviors or seek ways to improve their performance by changing behaviors to maximize their abilities.

Hypothesis 13: Learning goal orientation and performance prove goal orientation predicts adaptation.

Hypothesis 14: Performance avoid goal orientation predicts adjustment.

## **Outcomes**

The current status of the field has mixed results in terms of how individual adaptability aligns with the performance dimensions of task performance and contextual performance (Baard et al., 2014). Murphy (2015) found that individual adaptability is a predictor of task performance, contextual performance, and CWBs. The measurement of adaptation in these cases may only be showing a piece of the puzzle because it lacks the assessment of adjustment, and therefore, not capturing the relationship between adaptation and performance appropriately. The separation of adaptation and adjustment strategies may reflect a more realistic relationship to performance dimensions. For example, the relationship between adaptation and performance may change based on the adjustment strategy used in conjunction with adaptation. Additionally, there is a lack of assessment of safety performance, voice, and silence behaviors that are important to study within dynamic environments.

Performance is affected differently by adaptation and adjustment because individuals can have capacities for both, but individuals may use each strategy to a different extent. Performance has several dimensions. Campbell (1993) distinguished eight dimensions of performance: job-specific task proficiency, non-job-specific task proficiency, written and oral communication task proficient, demonstrating effort, maintaining personal discipline, facilitating peer and team performance, supervision/leadership and management/administration. These eight dimensions have been argued to fit within the framework of Motowildo, Borman, & Schmit (1997), who suggests two dimensions of performance include task and contextual performance. Task performance explains behaviors on core activities and contextual performance are voluntary behaviors (Borman & Motowildo, 1993). Cognitive ability predicts task performance, while personality predicts contextual performance (Motowildo et al., 1997; Pulakos, Borman, & Hough, 1988).

Within contextual performance, organizational citizenship behaviors (OCBs) and counterproductive work behaviors (CWBs) are evaluated. OCBs are characterized by discretionary, non-enforceable behaviors not required by the role. Examples include assisting a coworker with a deadline or getting to work early. CWBs are commonly the result of a stressor or perceived injustice and is a behavioral response with intent of causing harm towards an individual or the organization (Fox & Spector, 1999). Examples of CWBs include theft, sabotage, and aggression. Personality has been shown to predict OCBs, while emotion-focused drivers have been shown to predict CWBs (Bettencourt, Gwinner, & Meuter, 2001; Fox, Spector, Miles, 2001).

### *Safety Performance*

Neal and Griffin (1997) developed a model of safety performance. Within safety performance, safety compliance and safety participation are two dimensions. Neal and colleagues (2000) found that safety motivation has a larger effect on safety compliance compared to safety participation. Through meta-analytic analysis, Clarke (2006) found that safety climate has more of an effect on safety participation compared to safety compliance. Safety compliance has been reported as task performance compared to safety participation, which has been characterized as an OCB (Clarke, 2006; Griffin & Neal, 2000; Neal et al., 2000).

Safety compliance is a necessary aspect of jobs that may have serious consequences, such as careers in construction or healthcare. It is required by these high-risk jobs to be able to carry out safety procedures, regardless of mental state or physical ability and therefore a part of task performance. It would not matter if an individual offered emotional support or other contextual behaviors if their work suffers from unsafe procedures. In jobs such as nursing, safety compliance is task performance as it is a necessary and required part of the job. Safety compliance is the

adherence to safety procedures and performing work in a safe manner (Neal et al., 2000).

Job demands in general negatively relate to compliance, whereas job resources positively relate to compliance (Nahrgang, Morgeson, & Hofmann, 2011). Through meta-analytic procedures, results show that compliance accounts for 67% of the variance in accidents and injuries and 60% of the variance in adverse events in the healthcare industry (Nahrgang et al., 2011). Adaptation predicts task performance such as safety compliance due to its relationship to promotion-focus motivation, which has been shown to predict task performance. Individuals with the capability to change behaviors in response to change will be able to perform well on their job requirements in dynamic situations. Adjustment predicts task performance such as safety compliance due to its relationship to prevention-focus motivation, which has been shown to predict task performance. Individuals with the capability to change their emotional state when facing adversity will be able to perform well on their tasks, as emotions will not consume their energy and the employee will be able to focus on their tasks.

Hypothesis 15: Adaptation positively predicts safety compliance.

Hypothesis 16: Adjustment positively predicts safety compliance.

Safety participation has been identified as voluntary behaviors and involvement in safety activities, such as safety meetings (Neal & Griffin, 2000). It is also related to proactive safety behaviors (Curcuruto & Griffin, 2016). Proactive forms of behaviors have been found to be correlated to extra-role behaviors and in some cases are considered the same behavior (Parker et al., 2006; Van Dyne, Cummings, & Mcleamm-Parks, 1995; Belschak & Den Hartog, 2010; Van Dyne & LePine, 1998; Grant & Ashford, 2008). Therefore, the proactive forms of adaptation as identified by

Huang and colleagues (2014) are hypothesized to be related to positive voluntary activities such as voice behaviors and safety participation. Adaptation requires individuals to change their behaviors and cognition so these individuals may be more likely to participate in voluntary activities to acquire knowledge and skills to make adaptation easier.

Hypothesis 17: Adaptation positively predicts safety participation.

### *Voice Behaviors*

Voice behavior, or constructive change-oriented communication, has been supported as a form of contextual performance (LePine & Van Dyne, 2001). Additionally, Organ (1988) and LePine and Van Dyne (1998) suggest that voice behaviors are organizational citizenship behaviors. Voice behaviors characterized as organizational citizenship behaviors do not take into consideration the two dimensions of voice behaviors. Liang and colleagues (2012) propose two types of voice: promotive voice and preventative voice. Promotive voice is characterized as speaking up to improve, whereas prohibitive voice is characterized as about potentially problematic practices and behaviors (Liang et al., 2012). Promotive voice requires creativity, a dimension of adaptation, whereas prohibitive voice is associated with emotions, similar to adjustment (Amabile, 1996; Lin & Johnson, 2015). Within this framework, promotive voice behaviors are best characterized as contextual performance.

LePine and Van Dyne (2001) found evidence that extroverted and conscientious individuals, antecedents of adaptation, are strongly correlated to voice behaviors. Factors that often influence voice behaviors, include motivation and perceived efficacy of speaking up (Okuyama, et al., 2014). Self-efficacy and psychological safety are important predecessors to voice behaviors (Liang et al.,

2012). Therefore, adaptation and adjustment both predict voice behaviors, but they influence different voice behaviors.

Hypothesis 18: Adaptation positively predicts promotive voice.

Hypothesis 19: Adjustment negatively predicts prohibitive voice.

### *Silence Behaviors*

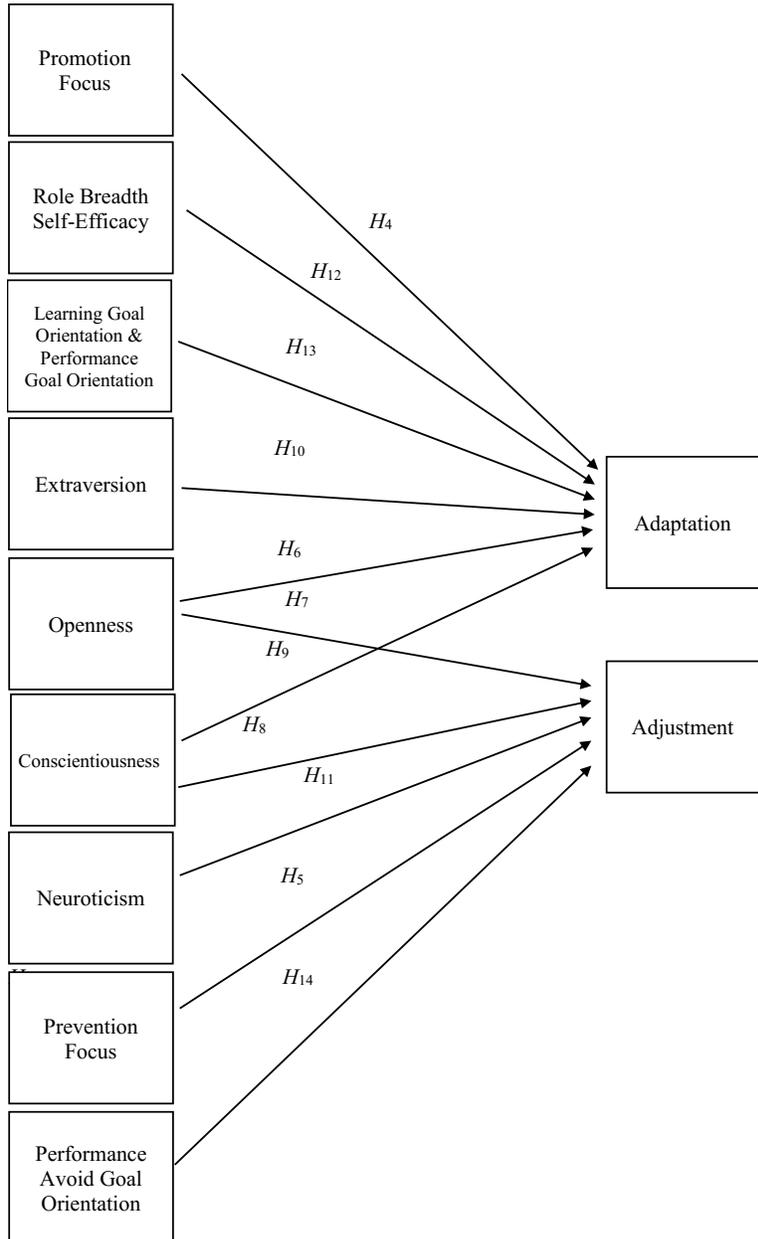
Silence behaviors are detrimental to performance (Millenson, 2003; Perlow & Williams, 2003; Detert & Edmondson, 2007; Roberto et al., 2006; Morrison & Milliken, 2000). Van Dyne and colleagues (2003) suggests that silence behaviors are multidimensional and fall under acquiescent (i.e., withholding ideas due to low self-efficacy), defensive (i.e., withholding ideas due to fear and protection), and prosocial behaviors.

Some theories, such as the spiral of silence theory, suggest that individuals do not speak up because their willingness to express their opinion is based on the judgements they perceive others will have (Noelle-Neumann, 1974). The social control model of the spiral of silence theory is derived from the ability to express opinions without rejection from members or the necessity of the expressed opinion to avoid rejection from members (Noelle-Neumann, 1983). The less someone is able to adjust to their environment, the less able they may be to contribute without isolation, which suggests that adjustment predicts silence behaviors. Individuals that are not able to change their emotions while they adapt to a new change may experience negative emotions that lead to either self-isolation or rejection from the group. This may result in the individual avoiding speaking up as to not be seen as a complainer. If this employee is not able to alter their feelings during change, then they may not choose to raise concerns at the risk of isolation.

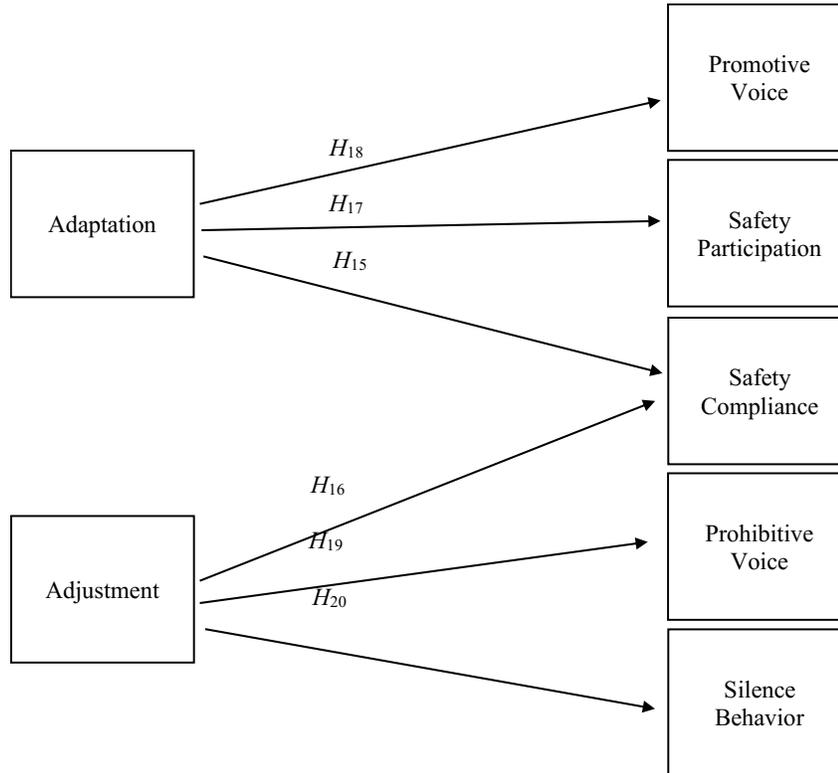
Hypothesis 20: Adjustment negatively predicts silence behavior.

**Table 2: Summary of Hypotheses**

Hypothesis 1	Adaptation and adjustment have discriminant validity.
Hypothesis 2	Adjustment is distinct from emotion focused coping and resilience.
Hypothesis 3	Adaptation is distinct from problem focused coping and resilience.
Hypothesis 4	Promotion-focus positively predicts adaptation.
Hypothesis 5	Prevention-focus positively predicts adjustment.
Hypothesis 6	Openness positively predicts adaptation.
Hypothesis 7	Openness positively predicts adjustment.
Hypothesis 8	Conscientiousness positively predicts adjustment.
Hypothesis 9	Conscientiousness positively predicts adaptation.
Hypothesis 10	Extraversion positively predicts adaptation.
Hypothesis 11	Neuroticism negatively predicts adjustment.
Hypothesis 12	Role Breadth Self-Efficacy predicts adaptation.
Hypothesis 13	Learning goal orientation and performance prove goal orientation predicts adaptation.
Hypothesis 14	Performance avoid goal orientation predicts adjustment.
Hypothesis 15	Adaptation positively predicts safety compliance.
Hypothesis 16	Adjustment positively predicts safety compliance.
Hypothesis 17	Adaptation positively predicts safety participation.
Hypothesis 18	Adaptation positively predicts promotive voice.
Hypothesis 19	Adjustment negatively predicts prohibitive voice.
Hypothesis 20	Adjustment negatively predicts silence behavior.



**Figure 2: Predictor Nomological Network**



**Figure 3: Outcome Nomological Network**

## CHAPTER 3

### STUDY 1: SCALE DEVELOPMENT

The purpose of Study 1 is to develop scales for adaptation and adjustment with evidence to support content validity. Through a three-step process using Industrial and Organizational Psychology graduate students as subject matter experts (SMEs), scales measuring adaptation and adjustment were constructed.

#### **Participants and Procedures**

Three groups of graduate students in the field of industrial/organizational (IO) psychology were used to evaluate individual's definitions of adaptation and adjustment, in order to establish that there is a difference between adaptation and adjustment. To begin, a sample of 13 graduate students (38% male, 62% female) were asked to define adaptation and adjustment separately in an open-ended question.

A second group of five graduate students (two males, three females) were provided with the definitions located in Table 1. Students were also provided with the proposed definitions of adaptation and adjustment, being the change of behavior and the change of feelings during change. The participants were told which dimensions belonged to adaptation and adjustment. Students were then instructed to write approximately 30 items each (4 items per dimension; 15 items per construct).

These items were then administered to a third group of 10 graduate students to retranslate items (40% male, 60% female). Participants 'dragged and dropped' items into the dimension the item represented. Items were removed if there was confusion as to which dimension it belonged to. For example, two items were removed from demonstrating interpersonal skills, because although there was 90% consistency,

participants reported that the items reflected handling emergency situations and handling work stress instead of the intended dimension. Additionally, if 30% or more participants disagreed on the dimension an item should be assigned to, then the item was removed.

## **Results**

The definitions of adaptation and adjustment written by the first group of SMEs are presented Appendix A and B, respectively. The definitions for adaptation and adjustment were not the same, showing that there is a different in layman definitions of each. For example, one participant said adaptation was an “active process in which individuals engages in determining how they will fit into a long-term environment and makes lasting changes in order to do so”, whereas a participant defined adjustment as a “way persons modify or change their concepts or opinions to put themselves in a better situation than before (mainly cognitive changes)”. These were very inconsistent between the definitions of each construct and therefore suggests a need for the differentiation between adaptation and adjustment.

The second group of participants wrote a total of 147 items for seven dimensions (physical ability was excluded because it is not a cognitive dimension). Items were removed based on clarity and redundancy. Items that repeated the same content were removed and the item that reflected the dimension the most remained. For example, “New situations excite me” and was supposed to represent learning work skills, technologies, and procedures. This item is not representative of the dimension and was therefore removed. An example of items that were repetitive include “I can integrate into groups with different views, procedures, and customs” and “I am able to successfully integrate myself into other cultures”. The latter item was retained, because it had more simplicity. The item bank consisted of 61 items following removal. The third group of SMEs sorted these items and the result was the removal of

22 items due to 30% or more inconsistency in dimension accuracy or unintended dimension representativeness. This reduced the item bank to 39 items, representing seven dimensions in total (Appendix C).

## CHAPTER 4

### STUDY 2: SCALE REFINEMENT

The purpose of Study 2 is to refine the scales and evaluate the scales' psychometric properties. Using a nursing sample, the scales were pilot tested in the study before use in testing hypotheses in Study 3.

#### **Participants**

Approximately 25,000 Florida registered nurses were contacted through email addresses downloaded from a nursing association website. The recruitment email is attached in Appendix D. A total of 183 participants completed the survey for a response rate of less than 1%. Approximately 8% of participants reported as male, 62% of participants reported as female, and 30% of participants reported as other or chose not to respond. The majority of participants reported that they were Caucasian (62%). Other participants identified as African American, Asian, or Other each with less than 4% of the sample and 30% did not report their race. The average age of participants of those that reported was 57 years of age (SD = 10.57).

#### **Procedure**

The survey administered consisted of the 39 items developed in Study 1 on a 7-point Likert scale (1= Strongly disagree, 7= Strongly agree). The survey was administered through Qualtrics.

#### **Analysis**

Initial item reduction began by assessing the descriptive statistics of the scale items. The scale items were also reduced based on scale reliability statistics (alpha) and inter-item correlations. For example, if the deletion of an item resulted in a more

reliable scale, then this item was removed. Furthermore, items that were negatively correlated were removed. Following this, multiple rounds of EFAs were performed. Items that loaded outside of their intended dimension, cross-loaded, and did not load were assessed for deletion. EFAs were performed on each scale after items were deleted based on inter-item correlations, increases to alpha, and inappropriate loadings. Lastly, a CFA was performed on all items to compare a one factor structure to a two-factor structure with refined scale items.

## Results

Item descriptives for all scale items were calculated. These statistics are reported in Table 3. Item refinement began by assessing the reliability and the inter-item correlations of each scale. The reliability of the adjustment scale with all items was .81. Two items (9 & 18) were removed for negative inter-item correlations. Then, multiple reliability analyses were conducted to increase the reliability until it no longer could be increased with the removal of an item. This resulted in the removal of four items (11, 14, 16, & 17). The remaining items were analyzed for their factor structure. An EFA using Principal Axis Factoring with an oblique rotation (Promax) on the 15 remaining items. The Kaiser-Meyer-Olkin measure of sampling adequacy was .91 and Bartlett's test of sphericity was significant,  $\chi^2(105) = 1411.57, p < .000$ . The result showed that three factors had eigenvalues above 1. Together they explained 63.54% of the total variance of all the items. Items 6 and 7 cross-loaded and therefore, were removed. Item 10 did not load and therefore was removed. Item 21 was kept because there was limited representation of the uncertain work situations dimension.

An EFA was performed with the 12 adjustment items and the factor structure was set to four factors. This EFA yielded a three-factor structure. Therefore, a four-factor structure was not forced on the data. Following this, an EFA was performed with the 12 adjustment items. The Kaiser-Meyer-Olkin measure of sampling adequacy

was .88 and Bartlett's test of sphericity was significant,  $\chi^2(66) = 991.07, p < .000$ . The result showed that three factors had eigenvalues above 1. Together they explained 65.94% of the total variance of all the items. Item 5 was removed because the emergency situation dimension had a saturation of items compared to other adjustment dimensions and it had the lowest loading.

A third EFA was performed with the 11 adjustment items. The Kaiser-Meyer-Olkin measure of sampling adequacy was .85 and Bartlett's test of sphericity was significant,  $\chi^2(55) = 831.26, p < .000$ . The result showed that two factors had eigenvalues above 1. Together they explained 56.93% of the total variance of all the items. In order to reduce the number of items to 10 or fewer, item 19 was removed.

A fourth EFA was performed on the 10-item adjustment scale. The Kaiser-Meyer-Olkin measure of sampling adequacy was .86 and Bartlett's test of sphericity was significant,  $\chi^2(45) = 754.35, p < .000$ . The result showed that two factors had eigenvalues above 1. Together they explained 58.09% of the total variance of all the items. The reliability for the 10-item adjustment scale was .84. Table 4 provides a summary of the adjustment scale EFA results.

The adaptation scale reliability was evaluated to remove items. The reliability was .84 and no items were found to increase the alpha is deleted. There were also no negative inter-item correlations. Therefore, an EFA was performed on the 18-item adjustment scale using Principal Axis Factoring analysis with an oblique rotation (Promax). The Kaiser-Meyer-Olkin measure of sampling adequacy was .79 and Bartlett's test of sphericity was significant,  $\chi^2(153) = 1120.69, p < .000$ . The result showed that five factors had eigenvalues above 1. Together they explained 62.42% of the total variance of all the items. Items 1, 2, and 4 did not load onto factors. Therefore, they were removed. Item 18 also did not load onto any factor but represented a dimension with low items. Therefore, item 18 was retained.

An EFA was performed on the 15-item adaptation scale with a forced three factor structure. This model yielded a factor with only two items that did represent the appropriate dimension. Therefore, a second EFA was performed with the 15 adaptation items without a forced factor structure. The Kaiser-Meyer-Olkin measure of sampling adequacy was .80 and Bartlett's test of sphericity was significant,  $\chi^2(105) = 1017.54, p < .000$ . The result showed that four factors had eigenvalues above 1. Together they explained 64.5% of the total variance of all the items. Item 15 did not load and was removed. Item 18 also did not load but was retained.

A third EFA was performed with the 14 adaptation items. The Kaiser-Meyer-Olkin measure of sampling adequacy was .80 and Bartlett's test of sphericity was significant,  $\chi^2(91) = 965.85, p < .000$ . The result showed that there were three factors had eigenvalues above 1. Together they explained 60.26% of the total variance of all the items. All items loaded, except item 14, which was retained because the dimensions were underrepresented in the items. All items were reviewed subjectively to reduce the number of items to 10 or fewer. The end result was a 9-item adaptation scale.

A fourth EFA was performed on the 9-item adaptation scale. The Kaiser-Meyer-Olkin measure of sampling adequacy was .80 and Bartlett's test of sphericity was significant,  $\chi^2(36) = 409.75, p < .000$ . The result showed that two factors had eigenvalues above 1. Together they explained 55.26% of the total variance of all the items. The reliability for the 9-item adaptation scale was .79. Table 5 provides a summary of the adaptation scale EFA results.

A final EFA was performed with adaptation and adjustment together. The Kaiser-Meyer-Olkin measure of sampling adequacy was .84 and Bartlett's test of sphericity was significant,  $\chi^2(171) = 1300.35, p < .000$ . The result showed that five factors had eigenvalues above 1. Together they explained 63.87% of the total variance

of all the items. Adaptation and adjustment items loaded separately other than one item from each scale, which created the fifth dimension.

A confirmatory factor analysis (CFA) was conducted to test the factor structure of the two scales (adaptation and adjustment). The two-factor model with items loading on their respective latent factors did not fit our data well,  $\chi^2 (151) = 411.41, p < .000.$ , Comparative Fix Index (CFI) = .78, Tucker-Lewis Index (TLI)= .76, RMSEA= .10. The two-factor and one-factor model were compared with all items loading on one latent factor  $\chi^2 (152) = 609.50, p < .000,$  CFI = .62, TLI= 0.57, RMSEA= .14). Although neither structure fit the data well, the two-factor structure fit the data significantly better than the one factor structure ( $X^2 = 198.09, p < .001$ ). Table 6 summarizes these results. Table 7 contains the final items and descriptives. Table 8 contains scale reliabilities.

## CHAPTER 5

### STUDY 3: CRITERION-RELATED VALIDITY

The purpose of study three is to utilize the refined scale from study two to establish criterion-related validity. Additionally, this study allows for hypothesis testing on the constructs of adaptation and adjustment and nomological network using a nursing population.

#### Participants

After removing 13 individuals for not meeting requirements and missing data, participants were 127 healthcare workers with access to patient care (84% Female; 82% White; 68% Bachelor's level education; mean age: 38 [ $SD = 11.37$ ]; mean industry tenure in years: 11.84 [ $SD = 9.55$ ]; mean current hospital tenure in years: 6.9 [ $SD = 6.3$ ]). A majority of participants were registered nurses (55%) and charge or supervisory level nurses (17%). With less than 7% each, other job titles included technician, clinical registered nurses (CRN), licensed nurse practitioner (LPN), and travel nurse. Among these job titles, participants worked in a variety of work areas, such as Emergency Room (26%), Surgical (17%), and Intensive Care Unit (14.2%). Other work areas such as psychiatric, urgent care, labor and delivery, and others had less than 6% representation each. Participant demographics are included in tables 9-11.

#### Procedure

The measures used were administered online through Amazon's Mechanical Turk (MTurk) and an online convenience sample on a social media platform. The total MTurk participants were 53 and the total social media platform participants were 74. MTurk has been found to provide quality data from a diverse sample set

(Buhrmester, Kwang, & Gosling, 2011). The MTurk survey will screen out individuals who are not 18 years of age or older and working full-time in a healthcare setting. Behavioral research conducted on MTurk has been shown to be consistent with that of experts and experimental subjects (Mason & Suri, 2012). In addition to this, research has suggested the social media platforms, such as Facebook are suitable for online data collection (Kosinski, Matz, Gosling, Popov, & Stillwell, 2015).

Additionally, using a snowball method on social media is effective in gaining high quality and high-volume data, because participants develop more confidence in the researcher when their online profile can be viewed (Baltar & Brunet, 2012). In addition to this, there has been research conducted on whether MTurk samples and social media samples are comparable. Casler, Bickel, & Hackett (2013) found that responses are equivalent across both samples and differences lie in the demographics, with MTurk being more diverse. All measures were included in one survey. MTurk participants were paid \$0.50 for survey completion and the social media platform participants did not receive pay. The survey took on average about 10 minutes to complete.

## **Measures**

All measures can be found in Appendix I and their reliabilities from this study can be found in Appendix K.

### **Role Breadth Self-Efficacy**

This is a 10-item scale developed by Parker (1998) that asks participants how confident they are in performing several tasks such as “making suggestions to management about ways to improve the working of your unit,” on a 5-point Likert scale (1=not at all confident, 5=very confident). The Cronbach’s alpha in the first

study was .95 and in their second study was .96; therefore, it has shown to be a reliable measure (Parker, 1998).

### **Self-Regulatory Focus**

The general regulatory focus measure uses 6-items to measure prevention and promotion foci (Lin & Johnson, 2015). The measure was adapted from Lockwood, Jordan, and Kunda's (2002) 18-item measure to reflect to workplace. The scale is measured on a 5-point Likert scale (1=not very true of me, 5=very true of me). The promotion focused items have a reliability of .80 and the prevention focused items have a reliability of .76. Example items of promotion and prevention include "Right now, I am focused on achieving positive outcomes at work," and "Right now, I am focused on preventing negative events at work," respectively.

### **Adaptation**

This scale was developed in Study 2 and is 9 items covering the following two dimensions: solving problems creatively and demonstrating cultural skills. The scale will be measured on a 5-point Likert scale (1=strongly disagree; 5=strongly agree). The Study 2 Chronbach's alpha was .79.

### **Adjustment**

This scale is 10 items covering the following four dimensions: 1) handling emergencies or crisis situations, 2) handling work stress, 3) the reactive form of demonstrating interpersonal skills, and 4) the reactive form of dealing with uncertain work situations. The scale will be measured on a 5-point Likert scale (1=strongly disagree; 5=strongly agree). The Study 2 Chronbach's alpha was .84.

### **Coping**

Problem focused engagement (PFE) and emotion focused engagement (EFE) coping are used to assess problem and emotion focused coping in Addison and colleagues' (2007) Coping Strategy Inventory Short Form. PFE had a Chronbach's alpha of .67. An example item for PFE is "I try to talk about it with a friend or family". EFE had a Chronbach's alpha of .72. An example item for EFE is "I hope the problem will take care of itself". Both dimensions have 4 items each. The measure is rated on a 5-point Likert scale (1=never, 5=almost always).

### **Resilience**

The resilience measure used in this study is a dimension of the larger Psychological Capital Questionnaire (Luthans, Avolio, & Avey, 2007). This dimension has an acceptable Chronbach's alpha across four samples (.71, .71, .66, .72; Luthans et al., 2007), An example item includes "When I have a setback at work, I have trouble recovering from it, moving on". The resilience measure has 6 items that are measured on a 7-point Likert scale (1=strongly disagree, 7=strongly agree).

### **Safety Performance**

Neal, Griffin, and Hart (2000) use 9-items to evaluate three dimensions of safety performance. The scale measures safety motivation, safety compliance, and safety participation. Safety motivation has a Cronbach's alpha of .93 and an example item is "I feel that it is important to maintain safety at all times." Safety compliance has a Cronbach's alpha of .94 and an example item is "I ensure the highest levels of safety when I carry out my job." Safety participation has a Cronbach's alpha of .89 and an example item is "I voluntarily carry out tasks or activities that help to improve workplace safety." The measures are rated on a 5-point Likert scale (1=strongly disagree, 5=strongly agree).

### **Voice Behavior**

Voice behavior measures two dimensions, promotive voice and prohibitive voice with 10 items (Liang et al., 2012). Example items of promotive voice and prohibitive voice respectively, include “I proactively develop and make suggestions for issues that may influence the unit” and “I dare to point out problems when they appear in the unit, even if that would hamper relationships with colleagues.” The original measure is not self-report, but the measure has been validated in a self-report format and shows sufficient agreement between self and other ratings (Lin & Johnson, 2015). The self-report format is rated on a 5-point Likert (1=never, 5=almost always).

### **Silence Behavior**

Silence behaviors are best self-reported, because others may not know if the person is withholding information (Tangirala & Ramanujam, 2008). Therefore, Detert and Edmondson (2011) developed a self-report 4-item measure of silence behaviors. The scale has a Cronbach’s alpha of .74 and an example item is “I kept quiet about problems with daily routines that hamper performance.” This measure has been tested against Van Dyne and LePine’s (1998) voice measure to show that they two scales are negatively related (Detert & Edmondson, 2011).

### **Goal Orientation**

Vandewalle (1997) developed a work domain goal orientation scale that assesses three factors: learning goal orientation, performance prove orientation, and performance avoid orientation. Goal orientation is salient for hospital staff population because they have safety goals to attain. Learning goal orientation has a Cronbach’s alpha of .89; performance prove has a reliability of .85 and performance avoid has a reliability of .88. An example item of learning goal orientation is “I often look for opportunities to develop new skills and knowledge.” Performance prove is shown with

items such as “I’m concerned with showing that I can perform better than my coworkers” and performance avoid is demonstrated by items such as, “I prefer to avoid situations at work where I might perform poorly.”

### **Mini-International Personality Item Pool**

This personality assessment has 20-items measured on a 5-point Likert scale (1=very inaccurate, 5=very accurate). It measures the Big-Five facets of personality (Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism) with four items per facet (Donnellan, Oswald, Baird, & Lucas, 2006). Although a short form of personality assessment, this has shown acceptable internal reliability statistics above .60 for all dimensions (Donnellan et al., 2006). Additionally, there has been CFA and EFA support that this scale measures the Big-Five (Baldasaro, Shanahan, & Bauer, 2013; Cooper, Smillie, & Corr, 2010).

### **Analysis**

A *t*-test was performed to assess differences between the MTurk and social media data collections to determine if there are significant differences in study variables. A series of one-way ANOVAs were used to determine if job title and work area had a significant effect on variables in the study, because a variety of job titles and work areas means that there may be differences in how dynamic their workplace may be. This could impact results. The adaptation and adjustment scales were analyzed with a CFA and distinguished from coping and resilience with EFA. All other hypotheses were analyzed with bivariate correlations and multiple linear regressions.

## Results

First, variable descriptives and correlations were calculated. These statistics are in tables 12 and 13.

### Between-Group Analysis

#### *Data Collection Method*

An independent-t test was performed on all study variables to test differences between the data collection method. The following variables were not significantly different between the two methods: adaptation,  $t(125)=.29, p = .77$ ; adjustment,  $t(124)=.50, p = .62$ ; prevention focus,  $t(125)=-1, p = .32$ ; extraversion,  $t(125)=-1.71, p = .10$ ; openness,  $t(125)=-.14, p = .89$ ; neuroticism,  $t(125)=-1.31, p = .19$ ; learning goal orientation,  $t(125)=-.70, p = .49$ ; resilience,  $t(123)=-.53, p = .60$ ; emotion focused coping,  $t(121)=.24, p = .81$ ; problem focused coping,  $t(121)=-.33, p = .74$ ; safety compliance,  $t(122)=-1.19, p = .24$ ; safety participation,  $t(122)=.71, p = .47$ ; silence,  $t(122)=-.98, p = .33$ ; promotive voice,  $t(122)=1.12, p = .27$ ; prohibitive voice,  $t(122)=1.85, p = .06$ .

The following variables were significantly different between MTurk and social media: role breadth self-efficacy, promotion focus, conscientiousness, and performance avoid goal orientation, and performance prove goal orientation. There was a significant effect of the data collection method (MTurk vs. social media) on role breadth self-efficacy,  $t(125) = 3.09, p < .01$ . Specifically, mean role breadth self-efficacy was higher for employees collected through MTurk ( $M = 4.03, SD = .64$ ) than employees collected through social media ( $M = 3.61, SD = .80$ ). Results can be found in Table 15.

There was also a significant effect of the data collection method (MTurk vs. social media) on promotion focus,  $t(125) = 2.86, p < .01$ . Specifically, mean promotion focus was higher for employees collected through MTurk ( $M = 5.58, SD = .78$ ) than employees collected through social media ( $M = 5.18, SD = .80$ ). Results can be found in Table 16.

There was another significant effect of the data collection method (MTurk vs. social media) on conscientiousness,  $t(125) = 2.82, p < .01$ . Specifically, mean conscientiousness was higher for employees collected through MTurk ( $M = 4.01, SD = .74$ ) than employees collected through social media ( $M = 3.61, SD = .81$ ). Results can be found in Table 17.

Additionally, there was a significant effect of the data collection method (MTurk vs. social media) on performance prove goal orientation,  $t(125) = 3.76, p < .001$ . Specifically, mean performance prove goal orientation was higher for employees collected through MTurk ( $M = 4.54, SD = .98$ ) than employees collected through social media ( $M = 3.83, SD = 1.09$ ). There was a significant effect of the data collection method (MTurk vs. social media) on performance avoid goal orientation,  $t(125) = 3.90, p < .001$ . Specifically, mean performance avoid goal orientation was higher for employees collected through MTurk ( $M = 3.55, SD = 1.39$ ) than employees collected through social media ( $M = 2.73, SD = .97$ ). Results can be found in Table 18 and 19.

#### *Work Area*

A One-Way ANOVA was performed to determine if variables were significantly different across work areas. The following variables were not significantly different between work areas: adaptation,  $F(8,116)=1.07.08, p = .39$ ; adjustment,  $F(8,115)= .95, p = .48$ ; prevention focus,  $F(8,116)= 1.21, p = .30$ ;

promotion focus,  $F(8,116)= 1.80, p = .08$ ; extraversion,  $F(8,116)= .74, p = .66$ ; conscientiousness,  $F(8,116)=.66, p = .73$ ; openness,  $F(8,116)=.50, p = .86$ ; neuroticism,  $F(8,116)= 1, p = .44$ ; learning goal orientation,  $F(8,116)= .67, p = .71$ ; performance prove goal orientation,  $F(8,116)= 1.60, p = .23$ ; performance avoid goal orientation,  $F(8,116)= 1.15, p = .34$ ; resilience,  $F(8,116)= 1.18, p = .32$ ; emotion focused coping  $F(8,114)= 1.40, p = .21$ ; problem focused coping,  $F(8,115)= .85, p = .56$ ; safety compliance,  $F(8,115)= 1.31, p = .25$ ; safety participation,  $F(8,115)= 1.04, p = .41$ ; silence,  $F(8,115)= .89, p = .53$ ; promotive voice,  $F(8,115)= .93, p = .49$ ; and prohibitive voice,  $F(8,115)= 1.44, p = .19$ .

There was only a significant effect of the participant work area on role breadth self-efficacy,  $F(8, 116) = 2.15, p < .05$ . Post-hoc comparisons using the Tukey HSD test indicated mean role breadth self-efficacy was higher for employees in the elder care work area ( $M = 4.72, SD = .18$ ) than employees in the surgical work area ( $M = 3.47, SD = .80$ ) and employees in the variety other category of work area ( $M = 3.79, SD = .77$ ). Results can be found in Table 19.

#### *Job title*

A One-Way ANOVA was performed to determine if variables were significantly different across job titles. The following variables were not significantly different between job titles: adaptation,  $F(4, 120)=1.43, p = .23$ ; adjustment,  $F(4,119)= .26, p = .91$ ; promotion focus,  $F(4,120)= .97, p = .43$ ; extraversion,  $F(4,120)= .42, p = .80$ ; openness,  $F(4,120)= .58, p = .68$ ; neuroticism,  $F(4,120)= .60, p = .67$ ; learning goal orientation,  $F(4,120)= .47, p = .76$ ; performance prove goal orientation,  $F(4,120)= 2.36, p = .06$ ; resilience,  $F(4,120)= .82, p = .52$ ; emotion focused coping  $F(4,118)= 1.95, p = .11$ ; problem focused coping,  $F(4,118)= 1.91, p = .11$ ; safety compliance,  $F(4,119)= 1.01, p = .41$ ; safety participation,  $F(4,119)= 1.18, p = .28$ .

= .33; silence,  $F(4,119)= 1.75, p = .14$ ; promotive voice,  $F(4,119)= .2.17, p = .08$ ; and prohibitive voice,  $F(4,119)= 1.80, p = .13$ .

There was a significant effect of healthcare job title on role breadth self-efficacy,  $F(4, 120) = 3.83, p < .01$ . Post-hoc comparisons using the Tukey HSD test indicated that the mean role breadth self-efficacy score of registered nurses ( $M = 2.20, SD = 1.17$ ) was significantly higher than the mean role breadth self-efficacy score of the variety job title group ( $M = 1.68, SD = .86$ ). Results can be found in Table 20.

There was also a significant effect of healthcare job title on conscientiousness,  $F(4, 120) = 2.86, p < .05$ . Post-hoc comparisons using the Tukey HSD test indicated that the conscientiousness score of registered nurses ( $M = 3.65, SD = .78$ ) was significantly lower than the mean conscientiousness score of the technician group ( $M = 4.42, SD = .68$ ). Results can be found in Table 23.

There was also a significant effect of healthcare job title on performance avoid goal orientation  $F(4, 120) = 2.59, p < .05$ . Post-hoc comparisons using the Tukey HSD test indicated that the mean performance avoid goal orientation score of the variety job title group ( $M = 3.74, SD = 1.28$ ) was significantly higher than the mean performance avoid goal orientation score of the registered nurses group ( $M = 2.88, SD = 1.23$ ). results can be found in Table 24.

There was a significant effect of healthcare job title on prevention focus,  $F(4, 120) = 2.52, p = .05$ . However, post-hoc comparisons using the Tukey HSD test did not indicate any significant differences in prevention focus by job title. Results can be found in Table 22.

Overall, there were differences between the data collection method, work area, and healthcare job title. To combat between group differences, data collection method, work area, and job title were controlled for.

## **Adaptation and Adjustment Confirmatory Factor Analyses**

### *Adjustment Scale*

Three CFAs were conducted to demonstrate the factor structure of the adjustment scale. The first CFA is conducted based on the factor structure generated according to Study 2 which is a two-factor model. The second CFA was conducted without the two underrepresented dimensions (items 20 and 21) from Study 2. Additionally, in the final EFA conducted in Study 2, item 20 loaded with an adaptation item and item 21 did not load at all. A Chi-squared test was used to determine which model fit the data best. This model was then compared to a one factor model in a third CFA. A Chi-squared test was used to compare the two-factor to the one-factor model. Model 1 (all items for the adjustment scale in two factors) and Model 2 (items 20 and 21 removed) were compared. Model 2 fit the data significantly better than Model 1 ( $\chi^2(15) = 34.31, p < .01$ ). Then Model 2 was compared with a one-factor model. Model 2 fit the data significantly better than Model 3 ( $\chi^2(2) = 25.29, p < .001$ ). The results are shown in Table 25. Model 2 fit better than Model 1 and Model 3. Therefore, the analysis proceeded with the analysis using the 2-factor model without items 20 and 21.

### *Adaptation Scale*

Three CFAs were conducted to demonstrate the factor structure of the adaptation scale. The first CFA is conducted based on the factor structure generated according to Study 2 which is a two-factor model. The second CFA was conducted without the two items that did not load (items 8 & 10) from Study 2. Additionally, item 8 did not load and item 10 loaded with an adjustment item in the final scale EFAs in Study 2. A Chi-squared test was used to find the better fitting model. This model was then compared to a one factor model in a third CFA. A Chi-squared test was used

to compare the two-factor to the one-factor model. Model 1 (all items for the adaptation scale) and Model 2 (items 8 and 10 removed) were compared. Model 2 fit the data significantly better than Model 1 ( $\chi^2 (13) = 43.02, p < .001$ ). Model 2 was then compared with a one-factor model. Model 2 fit the data significantly better than Model 3 ( $\chi^2 (2) = 109.75, p < .001$ ). The results are shown in Table 26. Model 2 fit better than Model 1 and Model 3. Therefore, the analysis proceeded using the 2-factor model without items 8 and 10.

#### *Adaptation and Adjustment Discriminant Validity*

Two CFAs were conducted to demonstrate that the two scales assess two independent constructs (adaptation and adjustment). The results of the one-factor model with all the items belonging to one latent variable and the two-model with items belonging to two latent variables are shown in Table 27. The two models were compared by computing chi-square change and the result is Model 2 fit the data significantly better than Model 1 ( $\chi^2 (1) = 89.72, p < .001$ ). Overall the results indicate that the two-factor model fit the data significantly better than the one-factor model. This supports Hypothesis 1. The final item descriptives and reliabilities are in Table 28 and 29.

#### *Discriminant Validity*

An EFA was performed on the adjustment, emotion focused coping, and resilience scales. The Kaiser-Meyer-Olkin measure of sampling adequacy was .82 and Bartlett's test of sphericity was significant,  $\chi^2 (153) = 1224.94, p < .001$ . The result showed that four factors had eigenvalues above 1. Together they explained 66.62% of the total variance of all the items. Table 30 provides a summary of the EFA results. All scales loaded on separate factors. This provides support for Hypothesis 2.

An EFA was performed on the adaptation, problem focused coping, and resilience scales. The Kaiser-Meyer-Olkin measure of sampling adequacy was .86 and Bartlett's test of sphericity was significant,  $\chi^2(136) = 833.38, p < .001$ . The result showed that four factors had eigenvalues above 1. Together they explained 62% of the total variance of all the items. Table 31 provides a summary of the EFA results. All scales loaded on separate factors. This provides support for Hypothesis 3.

### **Adaptation Predictors and Correlates**

#### *Promotion Focus and Role Breadth Self-Efficacy*

I tested Hypothesis 4 and 12 first by assessing the promotion focus, role breadth self-efficacy, and adaptation correlations. Then with a multiple regression. Promotion focus is significantly correlated with adaptation,  $r(125) = .21, p < .05$ . Role Breadth Self-Efficacy is significantly correlated with adaptation,  $r(125) = .46, p < .01$ . Promotion focus and role breadth self-efficacy were then evaluated in a multiple regression. The overall model was significant, ( $R^2 = .27, F(2, 123) = 15.50, p < .001$ ). Twenty-seven percent of the variance in adaptation is accounted for by role breadth self-efficacy and promotion focus. Both promotion focus ( $\beta = .24, p < .001$ ) and role breadth self-efficacy ( $\beta = .50, p < .001$ ) were significant predictors of adaptation. This provides support for Hypothesis 4 and 12. Results are in Table 34.

#### *Extraversion, Conscientiousness, and Openness*

I tested Hypothesis 6, 9, and 10 first by assessing extraversion, conscientiousness, openness, and adaptation correlations. Then with a multiple regression. Openness significantly correlated with adaptation,  $r(125) = .33, p < .01$ . Extraversion did not significantly correlate with adaptation,  $r(125) = .07, n.s.$  Conscientiousness did not significantly correlate with adaptation,  $r(125) = .15, n.s.$  The personality variables that were hypothesized to predict adaptation were

extraversion, conscientiousness, and openness. The model using these predictors was significant, ( $R^2 = .11$ ,  $F(3, 122) = 3.84$ ,  $p < .001$ ). Eleven percent of the variance in adaptation was accounted for by extraversion, conscientiousness, and openness. Openness ( $\beta = .31$ ,  $p < .001$ ) was a significant predictor of adaptation. This provides support for Hypothesis 6. Extraversion ( $\beta = .00$ ,  $p = .96$ ) and conscientiousness ( $\beta = .07$ ,  $p = .42$ ) were not significant predictors of adaptation. This fails to support Hypothesis 9 and 10. Results are Table 32.

#### *Performance Prove Goal Orientation and Learning Goal Orientation*

I tested Hypothesis 13 first by assessing performance prove goal orientation, learning goal orientation, and adaptation correlations. Then with a multiple regression. Performance prove goal orientation did not significantly correlate with adaptation,  $r(125) = .08$ , *n.s.* The goal orientation variables that were hypothesized to predict adaptation were learning goal orientation and performance prove goal orientation. The model using these predictors was significant, ( $R^2 = .37$ ,  $F(2, 123) = 23.92$ ,  $p < .001$ ). Thirty-seven percent of the variance in adaptation was accounted for by learning and performance prove goal orientation. Learning goal orientation ( $\beta = .61$ ,  $p < .001$ ) was a significant predictor of adaptation. Performance prove goal orientation ( $\beta = .01$ ,  $p = .94$ ) was not significant predictor of adaptation. This provides partial support for Hypothesis 13. Results are in Table 32.

#### **Adjustment Predictors and Correlates**

##### *Prevention Focus and Performance Avoid Goal Orientation*

I tested Hypothesis 5 and 14 first by assessing prevention focus, performance avoid goal orientation, and adjustment correlations. Then with a multiple regression. Prevention focus is significantly correlated with adjustment,  $r(126) = -.30$ ,  $p < .01$ . Performance avoid goal orientation is significantly correlated with adjustment,  $r(126)$

= -.24,  $p < .01$ . Prevention focus and performance goal orientation were hypothesized to predict adjustment. The model using these predictors was significant, ( $R^2 = .13$ ,  $F(2, 122) = 5.94$ ,  $p < .001$ ). Thirteen percent of the variance in adjustment was accounted for by prevention focus and performance goal orientation. Performance avoid goal orientation ( $\beta = -.22$ ,  $p < .05$ ) was a significant predictor of adjustment, but not in the predicted direction. This fails to support Hypothesis 14. Prevention focus ( $\beta = -.24$ ,  $p < .01$ ) was a significant predictor of adjustment. This supports Hypothesis 5. Results are in Table 36.

#### *Neuroticism, Conscientiousness, and Openness*

I tested Hypothesis 7, 8, and 11 first by assessing neuroticism, conscientiousness, openness, and adjustment correlations. Then with a multiple regression. Conscientiousness is significantly correlated with adjustment,  $r(126) = .31$ ,  $p < .01$ . Openness significantly correlated with adjustment,  $r(126) = .23$ ,  $p < .01$ . Neuroticism significantly correlated with adjustment,  $r(126) = -.36$ ,  $p < .01$ . The personality variables that were hypothesized to predict adjustment were neuroticism, conscientiousness, and openness. The model using these predictors was significant, ( $R^2 = .18$ ,  $F(3, 121) = 6.65$ ,  $p < .001$ ). Neuroticism ( $\beta = -.26$ ,  $p < .01$ ) was a significant predictor of adjustment. This supports Hypothesis 11. Conscientiousness ( $\beta = .18$ ,  $p = .06$ ) and openness ( $\beta = .13$ ,  $p = .14$ ) were not significant predictors of adjustment. This fails to support Hypothesis 7 and 8. Results are in Table 35.

### **Adaptation and Adjustment Outcomes**

#### *Silence*

I tested Hypothesis 20 first by assessing silence, adaptation, and adjustment correlations. Then with a hierarchical multiple regression. Adjustment is significantly

correlated to silence  $r(123) = -.34, p < .01$  and adaptation is significantly correlated to silence  $r(124) = -.28, p < .01$ . Adjustment was hypothesized to predict silence and was therefore entered into the model first in block 1. This model was significant,  $F(1,121) = 15.50, p < .001$ . Adjustment was a significant predictor of silence,  $\beta = -.34, p < .001$  and explained 11% of the variance in silence. In step 2, adaptation was added to the model. This model was not significant,  $F(1,120) = 9.13, p = .11$ . Hypothesis 20 was not supported. Results are in Table 37.

### *Safety Compliance*

I tested Hypothesis 15 and 16 first by assessing safety compliance, adaptation, and adjustment correlations. Then with a hierarchical multiple regression. Adaptation is significantly correlated to safety compliance  $r(124) = .34, p < .01$  and adjustment is significantly correlated to safety compliance  $r(123) = .31, p < .01$ . Both adaptation and adjustment were hypothesized to predict safety compliance and therefore, the variables were imputed by correlational strength. In step 1, adaptation was added to the model. The model was significant,  $F(1,121) = 16.20, p < .000$ . Adaptation was found to be a significant predictor of safety compliance,  $\beta = .34, p < .000$  and accounted for 12% of the variance in safety compliance. In step 2, adjustment was added and the model became insignificant,  $F(1,120) = 10.09, p = .06$ . This suggests that adaptation predicts safety compliance above and beyond adjustment. Therefore, Hypothesis 15 was supported.

To test Hypothesis 16, adjustment was entered in first to the model. In step 1, adjustment was added to the model. The model was significant,  $F(1,121) = 12.80, p < .000$ . Adjustment was found to be a significant predictor of safety compliance,  $\beta = .31, p < .000$  and accounted for 12% of the variance in safety compliance. In step 2, adaptation was added and the model was still significant,  $F(1,120) = 10.09, p < .01$ . Adjustment was not a significant predictor of safety compliance anymore,  $\beta = .19, p =$

.06. Adaptation was a significant predictor of safety compliance,  $\beta = .25$ ,  $p < .01$ . This suggests that adaptation predicts safety compliance above and beyond adjustment. Hypothesis 16 was supported though in Model 1. Results are in Table 39.

### *Safety Participation*

I tested Hypothesis 17 first by assessing safety performance, adaptation, and adjustment correlations. Then with a hierarchical multiple regression. Adaptation is significantly correlated to safety participation  $r(124) = .45$ ,  $p < .01$  and adjustment is significantly correlated to safety participation  $r(123) = .25$ ,  $p < .01$ . Adaptation was hypothesized to predict safety participation and was thus imputed first in the model. This model was significant  $F(1,121) = 30.61$ ,  $p < .000$ . Adaptation was found to be a significant predictor of safety participation,  $\beta = .45$ ,  $p < .000$  and accounted for 20% of the variance in safety participation. In step 2, adjustment was added. The model became insignificant,  $F(1,121) = 15.30$ ,  $p = .67$ . This suggests that adaptation predicts safety participation above and beyond adjustment. Therefore, Hypothesis 17 was supported. Results are in Table 40.

### *Promotive Voice*

I tested Hypothesis 18 first by assessing promotive voice, adaptation, and adjustment correlations. Then with a hierarchical multiple regression. Adaptation is significantly correlated to promotive voice  $r(124) = .36$ ,  $p < .01$  and adjustment is significantly correlated to promotive voice  $r(123) = .38$ ,  $p < .01$ . Adaptation was hypothesized to predict promotive voice and was thus imputed first in the model. The model was significant,  $F(1,121) = 18.08$ ,  $p < .000$ . Adaptation was found to be a significant predictor of promotive voice,  $\beta = .36$ ,  $p < .000$  and accounted for 13% of the variance in promotive voice. In step 2, adjustment was added to the model. The model remained significant,  $F(1,120) = 13.41$ ,  $p < .01$ . Adaptation was a significant

predictor,  $\beta = .23$ ,  $p < .05$ , holding adjustment constant. Adjustment was also found to be a significant predictor of promotive voice,  $\beta = .26$ ,  $p < .01$ , holding adaptation constant. Together, they accounted for 18% of variance in promotive voice. Therefore, Hypothesis 18 was partially supported. Results are in Table 41.

### *Prohibitive Voice*

I tested Hypothesis 19 first by assessing prohibitive voice, adaptation, and adjustment correlations. Then with a hierarchical multiple regression. Adjustment is significantly correlated to prohibitive voice  $r(123) = .36$ ,  $p < .01$  and adaptation is significantly correlated to prohibitive voice  $r(124) = .36$ ,  $p < .01$ . Adjustment was hypothesized to predict prohibitive voice and was thus imputed first in the model. The model was significant,  $F(1,121) = 17.40$ ,  $p < .000$ . Adjustment was found to be a significant predictor of prohibitive voice,  $\beta = .36$ ,  $p < .000$  and accounted for 13% of the variance in prohibitive voice. In step 2, adaptation was added to the model. The model remained significant,  $F(1,120) = 12.34$ ,  $p < .01$ . Adjustment was a significant predictor,  $\beta = .24$ ,  $p < .05$ , holding adaptation constant. Adaptation was also found to be a significant predictor of prohibitive voice,  $\beta = .24$ ,  $p < .01$ , holding adjustment constant. Together, they accounted for 17% of variance in promotive voice. Correlational and regression analyses are in Appendices H and L, respectively. Results are in Table 42. Table 43 contains a summary of support for hypotheses.

## **Exploratory Analyses**

### *Adaptation*

Adaptation had two unexpected correlations with neuroticism and performance goal orientation. Neuroticism is significantly correlated with adaptation,  $r(125) = -.24$ ,  $p < .01$  and performance avoid goal orientation is significantly correlated with

adaptation,  $r(125) = -.42, p < .01$ . Therefore, hierarchical linear regression was performed using all variables that significantly correlated with adaptation. The variables were imputed in order of correlational strength.

Learning goal orientation was imputed first and the model was significant,  $F(1,124) = 36.16, p < .000$ . Learning goal orientation was a significant predictor of adaptation,  $\beta = .61, p < .000$ , and accounted for 36% of the variance in adaptation. In the second step, role breadth self-efficacy was entered in and the model was significant,  $F(1,123) = 28.95, p < .000$ . Learning goal orientation was a significant predictor of adaptation,  $\beta = .50, p < .000$ , holding role breadth self-efficacy constant. Role breadth self-efficacy was a significant predictor of adaptation,  $\beta = .25, p < .01$ , holding learning goal orientation constant. Together, they explained 40% of the variance in adaptation. In step three, performance avoid goal orientation was added to the model. This model was significant,  $F(1,122) = 24.78, p < .01$ . Learning goal orientation was a significant predictor of adaptation,  $\beta = .42, p < .000$ , holding all others constant. Role breadth self-efficacy was a significant predictor of adaptation,  $\beta = .21, p < .01$ , holding all others constant. Performance avoid goal orientation was a significant predictor of adaptation,  $\beta = -.22, p < .01$ . Together, they explained 43% of the variance in adaptation. When openness, neuroticism, and promotion focus were entered into the model independently and all did not significantly predict adaptation. Therefore, the overall best predictors of adaptation were learning goal orientation, role breadth self-efficacy, and performance avoid goal orientation.

### *Adjustment*

There were three unexpected correlations with adjustment: role breadth self-efficacy, extraversion, and learning goal orientation. Role breadth self-efficacy is significantly correlated with adjustment,  $r(125) = .47, p < .01$ . Extraversion is significantly correlated with adjustment,  $r(125) = .22, p < .05$ . Learning goal

orientation significantly correlated with adjustment,  $r(125) = .49, p < .01$ . Therefore, hierarchical linear regression was performed using all variables that significantly correlated with adjustment. The variables were imputed in order of correlational strength.

Role breadth self-efficacy was imputed first and the model was significant,  $F(1,123) = 22.97, p < .000$ . Role breadth self-efficacy was a significant predictor of adjustment,  $\beta = .54, p < .000$ , and accounted for 27% of the variance in adjustment. In the second step, learning goal orientation was entered in and the model was significant,  $F(1,122) = 18.42, p < .01$ . Learning goal orientation was a significant predictor of adjustment,  $\beta = .23, p < .01$ , holding role breadth self-efficacy constant. Role breadth self-efficacy was a significant predictor of adjustment,  $\beta = .43, p < .001$ , holding learning goal orientation constant. Together, they explained 31% of the variance in adjustment. In step three, neuroticism was added to the model. This model was significant,  $F(1,121) = 15.72, p < .05$ . Learning goal orientation was a significant predictor of adjustment,  $\beta = .22, p < .01$ , holding all others constant. Role breadth self-efficacy was a significant predictor of adjustment,  $\beta = .37, p < .001$ , holding all others constant. Neuroticism was a significant predictor of adjustment,  $\beta = -.19, p < .05$ . Together, they explained 34% of the variance in adjustment. Conscientiousness, prevention focus, performance avoid goal orientation, openness and extraversion were entered into the model independently and did not significantly predict adjustment. Therefore, the overall best predictors of adjustment were learning goal orientation, role breadth self-efficacy, and neuroticism.

## CHAPTER 6

### DISCUSSION

Overall, the field of IO has not clearly defined adaptation and adjustment. Informed by the workplace, clinical, and cultural perspectives of psychology, this current research presented new definitions for both adaptation and adjustment. Adaptation and adjustment are defined as different behaviors and strategies used to react to dynamic situations. Specifically, adaptation is defined as the change of behaviors and cognition to fit into a changed environment and adjustment is defined as the change of subjective feelings experienced while trying to fit in. Study 1 and Study 2 were conducted to develop adaptation and adjustment scales and refine the psychometric properties of the scales. The scales were used to test hypotheses surrounding the predictors and outcomes of adaptation and adjustment to establish the nomological networks of the variables. The third study used a healthcare sample to support that adaptation and adjustment are distinct and have several differing predictors and outcomes.

### **Findings**

#### **Discriminant Validity**

Study 1 showed evidence in the difference between layman terms of adaptation and adjustment. The scale developed contained 39 items that were screened for clarity, redundancy, and retranslation. This scale was further reduced in Study 2.

Study 2 presented evidence that the measures of adaptation and adjustment are distinct constructs rather than one overall construct. When the structure was set to two factors, the items loaded neatly onto their respective adaptation and adjustment scales. This suggests that the dimensions that belong to adaptation and adjustment do belong

to two different overall constructs, therefore, supporting the dimension structure proposed based on Huang and colleagues (2014) proactive versus reactive forms. The data showed support for a two-factor structure for the adjustment scale and the data also showed support for a two-factor scale of adaptation. Adjustment's two factors covered handling emergency situations and handling work stress, whereas adaptation's two factors covered solving problems creatively and cultural adaptability. Overall, Study 2 found that the model with the best fit was when the scales were separate and each contained two factors.

Study 3 found a significant difference between the one factor and two-factor structures for adaptation and adjustment. This supported the hypothesis that adaptation and adjustment are distinct constructs. The two-factor model did not fit the data well, but this should be interpreted with caution due to a small sample size. Sample size impacts model convergence, parameter estimates (Gagne & Hancock, 2006; Marsh, Hau, Balla, & Grayson, 1998). Gagne and Hancock (2006) suggest there is not minimum CFA sample size to strive for, but instead suggest larger samples sizes are better in general. Therefore, the two-factor structure of adaptation and adjustment may show better fit if the sample size is increased. Furthermore, the best fitting models for each scale had two factors each, replicating findings from Study 2.

In addition, when an EFA was conducted on the data using items from adaptation, adjustment, coping, and resilience, the data showed divergent validity. The results support the adjustment scale being distinct from emotion focused coping and resilience. The results also support that adaptation is distinct from problem-focused coping and resilience. This indicates that adaptation and adjustment are unique constructs that have value being assessed separately from coping and resilience.

### **Adaptation and Adjustment Predictors**

Overall, role breadth self-efficacy was found to significantly predict both adaptation and adjustment. Individuals who are comfortable in their role are able to change their behaviors to fit their new situation as well as change their subjective feelings. Employees with more role confidence may know the appropriate behaviors and emotions to express during multiple situations at work. This knowledge makes transitioning between behaviors and emotions during change easier.

In terms of regulatory focus, promotion focus predicted adaptation and prevention focus predicted adjustment. Additionally, promotion focus was not correlated to adjustment and prevention focus was not correlated to adaptation. Interestingly, the relationship between prevention focus and adjustment is negative, which is the opposite of what is hypothesized. Prevention focus, although hypothesized to be beneficial in the healthcare industry, was also positively related to silence and negatively related to voice behaviors. Promotion focus on the other hand was not related to any of the outcomes. Shi, Zhang, Xu, Liu, and Miao (2014) found that prevention focus was positively related to burnout, whereas a promotion focus reduced burnout. In other words, individuals who have a prevention focus may be too burnt-out to adjust to changes, whereas employees with a promotion focus are able to change their behaviors to meet changing demands.

Several personality variables predicted adaptation and adjustment differently. For example, openness was found to predict adaptation, but not adjustment. Openness showed to be important when changing behaviors, but not subjective feelings. Literature suggests that when organizational change occurs and a more open environment is promoted, employees react negatively and often conceal their emotions (Turnbull, 2002). In Study 3, there was a significantly negative relationship between openness and silence. Individuals who are more open, may conceal their emotions

during times of change more and therefore are not adjusting their emotions to the change.

Conscientiousness was not a significant predictor of adaptation or adjustment. Conscientiousness is related to a sense of purpose and long-term planning (McCrae & Costa, 1999). Change can be unexpected though and not align with an individual's sense of purpose or plans. Therefore, changing behaviors and subjective feelings may interrupt planning, because things are not going as expected.

Additional personality variables, such as extraversion and neuroticism were hypothesized to predict adaptation and adjustment, respectively. Extraversion was hypothesized to predict extraversion because employees may have a larger resource pool from a developed social circle. However, extraversion did not predict adaptation. The relationship between extraversion and stress may be mediated by belonging support (Swickert, Rosentreter, Hittner, & Mushrush, 2002). Employee feelings of social support were not tested, but this variable may predict adaptation better than extraversion. In addition to the personality variables hypothesized to predict adjustment, neuroticism was found to negatively predict adjustment. This provides support to the argument that individuals who have more emotional stability are able to adjust their emotions during change. Overall, the personality variables differently predicted both adaptation and adjustment, further providing evidence that they are two separate constructs.

In terms of goal orientation, performance prove goal orientation did not predict adaptation, but performance avoid goal orientation did predict adaptation and adjustment. Overall, learning goal orientation positively predicted both adaptation and adjustment. Lee, Tan, and Javalgi (2010) found that performance-oriented individuals feel less commitment to their organization, whereas individuals with a learning goal orientation feel more committed, which leads to higher job satisfaction, in-role

performance, and innovative performance. Healthcare employees tend to be more committed to their work area compared to their hospital (Lok & Crawford, 1999). The relationship between goal orientation with adaptation and adjustment may be moderated by the culture in which change is occurring. If the change is an organization-wide change, then employees may not be as committed and therefore not change their behaviors and subjective feelings.

### **Adaptation and Adjustment Outcomes**

Study 3 also hypothesized that adaptation and adjustment have differential impacts on safety performance and communication. The results support that there are different outcomes for each predictor. Adaptation was predictive of safety compliance, but adjustment was not when entered into the same model. In other words, when individuals change their behaviors are able to be more compliant and this trumped changing outlooks or feelings during change. In addition to this, safety participation was predicted by adaptation and not by adjustment when it was entered into the same model. Emotions impact performance in the workplace (Barsade & Gibson, 2007). Although adjustment does not predict safety compliance and safety performance above and beyond adaptation, it is still important. Overall, adaptation is the best predictor of safety performance outcomes.

Other variables that adaptation and adjustment predict are within communication. Adaptation and adjustment predicted both promotive and prohibitive voice behaviors. In other words, if people are able to change their behaviors and feelings during change, then they are more likely to speak out regardless of it is it to make improvements or to bring up issues. This may be because the improvements or issues spoken about may result in more change, in which the employee would feel as though they would be able to handle behaviorally and emotionally. Adjustment was also hypothesized to predict silence behavior. Adjustment negatively predicted silence,

which makes sense if individuals who adjust well also speak out more. Given that voice and silence are negatively related, the more adjusted an individual is, the less likely they will remain silent. Altogether, adaptation and adjustment are important for communication within the workplace. Each construct promotes voice behaviors and adjustment predicts silence.

### **Theoretical Implications**

The IO field has been interchangeably using adaptation and adjustment, but this research shows that these are different constructs. This does not invalidate previous research, but a closer look into the definitions, dimensions, and items is necessary to make conclusions on adaptation research. Additionally, this is the first known reliable scale that evaluates both adaptation and adjustment as separate constructs within IO. Further literature in adaptation and adjustment should consider the use of this scale. Furthermore, research on dynamic workplaces should use these findings as a beginning framework for as to how employees react to change.

### **Practical Implications**

To begin, practitioners should evaluate both adaptation and adjustment within dynamic workplaces. When selecting employees for dynamic workplaces, especially ones concerning safety, there should be measures of adaptation as well as adjustment. This research provides useful predictors of adaptation and adjustment as well as outlines the impacts each construct has on communication and safety performance.

Two variables that significantly correlated and predicted both adaptation and adjustment were learning goal orientation and role-breadth self-efficacy. This provides practitioners with information on how to select applicants in a dynamic workplace. Employees should want to learn more and be exposed to change. Additionally, trainers

should increase role breadth self-efficacy so that employees can feel confident to tackle change in the workplace.

Uniquely predicting adjustment, neuroticism is important to understand. Employees with low control over their emotions are less likely to be able to change their emotional state. In work environments in which change may be negative and cause distress, employees with low neuroticism are desired. For example, in the healthcare industry, a change that may occur is a patient has passed in a nurse's care. This can result in high levels of sadness and individuals who have high neuroticism will have a more difficult time changing their emotional state to one that suits the change that has occurred.

In terms of adaptation, employees that focus on achievement are more likely to change their behaviors when needed. This is important for organizations to know because individuals who do not feel the need to advance will likely keep to their routine behaviors regardless of change. Furthermore, employees who embrace failure are more likely to change their behaviors in a time of change. Therefore, organizations should encourage a promotion regulatory focus and set a culture that allows for mistakes to be embraced in order for employees to adapt their behaviors in a dynamic work environment.

Adaptation and adjustment are important for the healthcare industry due its nature in safety and need for voice behaviors. The results indicated that safety compliance and safety participation are both differentially impacted by adaptation and adjustment. An employee who can handle work stress and emergencies alone will not necessarily translate to responsible safety behaviors. Employees must make behavioral, not just emotional changes to increase safety compliance. For example, if a new patient care safety procedure is established, employees cannot just emotionally be okay with the change. The employees must adopt the new procedure and behaviorally

change. Additionally, employees who are able to change their behaviors will be more likely to participate in voluntary safety activities. These findings emphasize the need for adaptation in the healthcare industry.

Silence is impacted by the emotional state of employees. For example, an individual who is upset may withdraw rather than make themselves known by speaking up. Adjustment negatively predicts silence. In terms of voice behaviors, adaptation and adjustment were both predictors of promotive and prohibitive voice. This means that if employees are able to change their emotional state and behaviors, then they are more likely to speak up when an issue presents itself as well as when improvements are noticed. If a workplace is having difficulty with voice and silence behaviors, the organization should investigate adaptation and adjustment as potential causes.

In sum, practitioners should evaluate adaptation and adjustment separately. Adaptation and adjustment are influenced by several predictors that can be used in selection. Adaptation and adjustment are important predictors of safety performance and communication.

## **Limitations and Future Research Directions**

There are several limitations in this research that reduces the generalizability of findings and may be addressed in future research. First, although the healthcare industry and a nursing sample is ideal for studying dynamic workplaces, it is less than ideal for participation rates. The intense nature of healthcare leads to exhaustion by its employees who are not likely to participate in surveys. An increase in sample size may yield more conclusive results for the factor analyses as general practice requires at least 5 cases per parameter estimate and ideally 10 cases per parameter (Hu & Bentler, 1995). The results for the CFAs and EFAs may have more clarity as to the adaptation

and adjustment scale structures. Future research should explore other dynamic workplaces, such as start-up companies that can increase generalizability of findings and have larger sample sizes.

An additional limitation of this research is the use of one survey to capture all variables. This increases the likelihood for common method bias, but this was likely not present in this study because there were insignificantly correlated variables (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Future research can further investigate the results of this study in separate survey studies. Furthermore, future research can investigate other methods of research, such as possible observational methods or peer evaluations of adaptation.

This research is also limited in the development of the scales. In the first study, participants were given pre-developed dimensions, instead of allowed to freely write items about adaptation and adjustment. A difference was found between the pre-developed dimensions, which suggests that other scales using these should take this into consideration, but the drawback is that participants were limited. There are possibly more dimensions or different dimensions that would be drawn from open-ended items. This may explain why the model fit was not great, but significant differences were found. The constructs may truly be different, but the scale may not be the best way to capture this. Future research should re-evaluate the scale.

Additionally, there was a significant difference found between MTurk and social media data collection methods. Previous research suggests that the difference between MTurk and social media typically lies only in the demographics (Casler, Bickel, & Hackett, 2013). This study found differences in several variables outside of demographics though. The reason may lie in the motivation to take the survey, because MTurk participants were paid, but social media participants heard about the survey through snowball methods, or through a friend. Future research should

investigate why there may be a difference between these variables in each data collection method. Furthermore, there should be further investigation into if the difference lies in motivation to participate in the survey or demographics.

More research is needed on the relationship between adaptation and adjustment. A few correlations of predictors and outcomes were significant for both adaptation and adjustment that were not hypothesized to be. This may be because adjustment is needed to adapt. If so, variables that relate to adjustment may also relate to adaptation. Multiple time-lagged surveys may provide more evidence as to how adaptation and adjustment are related. In addition, a longitudinal design may answer whether adaptation and adjustment change over time or when they are likely to become more important or activated. The present research only evaluates one snapshot in time and does not include context variables surrounding change in the workplace. For example, there may not have been much change the week that the individual participated in the survey and this may impact the generalizability of results.

## **Conclusion**

Overall, this study demonstrates that adaptation and adjustment are two independent constructs and begins the discussion of them as behavioral and emotional changes in response to dynamic work environments. The current findings contribute to the distinction between adaptation and adjustment, in addition to developing a reliable scale to measure each construct. It provides evidence that adaptation and adjustment are predicted by different constructs and that adaptation and adjustment influence performance and communication outcomes differently. This research sets the groundwork for future studies of adaptation and adjustment in the workplace.

## References

- Ali, A., Van der Zee, K., & Sanders, G. (2003). Determinants of intercultural adjustment among expatriate spouses. *International Journal of Intercultural Relations, 27*(5), 563-580.
- Allworth, E., & Hesketh, B. (1999). Construct-oriented biodata: Capturing change-related and contextually relevant future performance. *International Journal of Selection and Assessment, 7*(2), 97-111.
- Amabile, T. M. (1996). *Creativity in context: Update to "The Social Psychology of Creativity."* Boulder, CO, US: Westview Press.
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Arlington, VA: American Psychiatric Publishing.
- Andreasen, N.C. & Wasek P. (1980). Adjustment disorders in adolescents and adults. *Archives General Psychiatry, 37*, 1166-1170.
- Ayduk, O., May, D., Downey, G., & Higgins, E. T. (2003). Tactical differences in coping with rejection sensitivity: The role of prevention pride. *Personality and Social Psychology Bulletin, 29*(4), 435-448.
- Baard, S. K., Rench, T. A., & Kozlowski, S. W. (2014). Performance adaptation: A theoretical integration and review. *Journal of Management, 40*(1), 48-99.
- Baddeley, A., & Logie, R. (1992). Auditory imagery and working memory. In D. Reisberg (Ed.), *Auditory imagery* (pp. 179-197). Hillsdale, NJ, US: Lawrence Erlbaum Associates, Inc.
- Bakker, A. B., Demerouti, E., & Euwema, M. C. (2005). Job resources buffer the impact of job demands on burnout. *Journal of Occupational Health Psychology, 10*(2), 170.
- Baldasaro, R. E., Shanahan, M. J., & Bauer, D. J. (2013). Psychometric properties of the Mini-IPIP in a large, nationally representative sample of young adults. *Journal of Personality Assessment, 95*(1), 74-84.
- Baltar, F. & Brunet, I. (2013). Social research 2.0: Virtual snowball sampling method using Facebook. *Internet Research, 22*(1), 57-74.

- Barrick, M. R., Mount, M. K., & Li, N. (2013). The theory of purposeful work behavior: The role of personality, higher-order goals, and job characteristics. *Academy of management review*, 38(1), 132-153.
- Barsade, S. G., & Gibson, D. E. (2007). Why does affect matter in organizations? *Academy of Management Perspectives*, 21(1), 36-59.
- Bell, B. S., & Kozlowski, S. W. J. (2008). Active learning: Effects of core training design elements on self-regulatory processes, learning, and adaptability. *Journal of Applied Psychology*, 93(2), 296-316.
- Belschak, F. D., & Den Hartog, D. N. (2010). Being proactive at work-blessing or bane?. *The Psychologist*, 23.
- Berry, J. (1997). Immigration, acculturation, and adaptation. *Applied psychology*, 46(1), 5-34.
- Berry, J., Kim, U., & Boski, P. (1988). Psychological Acculturation of Immigrants. *Cross Cultural Adaptation: Current Approaches Volume 11*, Sage Publications. Newbury Park, CA.
- Bettencourt, L. A., Gwinner, K. P., & Meuter, M. L. (2001). A comparison of attitude, personality, and knowledge predictors of service-oriented organizational citizenship behaviors. *Journal of Applied Psychology*, 86(1), 29.
- Black, J. S., Mendenhall, M., & Oddou, G. (1991). Toward a comprehensive model of international adjustment: An integration of multiple theoretical perspectives. *The Academy of Management Review*, 16(2), 291.
- Bonanno, G. A. (2004). Loss, trauma, and human resilience: Have we underestimated the human capacity to thrive after extremely aversive events? *American Psychologist*, 59(1), 20-28.
- Bonanno, G. A., & Singer, J. L. (1990). Repressive personality style: Theoretical and methodological implications for health and pathology. *Repression and dissociation: Implications for personality theory, psychopathology, and health*, 435470.
- Bonanno, G. A., Noll, J. G., Putnam, F. W., O'Neill, M., & Trickett, P. K. (2003). Predicting the willingness to disclose childhood sexual abuse from measures of repressive coping and dissociative tendencies. *Child Maltreatment*, 8(4), 302-318.

- Borman, W. C., & Motowidlo, S. M. (1993). Expanding the criterion domain to include elements of contextual performance. *Personnel Selection in Organizations*. San Francisco: Jossey-Bass, 71-98.
- Brebels, L., De Cremer, D., & Sedikides, C. (2008). Retaliation as a response to procedural unfairness: A self-regulatory approach. *Journal of personality and social psychology*, 95(6), 1511.
- Bröder, A., & Schiffer, S. (2006). Adaptive flexibility and maladaptive routines in selecting fast and frugal decision strategies. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 32(4), 904-918.
- Buhrmester, M., Kwang, T., & Gosling, S. D. (2011). Amazon's Mechanical Turk: A new source of inexpensive, yet high-quality, data? *Perspectives on Psychological Science*, 6(1), 3-5.
- Burke, C. S., Stagl, K. C., Salas, E., Pierce, L., & Kendall, D. (2006). Understanding team adaptation: A conceptual analysis and model. *Journal of Applied Psychology*, 91(6), 1189.
- Byrne, E., Keuter, K., Voell, J., & Larson, E. (2000). Nurses' job satisfaction and organizational climate in a dynamic work environment. *Applied Nursing Research*, 13(1), 46-49.
- Campbell, J. P. (2012). Behavior, performance, and effectiveness in the twenty-first. *The Oxford handbook of organizational psychology*, 1, 159-194.
- Campbell, J. P., McCloy, R. A., Oppler, S. H., & Sager, C. E. (1993). A theory of performance. *Personnel Selection in Organizations*, 3570, 35-70.
- Casler, K., Bickel, L., & Hackett, E. (2013). Separate but equal? A comparison of participants and data gathered via Amazon's MTurk, social media, and face-to-face behavioral testing. *Computers in Human Behavior*, 29(6), 2156-2160.
- Chan, F. K., & Thong, J. Y. (2009). Acceptance of agile methodologies: A critical review and conceptual framework. *Decision Support Systems*, 46(4), 803-814.
- Chen, G., Gully, S. M., Whiteman, J. A., & Kilcullen, R. N. (2000). Examination of relationships among trait-like individual differences, state-like individual differences, and learning performance. *Journal of Applied Psychology*, 85(6), 835-847.

- Chen, G., Thomas, B., & Wallace, J. C. (2005). A multilevel examination of the relationships among training outcomes, mediating regulatory processes, and adaptive performance. *Journal of Applied Psychology, 90*(5), 827-841.
- Clarke, S. (2006). Safety climate in an automobile manufacturing plant: The effects of work environment, job communication and safety attitudes on accidents and unsafe behaviour. *Personnel Review, 35*(4), 413-430.
- Cooper, A. J., Smillie, L. D., & Corr, P. J. (2010). A confirmatory factor analysis of the Mini-IPIP five-factor model personality scale. *Personality and Individual Differences, 48*(5), 688-691.
- Costello, A. B., & Osborne, J. W. (2005). Best practices in exploratory factor analysis: Four recommendations for getting the most from your analysis. *Practical Assessment, Research & Evaluation, 10*(7), 1-9.
- Coyne, J. C., & Lazarus, R. S. (1980). Cognitive style, stress perception, and coping. *Handbook on Stress and Anxiety*, San Francisco: Jossey-Bass, 144-158.
- Crowe, E., & Higgins, E. T. (1997). Regulatory focus and strategic inclinations: Promotion and prevention in decision-making. *Organizational behavior and human decision processes, 69*(2), 117-132.
- Cullen, K. L., Edwards, B. D., Casper, W. C., & Gue, K. R. (2014). Employees' adaptability and perceptions of change-related uncertainty: Implications for perceived organizational support, job satisfaction, and performance. *Journal of Business and Psychology, 29*(2), 269-280.
- Curcuruto M., Griffin, M.A., 2016, Safety Proactivity in Organizations: The Initiative to Improve Individual, Team and Organizational Safety, *Proactivity at Work*, Eds. Parker S.K., Bindl U., Routledge, New York, US.
- Dane, E. (2010). Reconsidering the trade-off between expertise and flexibility: A cognitive entrenchment perspective. *Academy of Management Review, 35*(4), 579-603.
- Dawis, R. V., & Lofquist, L. H. (1984). *A psychological theory of work adjustment: An individual-differences model and its applications*. University of Minnesota Press.

- Demerouti, E., & Bakker, A. B. (2011). The job demands-resources model: Challenges for future research. *SA Journal of Industrial Psychology*, 37(2), 01-09.
- Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. (2001). The job demands-resources model of burnout. *Journal of Applied Psychology*, 86(3), 499.
- DeRue, D. S., Hollenbeck, J. R., Johnson, M. D., Ilgen, D. R., & Jundt, D. K. (2008). How different team downsizing approaches influence team-level adaptation and performance. *Academy of Management Journal*, 51(1), 182-196.
- Despland, J. N., Monod, L., & Ferrero, F. (1995). Clinical relevance of adjustment disorder in DSM-III-R and DSM-IV. *Comprehensive Psychiatry*, 36(6), 454-460.
- Detert, J. R., & Edmondson, A. C. (2011). Implicit voice theories: Taken-for-granted rules of self-censorship at work. *Academy of Management Journal*, 54(3), 461-488.
- Donnellan, M. B., Oswald, F. L., Baird, B. M., & Lucas, R. E. (2006). The Mini-IPIP scales: Tiny-yet-effective measures of the Big Five factors of personality. *Psychological Assessment*, 18(2), 192.
- Dormann, T., & Frese, M. (1994). Error management training: Replication and the function of exploratory behavior. *International Journal of Human-Computer Interaction*, 6(4), 365-372.
- Driskell, J. E., Goodwin, G. F., Salas, E., & O'Shea, P. G. (2006). What makes a good team player? Personality and team effectiveness. *Group Dynamics: Theory, Research, and Practice*, 10(4), 249-271.
- Dweck, C. S. (1986). Motivational processes affecting learning. *American Psychologist*, 41(10), 1040-1048
- Dweck, C. S., & Leggett, E. L. (1988). A social-cognitive approach to motivation and personality. *Psychological review*, 95(2), 256.
- Elliot, A. J., & Thrash, T. M. (2002). Approach-avoidance motivation in personality: Approach and avoidance temperaments and goals. *Journal of Personality and Social Psychology*, 82(5), 804-814.

- Folkman, S., & Lazarus, R. S. (1980). An analysis of coping in a middle-aged community sample. *Journal of Health and Social Behavior*, 21(3), 219-239.
- Fox, S., & Spector, P. E. (1999). A model of work frustration-aggression. *Journal of Organizational Behavior*, 20(6), 915-931.
- Fox, S., Spector, P. E., & Miles, D. (2001). Counterproductive work behavior (CWB) in response to job stressors and organizational justice: Some mediator and moderator tests for autonomy and emotions. *Journal of Vocational Behavior*, 59(3), 291-309.
- Gagne, P., & Hancock, G. R. (2006). Measurement model quality, sample size, and solution propriety in confirmatory factor models. *Multivariate Behavioral Research*, 41(1), 65-83
- Ghitulescu, B. E. (2013). Making change happen: The impact of work context on adaptive and proactive behaviors. *The Journal of Applied Behavioral Science*, 49(2), 206-245.
- Grant, A. M., & Ashford, S. J. (2008). The dynamics of proactivity at work. *Research in Organizational Behavior*, 28, 3-34.
- Grant, H., & Higgins, E. T. (2003). Optimism, promotion pride, and prevention pride as predictors of quality of life. *Personality and Social Psychology Bulletin*, 29(12), 1521-1532.
- Griffin, B., & Hesketh, B. (2003). Adaptable behaviours for successful work and career adjustment. *Australian Journal of psychology*, 55(2), 65-73.
- Griffin, B., & Hesketh, B. (2005). Are conscientious workers adaptable? *Australian Journal of Management*, 30(2), 245-259.
- Griffin, M. A., Hodkiewicz, M. R., Cordery, J.L., Dunster, J., Kanse, L., Parkes, K. R., Finnerty, D., & Unsworth, K. L. (2014). A conceptual framework and practical guide for assessing fitness-to-operate in the offshore oil and gas industry. *Accident Analysis & Prevention*, 68, 156-171.
- Griffin, M. A., Neal, A., & Parker, S. K. (2007). A new model of work role performance: Positive behavior in uncertain and interdependent contexts. *Academy of Management Journal*, 50(2), 327-347.

- Griffin, M. A., Parker, S. K., & Mason, C. M. (2010). Leader vision and the development of adaptive and proactive performance: A longitudinal study. *Journal of Applied Psychology, 95*(1), 174-182.
- Haws, K. L., Dholakia, U. M., & Bearden, W. O. (2010). An assessment of chronic regulatory focus measures. *Journal of Marketing Research, 47*(5), 967-982.
- Higgins, E. T. (1998). Promotion and prevention: Regulatory focus as a motivational principle. *Advances in Experimental Social Psychology, 30*, 1-46.
- Hogan, R. (1986). *Manual for the Hogan Personality Inventory*. Minneapolis: National Computer Systems.
- Hogan, R., & Blicke, G. (2013). Socioanalytic theory. In N. D. Christiansen & R. P. Tett (Eds.), *Handbook of Personality at Work*, New York: Routledge.
- Holladay, C. L., & Quiñones, M. A. (2003). Practice variability and transfer of training: The role of self-efficacy generality. *Journal of Applied Psychology, 88*(6), 1094-1103.
- Hornung, S., & Rousseau, D. M. (2007). Active on the job—proactive in change: How autonomy at work contributes to employee support for organizational change. *The Journal of Applied Behavioral Science, 43*(4), 401-426.
- Hu, L.T., & Bentler, P. (1995). Evaluating model fit. In R. H. Hoyle (Ed.), *Structural Equation Modeling. Concepts, Issues, and Applications*, 76-99. London: Sage.
- Huang, J. L., Ryan, A. M., Zabel, K. L., & Palmer, A. (2014). Personality and adaptive performance at work: A meta-analytic investigation. *Journal of Applied Psychology, 99*(1), 162-179.
- Hwang, P. C., Han, M. C., & Chiu, S. F. (2015). Role breadth self-efficacy and foci of proactive behavior: Moderating role of collective, relational, and individual self-concept. *The Journal of psychology, 149*(8), 846-865.
- Ivancic, K., & Hesketh, B. (2000). Learning from errors in a driving simulation: Effects on driving skill and self-confidence. *Ergonomics, 43*(12), 1966-1984.
- Johnson, J. W. (2001). The relative importance of task and contextual performance dimensions to supervisor judgments of overall performance. *Journal of Applied Psychology, 86*(5), 984-996.

- Joung, W., Hesketh, B., & Neal, A. (2006). Using “war stories” to train for adaptive performance: Is it better to learn from error or success? *Applied Psychology: An International Review*, 55(2), 282-302.
- Jundt, D. K., Shoss, M. K., & Huang, J. L. (2015). Individual adaptive performance in organizations: A review. *Journal of Organizational Behavior*, 36(S1), S53-S71.
- Keith, N., & Frese, M. (2005). Self-regulation in error management training: emotion control and metacognition as mediators of performance effects. *Journal of Applied Psychology*, 90(4), 677-691.
- Koopmans, L., Bernaards, C. M., Hildebrandt, V. H., Schaufeli, W. B., de Vet Henrica, C. W., & Van der Beek, A. J. (2011). Conceptual frameworks of individual work performance: A systematic review. *Journal of Occupational and Environmental Medicine*, 53(8), 856-866.
- Kosinski, M., Matz, S.M., Gosling, S.D., Popov, V., Stillwell, D. (2015). Facebook as a research tool for the social sciences: Opportunities, challenges, ethical considerations, and practical guidelines. *American Psychologist*, 7(6), 543-556.
- Kozlowski, S. W. J., & Bell, B. S. (2008). Team learning, development, and adaptation. In V. I. Sessa & M. London (Eds.), *Group learning*. 15-44. Mahwah, NJ: Lawrence Erlbaum.
- Kozlowski, S. W. J., & Rench, T. (2009). Individual differences, adaptability, and adaptive performance: A conceptual analysis and research summary (Tech. Rep. No. 08146). *Research Triangle Park, NC: Battelle Scientific Services*.
- Kozlowski, S. W. J., Gully, S. M., Nason, E. R., & Smith, E. M. (1999). Developing adaptive teams: A theory of compilation and performance across levels and time. In D. R. Ilgen & E. D. Pulakos (Eds.), *The changing nature of work performance: Implications for staffing, personnel actions, and development*: 240-292. San Francisco: Jossey-Bass.
- Kozlowski, S. W. J., Gully, S. M., Salas, E., & Cannon-Bowers, J. A. (1996). Team leadership and development: Theory, principles, and guidelines for training leaders and teams. In M. Beyerlein, D. Johnson, & S. Beyerlein (Eds.), *Advances in interdisciplinary studies of work teams: Team leadership*, 3, 251-289. Greenwich, CT: JAI.

- Kozlowski, S. W. J., Watola, D. J., Nowakowski, J. M., Kim, B. H., & Botero, I. C. (2009). Developing adaptive teams: A theory of dynamic team leadership. In E. Salas, G. F. Goodwin, & C. S. Burke (Eds.), *Team effectiveness in complex organizations: Cross-disciplinary perspectives and approaches (SIOP Frontier Series)*: 113-155. Mahwah, NJ: Lawrence Erlbaum.
- Kuntz, J. R., Näswall, K., & Malinen, S. (2016). Resilient employees in resilient organizations: Flourishing beyond adversity. *Industrial and Organizational Psychology, 9*(2), 456-462.
- Kurtz, J. E., Puher, M. A., & Cross, N. A. (2012). Prospective prediction of college adjustment using self-and informant-rated personality traits. *Journal of personality assessment, 94*(6), 630-637.
- Lanaj, K., Chang, C.-H. "D.", & Johnson, R. E. (2012). Regulatory focus and work-related outcomes: A review and meta-analysis. *Psychological Bulletin, 138*(5), 998-1034.
- Lang, J. W. B., & Bliese, P. D. (2009). General mental ability and two types of adaptation to unforeseen change: Applying discontinuous growth models to the task-change paradigm. *Journal of Applied Psychology, 94*(2), 411-428.
- Laschinger, H. K. S., & Leiter, M. P. (2006). The impact of nursing work environments on patient safety outcomes: The mediating role of burnout engagement. *Journal of Nursing Administration, 36*(5), 259-267.
- Lazarus, R. S. (1993). Coping theory and research: Past, present, and future. *Psychosomatic Medicine, 55*, 234-247.
- Leach, J. (2004). Why people 'freeze' in an emergency: Temporal and cognitive constraints on survival responses. *Aviation, Space, and Environmental Medicine, 75*(6), 539-542.
- Lee, O. F., Tan, J. A., & Javalgi, R. (2010). Goal orientation and organizational commitment: Individual difference predictors of job performance. *International Journal of Organizational Analysis, 18*(1), 129-150.
- Lenberg, P., Tengberg, L. G. W., & Feldt, R. (2017). An initial analysis of software engineers' attitudes towards organizational change. *Empirical Software Engineering, 22*(4), 2179-2205.

- LePine, J. A. (2005). Adaptation of teams in response to unforeseen change: Effects of goal difficulty and team composition in terms of cognitive ability and goal orientation. *Journal of Applied Psychology, 90*(6), 1153-1167.
- LePine, J. A., & Van Dyne, L. (1998). Predicting voice behavior in work groups. *Journal of Applied Psychology, 83*(6), 853-868.
- LePine, J. A., & Van Dyne, L. (2001). Voice and cooperative behavior as contrasting forms of contextual performance: evidence of differential relationships with big five personality characteristics and cognitive ability. *Journal of Applied Psychology, 86*(2), 326-336
- LePine, J. A., Colquitt, J. A., & Erez, A. (2000). Adaptability to changing task contexts: Effects of general cognitive ability, conscientiousness, and openness to experience. *Personnel Psychology, 53*(3), 563-593.
- Liang, J., Farh, C. I., & Farh, J. L. (2012). Psychological antecedents of promotive and prohibitive voice: A two-wave examination. *Academy of Management Journal, 55*(1), 71-92.
- Lin, S. H. J., & Johnson, R. E. (2015). A suggestion to improve a day keeps your depletion away: Examining promotive and prohibitive voice behaviors within a regulatory focus and ego depletion framework. *Journal of Applied Psychology, 100*(5), 13-81.
- Linares-Vásquez, M., Vendome, C., Tufano, M., & Poshyvanyk, D. (2017). How developers micro-optimize Android apps. *Journal of Systems and Software, 130*, 1-23.
- Lockwood, P., Jordan, C. H., & Kunda, Z. (2002). Motivation by positive or negative role models: Regulatory focus determines who will best inspire us. *Journal of Personality and Social Psychology, 83*(4), 854-864.
- Lok, P., & Crawford, J. (1999). The relationship between commitment and organizational culture, subculture, leadership style and job satisfaction in organizational change and development. *Leadership & Organization Development Journal, 20*(7), 365-374.
- Marks, M. A., Zaccaro, S. J., & Mathieu, J. E. (2000). Performance implications of leader briefings and team-interaction training for team adaptation to novel environments. *Journal of Applied Psychology, 85*(6), 971-986.

- Marlow, K. K. (2016). *The Difference between Coping and Winning: The Relationships of Adaptive Performance, Engagement, and Conscientiousness* (Doctoral dissertation) Middle Tennessee State University.
- Marsh, H. W., Hau, K. T., Balla, J. R., & Grayson, D. (1998). Is more ever too much? The number of indicators per factor in confirmatory factor analysis. *Multivariate Behavioral Research, 33*(2), 181-220.
- Mason, W., & Suri, S. (2012). Conducting behavioral research on Amazon's Mechanical Turk. *Behavior Research Methods, 44*(1), 1-23.
- Masten, A. S., Best, K. M., & Garmezy, N. (1990). Resilience and development: Contributions from the study of children who overcome adversity. *Development and Psychopathology, 2*(4), 425-444.
- Matsumoto, D., & Juang, L. (2016). *Culture and psychology*. Nelson Education.
- Matsumoto, D., Hiramaya, S., & LeRoux, J. A. (2006). Psychological skills related to intercultural adjustment. In *Handbook of Multicultural Perspectives on Stress and Coping*. 387-405. Springer, Boston, MA.
- Matsumoto, D., Yoo, S. H., & LeRoux, J. A. (2007). Emotion and intercultural adjustment. *Handbook of applied linguistics, 7*, 77-97.
- McCrae, R. R., & Costa Jr, P. T. (1999). A five-factor theory of personality. *Handbook of Personality: Theory and Research, 2*, 139-153.
- Millenson, M. L. (2003). The silence. *Health Affairs, 22*(2), 103-112.
- Morrison, E. W., & Milliken, F. J. (2000). Organizational silence: A barrier to change and development in a pluralistic world. *Academy of Management Review, 25*(4), 706-725.
- Motowildo, S. J., Borman, W. C., & Schmit, M. J. (1997). A theory of individual differences in task and contextual performance. *Human Performance, 10*(2), 71-83.
- Murphy, S. L. (2015). *Individual adaptability as a predictor of job performance* (master's thesis). Louisiana Tech University, Ruston, LA.

- Nahrgang, J. D., Morgeson, F. P., & Hofmann, D. A. (2011). Safety at work: A meta-analytic investigation of the link between job demands, job resources, burnout, engagement, and safety outcomes. *Journal of Applied Psychology, 96*(1), 71-94.
- Neal, A., & Griffin, M. A. (1997, April). Perceptions of safety at work: Developing a model to link organizational safety climate and individual behavior. In *12th Annual Conference of the Society for Industrial and Organizational Psychology, St. Louis, MO*.
- Neal, A., Griffin, M. A., & Hart, P. M. (2000). The impact of organizational climate on safety climate and individual behavior. *Safety Science, 34*(1), 99-109.
- Neal, A., Yeo, G., Koy, A., & Xiao, T. (2012). Predicting the form and direction of work role performance from the Big 5 model of personality traits. *Journal of Organizational Behavior, 33*(2), 175-192.
- Nettle, D. (2006). The evolution of personality variation in humans and other animals. *American Psychologist, 61*(6), 622.
- Niessen, C., Swarowsky, C., & Leiz, M. (2010). Age and adaptation to changes in the workplace. *Journal of Managerial Psychology, 25*(4), 356-383.
- Noelle-Neumann, E. (1974). The spiral of silence a theory of public opinion. *Journal of Communication, 24*(2), 43-51.
- Noelle-Neumann, E. (1983). The effect of media on media effects research. *Journal of Communication, 33*(3), 157-165.
- Okuyama, A., Wagner, C., & Bijnen, B. (2014). Speaking up for patient safety by hospital-based health care professionals: a literature review. *BMC Health Services Research, 14*(1), 14-61.
- Onyishi, I. E., & Ogbodo, E. (2012). The contributions of self-efficacy and perceived organisational support when taking charge at work. *SA Journal of Industrial Psychology, 38*(1), 1-11.
- Organ, D. W. (1988). Organizational citizenship behavior: The good soldier syndrome. *The Academy of Management Review, 14*(2), 294-297.

- Ouschan, L., Boldero, J. M., Kashima, Y., Wakimoto, R., & Kashima, E. S. (2007). Regulatory focus strategies scale: A measure of individual differences in the endorsement of regulatory strategies. *Asian Journal of Social Psychology, 10*(4), 243-257.
- Parker, S. (2000). From passive to proactive motivation: The importance of flexible role orientations and role breadth self-efficacy. *Applied Psychology, 49*(3), 447-469.
- Parker, S. K. (1998). Enhancing role breadth self-efficacy: The roles of job enrichment and other organizational interventions. *Journal of Applied Psychology, 83*(6), 835-852.
- Parker, S. K., & Collins, C. G. (2010). Taking stock: Integrating and differentiating multiple proactive behaviors. *Journal of Management, 36*, 633–662.
- Patra, B. N., & Sarkar, S. (2013). Adjustment disorder: Current diagnostic status. *Indian Journal of Psychological Medicine, 35*(1), 4.
- Perlow, L., & Williams, S. (2003). Is silence killing your company? *Harvard Business Review, 31*(4), 18-23.
- Petrou, P., Demerouti, E., & Häfner, M. (2015). When fit matters more: The effect of regulatory fit on adaptation to change. *European Journal of Work and Organizational Psychology, 24*(1), 126-142.
- Ployhart, R. E., & Bliese, P. D. (2006). Individual adaptability (I-ADAPT) theory: Conceptualizing the antecedents, consequences, and measurement of individual differences in adaptability. In *Understanding adaptability: A prerequisite for effective performance within complex environments*. 3-39. Emerald Group Publishing Limited.
- Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *The Journal of Applied Psychology, 88*(5), 879–903.
- Porath, C. L., & Bateman, T. S. (2006). Self-regulation: From goal orientation to job performance. *Journal of Applied Psychology, 91*(1), 185-192.
- Pulakos, E. D., Arad, S., Donovan, M. A., & Plamondon, K. E. (2000). Adaptability in the workplace: development of a taxonomy of adaptive performance. *Journal of applied psychology, 85*(4), 612-624.

- Pulakos, E. D., Borman, W. C., & Hough, L. M. (1988). Test validation for scientific understanding: Two demonstrations of an approach to studying predictor-criterion linkages. *Personnel Psychology*, *41*(4), 703-716.
- Pulakos, E. D., Schmitt, N., Dorsey, D. W., Arad, S., Borman, W. C., & Hedge, J. W. (2002). Predicting adaptive performance: Further tests of a model of adaptability. *Human performance*, *15*(4), 299-323.
- Roberto, M. A., Edmondson, A. C., & Bohmer, R. M. (2006). Columbia's Final Mission. *Harvard Business School Case Study*.
- Rosen, M. A., Bedwell, W. L., Wildman, J. L., Fritzsche, B. A., Salas, E., & Burke, C. S. (2011). Managing adaptive performance in teams: Guiding principles and behavioral markers for measurement. *Human Resource Management Review*, *21*(2), 107-122.
- Russo, S. J., Murrough, J. W., Han, M. H., Charney, D. S., & Nestler, E. J. (2012). Neurobiology of resilience. *Nature Neuroscience*, *15*(11), 14-75.
- Scaduto, A., Lindsay, D., & Chiaburu, D. S. (2008). Leader influences on training effectiveness: *Motivation and outcome expectation processes*. *International Journal of Training and Development*, *12*(3), 158-170.
- Schmitt, N., Cortina, J. M., Ingerick, M. J., & Wiechmann, D. (2003). Personnel selection and employee performance. *Handbook of psychology*.
- Seery, M. D., Holman, E. A., & Silver, R. C. (2010). Whatever does not kill us: Cumulative lifetime adversity, vulnerability, and resilience. *Journal of personality and social psychology*, *99*(6), 10-25.
- Shaffer, M. A., Harrison, D. A., & Gilley, K. M. (1999). Dimensions, determinants, and differences in the expatriate adjustment process. *Journal of International Business Studies*, *30*(3), 557-581.
- Shoss, M. K., Witt, L. A., & Vera, D. (2012). When does adaptive performance lead to higher task performance? *Journal of organizational behavior*, *33*(7), 910-924.
- Sonnentag, S., & Spychala, A. (2012). Job control and job stressors as predictors of proactive work behavior: Is role breadth self-efficacy the link?. *Human Performance*, *25*(5), 412-431.
- Spector, P. E. (1992). *Summated Rating Scale Construction: An Introduction*, Basic Measurement, in M. S. Lewis-Beck (ed.), Sage, London.

- Stokes, C. K., Schneider, T. R., & Lyons, J. B. (2010). Adaptive performance: A criterion problem. *Team Performance Management*, 16(3), 212-230.
- Sullivan, H. W., Worth, K. A., Baldwin, A. S., & Rothman, A. J. (2006). The effect of approach and avoidance referents on academic outcomes: A test of competing predictions. *Motivation and Emotion*, 30(2), 156-163.
- Suls, J., & Fletcher, B. (1985). The relative efficacy of avoidant and nonavoidant coping strategies: A meta-analysis. *Health Psychology*, 4(3), 249-288.
- Summerville, A., & Roese, N. J. (2008). Self-report measures of individual differences in regulatory focus: A cautionary note. *Journal of research in personality*, 42(1), 247-254.
- Swickert, R. J., Rosentreter, C. J., Hittner, J. B., & Mushrush, J. E. (2002). Extraversion, social support processes, and stress. *Personality and Individual Differences*, 32(5), 877-891.
- Tangirala, S., & Ramanujam, R. (2008). Employee silence on critical work issues: The cross-level effects of procedural justice climate. *Personnel Psychology*, 61(1), 37-68.
- Tidwell, M., & Sias, P. (2005). Personality and information seeking: Understanding how traits influence information-seeking behaviors. *The Journal of Business Communication*, 42(1), 51-77.
- Tornau, K., & Frese, M. (2013). Construct clean-up in proactivity research: A meta-analysis on the nomological net of work-related proactivity concepts and their incremental validities. *Applied Psychology*, 62(1), 44-96.
- Turnbull, S. (2002). The planned and unintended emotions generated by a corporate change program. *Advances in Developing Human Resources*, 4(1), 22-38.
- Van Dyne, L., & LePine, J. A. (1998). Helping and voice extra-role behaviors: Evidence of construct and predictive validity. *Academy of Management Journal*, 41(1), 108-119.
- Van Dyne, L., Cummings, L. L., & Mcleamm-Parks, J. (1995). Extra-role behaviors-in pursuit of construct and definitional clarity (a bridge over muddied waters). *Research In Organizational Behavior: An Annual Series Of Analytical Essays And Critical Reviews*, 17, 215-285.

- VandeWalle, D. (1997). Development and validation of a work domain goal orientation instrument. *Educational and Psychological Measurement*, 57(6), 995-1015.
- Van-Dijk, D., & Kluger, A. N. (2004). Feedback sign effect on motivation: Is it moderated by regulatory focus? *Applied Psychology*, 53(1), 113-135.
- Wallace, C., & Chen, G. (2006). A multilevel integration of personality, climate, self-regulation, and performance. *Personnel Psychology*, 59(3), 529-557.
- Wallace, J. C., Johnson, P. D., & Frazier, M. L. (2009). An examination of the factorial, construct, and predictive validity and utility of the regulatory focus at work scale. *Journal of Organizational Behavior*, 30(6), 805-831.
- Wallace, J. C., Little, L. M., & Shull, A. (2008). The moderating effects of task complexity on the relationship between regulatory foci and safety and production performance. *Journal of Occupational Health Psychology*, 13(2), 95-104.
- Ward, C. (2001). The A, B, Cs of acculturation. *The Handbook of Culture and Psychology*, 411-445.
- Weinberger, D. A. (1990). The construct validity of the repressive coping style. *Repression and Dissociation: Implications for Personality Theory, Psychopathology, and Health*, 337-386.
- Weiss, M. G., Saraceno, B., Saxena, S., & Van Ommeren, M. (2003). Mental health in the aftermath of disasters: consensus and controversy. *The Journal of Nervous and Mental Disease*, 191(9), 611-615.
- Wihler, A., Meurs, J. A., Wiesmann, D., Troll, L., & Blickle, G. (2017). Extraversion and adaptive performance: Integrating trait activation and socioanalytic personality theories at work. *Personality and Individual Differences*, 116, 133-138.
- Woo, S. E., Chernyshenko, O. S., Stark, S. E., & Conz, G. (2013). Validity of six openness facets in predicting work behaviors: A meta-analysis. *Journal of Personality Assessment*, 96(1), 76-86.

- Wu, C. H., Parker, S. K., & Bindl, U. K. (2013). Who is proactive and why? Unpacking individual differences in employee proactivity. In *Advances in positive organizational psychology*, 261-280. Emerald Group Publishing Limited.
- Wu, C., McMullen, J. S., Neubert, M. J., & Yi, X. (2008). The influence of leader regulatory focus on employee creativity. *Journal of Business Venturing*, 23(5), 587-602.
- Yoo, S. H., Matsumoto, D., & LeRoux, J. A. (2006). The influence of emotion recognition and emotion regulation on intercultural adjustment. *International Journal of Intercultural Relations*, 30(3), 345-363.
- Yukl, G., & Mahsud, R. (2010). Why flexible and adaptive leadership is essential. *Consulting Psychology Journal: Practice and Research*, 62(2), 81-93.
- Zaccaro, S. J., Banks, D., Kiechel-Koles, L., Kemp, C., & Bader, P. (2009). *Leader and team adaptation: The influence and development of key attributes and processes* (Tech. Rep. No. 1256). Arlington, VA: U.S. Army Research Institute for the Behavioral and Social Sciences.
- Zhang, H.Y., Wang, S.J., Xing, J., Liu, B., Ma, Z.L., Yang, M., Zhang, Z.J. & Teng, G.J., (2009). Detection of PCC functional connectivity characteristics in resting-state fMRI in mild Alzheimer's disease. *Behavioural Brain Research*, 197(1), 103-108.

## APPENDIX A ADAPTATION DEFINITIONS

### PARTICIPANT 1:

Adaptation: Active process in which individuals engage in determining how they will fit into a long-term environment and makes lasting changes in order to do so.

### PARTICIPANT 2:

Adaption: Changing someone's/something's parts entirely to fit into the given environment/situation. This change may last longer than change result from adjustment.

ex) This plant has adapted to the new climate. I was trying to adapt myself to living abroad.

### PARTICIPANT 3:

Situation: it happens more in situations when people get into a new environment

Attitude: I think adaptation happens with a more positive manner meaning that people are willing to/eager to make efforts to make changes in themselves to meet the rules of the environment

Duration: I think it takes more time to be adapted in general even though there will be individual difference (some people are more adaptive and the others are slower)

Adaptation is more like an active action with me myself unconsciously be affected by the environment and make changes to meet the environment

### PARTICIPANT 4:

Be aware of the situation, able to change one's cognitions and behaviors according to the context. It's deep level.

### PARTICIPANT 5:

Adaptability is the ability people develop to fit in the environment

**PARTICIPANT 6:**

Adaptability refers to one's ability to get acclimated to a different situation or environment that requires an individual doing so.

**PARTICIPANT 7:**

Adapting is when you are forced to change yourself in some way to become effective in a particular setting or situation; you are getting used to something novel.

**PARTICIPANT 8:**

Adaptability seems to have a slightly more positive connotation (adjustment can go either way, seems like adaptation less so), seems more active, seems deeper, more long-term

**PARTICIPANT 9:**

The ability to cope with a situation or an environment in order to gain best outcomes. (mainly tangible changes)

**PARTICIPANT 10:**

Being flexible and able to adjust to a number of different possible situations

**PARTICIPANT 11:**

The ability to change one's thoughts / behaviors to be able to thrive in any given situation

**PARTICIPANT 12:**

Adaptability is the ability to change a situation and adapt to a new environment

**PARTICIPANT 13:**

The ability to adjust to different situations based off of the needs of you or the people around you.

## APPENDIX B

### ADJUSTMENT DEFINITIONS

**PARTICIPANT 1:**

Adjustment: A process in which individuals find ways to cope with their present environment in order to reduce discomfort

**PARTICIPANT 2:**

Adjustment: Changing a way of doing something (behavior), or a way of thinking to resolve conflicting issues. It can be a temporary change.

ex) I should adjust volume of radio sound to talk with my friend.

**PARTICIPANT 3:**

Situation: I think adjustment is more on tasks or specific aspects of life

Attitude: Can be willingly doing adjustment or force to do that?

Duration: can be done in a short period of time

adjustment is more direct and straightforward, and it can be something that been pointed out by others and then I make corresponding changes

**PARTICIPANT 4:**

Be aware of the situation, able to change's one's behaviors according to the context.

It's surface level.

**PARTICIPANT 5:**

Adjustment is the corrected action people make to achieve the standard

**PARTICIPANT 6:**

Adjustment refers to one's action of making small changes to fit into a situation or environment.

**PARTICIPANT 7:**

Adjusting is more like altering yourself or a situation in that moment or in that context but in a sense, is not as extreme as adaptation; when you make an adjustment, you need to change in order to establish good fit.

**PARTICIPANT 8:**

Adjustment seems slightly more passive, seems more surface-level, smaller, more short-term. A process in which individuals find ways to cope with their present environment in order to reduce discomfort.

**PARTICIPANT 9:**

The way persons modify or change their concepts or opinions to put themselves in a better situation than before (mainly cognitive changes)

**PARTICIPANT 10:**

Being able to accommodate oneself quickly and easily to different situations

**PARTICIPANT 11:**

Adjustment is the act of changing one's behaviors so as to better facilitate an interaction between two parties

**PARTICIPANT 12:**

Adjustment is getting used to novel situations

**PARTICIPANT 13:**

The ability to ease yourself into a situation.

## APPENDIX C

### STUDY 1 REDUCED ITEM BANK

#### **Adjustment**

*Handling emergencies or crisis situations: high score means high adjustment*

I can handle the pressure of an emergency situation.

I would feel comfortable if I had to lead in an emergency situation.

I can keep a clear mind and remain focused during emergency situations.

In an emergency, I act with urgency and appropriately to find a solution

In an emergency, I maintain my composure while searching for a solution

When dealing with an unexpected emergency at work, I am able to keep my emotions in check.

I remain calm and collected while dealing with work emergencies.

I am able to think clearly when experiencing an emergency at work.

I get headaches and nausea when handling crisis situations.

*Handling work stress: high score means high adjustment*

I feel I can handle stress from work.

Stress from work impacts my mental health negatively. (Reverse)

I remain professional in the face of stressful work circumstances.

When I receive shocking news, I remain calm

When encountering difficult circumstances at work, I often feel stressed. (Reverse)

When feeling stressed at work, I am able to be constructive.

When things go wrong, I tend to blame others. (Reverse)

My stress levels at work effect my performance. (Reverse)

I get overwhelmed because of work and it causes me to perform poorly.

*Demonstrating interpersonal adaptability: High on reactive form means high on adjustment*

*Reactive form:*

I'm flexible and open-minded when interacting with those around me.

I am receptive of negative feedback at work.

*Dealing with uncertain work situations: High on the reactive form means high adjustment*

*Reactive form:*

I can be flexible when an unclear situation changes.

**Adaptation**

*Demonstrating interpersonal adaptability: high on the proactive form means high on adaptation*

*Proactive form:*

I understand the motivations and behaviors of those around me.

I do not get along well with individuals who are different than me. (Reverse)

*Dealing with uncertain work situations: high on the proactive form means high adaptation*

*Proactive form:*

I am able to lead others when there is little direction provided.

I need guidance in dealing with novel situations. (Reverse)

*Solving problems creatively: high scores mean high on adaptation*

I can provide solutions to complex problems.

When a problem arises that I have not been trained for, I can solve the issue.

I am often able to generate new ideas to solve problems.

*Learning work tasks, technologies, and procedures: high scores mean high on adaptation*

I am able to easily learn new technology to accomplish tasks.

I find it difficult to learn new tools or technology at work. (Reverse)

I learn from others when they have a different technique from me.

I am constantly learning on the job from people around me.

*Demonstrating Cultural Adaptability: high scores mean high on adaptation*

I am able to successfully integrate myself into other cultures.

I am flexible to modify my own behavior or appearance to 'fit in' with a culture when appropriate to do so.

I feel it is important to modify my own behavior at times in order to respect someone else's culture or values.

I am aware that my well-intended actions have the possibility to offend others who are different from me.

I value getting to know cultures, values, and viewpoints that differ from my own.

Other cultural viewpoints are valuable to my own personal understanding and development.

I am able to use my cultural understanding to persuade and leverage a situation.

**APPENDIX D**  
**STUDY 2 RECRUITMENT EMAIL**

Good morning!

My name is Kayla Hoelzel a graduate student at Florida Institute of Technology. I am contacting you for participation in a quick online survey.

This survey will take less than 5 minutes and will be used to refine items in the development of a scale measuring adaptation and adjustment. This scale will be used to assess registered nurses at a large hospital and your participation is important to improving the quality of this scale.

You can access this survey at this [anonymous link].

Thank you for assisting in my scale refinement effort! If you have any questions, you can contact myself at 561-267-1050 or through email at [khoelzel2016@my.fit.edu](mailto:khoelzel2016@my.fit.edu)

Thank you,

## APPENDIX E

### STUDY 2 ITEM DESCRIPTIVES

**Table 3:** *Study 2 Adaptation and Adjustment Item Descriptives*

Dimension	Item	N	Min	Max	M	SD
Adjustment	1. I can handle the pressure of an emergency situation	182	2	7	6.14	.96
	2. I would feel comfortable if I had to lead in an emergency situation	180	1	7	5.52	1.41
	3. I can keep a clear mind and remain focused during emergency situations	180	2	7	6.12	.94
	4. In an emergency, I act with urgency and appropriately to find a solution.	181	3	7	6.28	.78
	5. In an emergency, I maintain my composure while searching for a solution.	181	3	7	6.22	.79
	6. When dealing with an unexpected emergency at work, I am able to keep my emotions in check	181	3	7	6.18	.75
	7. I remain calm and collected while dealing with work emergencies	181	2	7	6.20	.81
	8. I am able to think clearly when experiencing an emergency at work	181	2	7	6.08	.90
	9. I get headaches and nausea when handling crisis situations (Reverse)	180	1	6	1.63	.96
Handling Emergencies or Crisis Situations	10. I feel I can handle stress from work	181	2	7	6.02	.92
	11. Stress from work impacts my mental health negatively (Reverse)	181	1	7	4.10	1.87
	12. I remain professional in the face of stressful work circumstances	181	4	7	6.24	.67
	13. When I receive shocking news, I remain calm	181	2	7	5.66	1.09
	14. When encountering difficult situations at work, I often feel stressed (Reverse)	180	1	7	3.54	1.59
Handling Work Stress						

		15. When feeling stressed at work, I am able to be constructive.	181	2	7	5.75	1.03
		16. When things go wrong, I tend to blame others (Reverse)	181	3	7	5.95	1.05
		17. My stress levels at work effect my performance (Reverse)	180	1	7	4.66	1.82
		18. I get overwhelmed because of work and it causes me to perform poorly (Reverse)	181	1	6	2.13	1.05
	Demonstrating Interpersonal Adaptability: Reactive Form	19. I'm flexible and open-minded when interacting with those around me	178	4	7	6.25	.65
		20. I am receptive of negative feedback at work	177	2	7	5.53	1.05
	Dealing with Uncertain Work Situations: Reactive Form	21. I can be flexible when an unclear situation changes	178	4	7	5.94	.73
Adaptation	Demonstrating Interpersonal Adaptability: Proactive Form	1. I understand the motivations and behaviors of those around me	177	2	7	5.46	1.07
		2. I do not get along well with individuals who are different than me (Reverse)	178	2	7	6.11	1.07
	Dealing with Uncertain Work Situations: Proactive Form	3. I am able to lead others when there is little direction provided	178	4	7	6.11	.72
		4. I need guidance in dealing with novel situations (Reverse)	178	1	7	4.86	1.54
	Solving Problems Creatively	5. I can provide solutions to complex problems	172	3	7	5.94	.86
		6. When a problem arises that I have not been trained for, I can solve the issue	171	2	7	5.45	.98
		7. I am often able to generate new ideas to solve problems	170	3	7	5.80	.89
	Learning Work Tasks, Technologies, and Procedures	8. I am able to easily learn new technology to accomplish tasks	171	2	7	5.79	1.06
		9. I find it difficult to learn tools or technology at work (Reverse)	170	2	7	5.62	1.36
		10. I learn from others when they have a different technique from me	171	4	7	6.09	.63
		11. I am constantly learning on the job from people around me	171	4	7	6.25	.75

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	12. I am able to successfully integrate myself into other cultures	168	3	7	5.87	.80
	13. I am flexible to modify my own behavior or appearance to 'fit in' with a culture when appropriate to do so	167	3	7	5.67	.98
	14. I feel it is important to modify my own behavior at times in order to respect someone else's culture or values	167	3	7	5.88	.82
Demonstrating Cultural Adaptability	15. I am aware that my well-intended actions have the possibility to offend others who are different from me.	167	3	7	5.72	.92
	16. I value getting to know cultures, values and viewpoints that differ from my own	166	4	7	6.18	.77
	17. Other cultural viewpoints are valuable to my own personal understanding and development	167	3	7	6.10	.82
	18. I am able to use my cultural understanding to persuade and leverage a situation	166	4	7	5.52	.93

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## APPENDIX F STUDY 2 EFA AND CFA TABLES

**Table 4:** *Study 2 Adjustment EFA Results*

	15 Item EFA (TCV=63.54%)				12 Item EFA (TCV=65.94%)				11 Item EFA (TCV=56.93%)			10 Item EFA (TCV=58.09%)							
	Extracted	Comm	Factor 1	Factor 2	Factor 3	Extracted	Comm	Factor 1	Factor 2	Factor 3	Extracted	Comm	Factor 1	Factor 2	Extracted	Comm	Factor 1	Factor 2	
1. I can handle the pressure of an emergency situation	.66		.87			.68		.86			.67		.85		.66		.83		
2. I would feel comfortable if I had to lead in an emergency situation	.64		.91			.65		.87			.56		.80		.58		.84		
3. I can keep a clear mind and remain focused during emergency situations	.80		.85			.80		.83			.80		.86		.79		.84		
4. In an emergency, I act with urgency and appropriately to find a solution.	.72		.84			.72		.81			.72		.83		.73		.86		
5. In an emergency, I maintain my composure while searching for a solution.	.67		.65			.67		.65			-		-		-		-		
6. When dealing with an unexpected emergency at work, I am able to keep my emotions in check	.67		.47	.45		-		-	-	-	-		-		-		-		
7. I remain calm and collected while dealing with work emergencies	.66		.54			-		-	-	-	-		-		-		-		
8. I am able to think clearly when experiencing an emergency at work	.63		.69			.61		.66			.61		.70		.61		.65		
10. I feel I can handle stress from work	.33					-		-	-	-	-		-		-		-		
12. I remain professional in the face of stressful work circumstances	.48			.75		.45		.69			.36		.57		.35		.60		
13. When I receive shocking news, I remain calm	.24					.24					.23				.26		.47		
15. When feeling stressed at work, I am able to be constructive.	.37			.55		.38		.55			.32		.45		.35		.53		
19. I'm flexible and open-minded when interacting with those around me	.42			.59		.48		.56			.52		.78		-		-		
20. I am receptive of negative feedback at work	.50				.65	.42			.62		.19				.16				
21. I can be flexible when an unclear situation changes	.36			.42		.39			.45		.34		.62		.30		.62		

**Table 5: Study 2 Adaptation EFA Results**

	18 Item EFA (TCV=62.42%)					15 Item EFA (TCV=64.50%)				14 Item EFA (TCV=60.26%)			9 Item EFA (TCV=55.26%)										
	Extracted	Comm	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Extracted	Comm	Factor 1	Factor 2	Factor 3	Factor 4	Extracted	Comm	Factor 1	Factor 2	Factor 3	Extracted	Comm	Factor 1	Factor 2	
1. I understand the motivations and behaviors of those around me	.19																						
2. I do not get along well with individuals who are different than me (Reverse)	.14																						
3. I am able to lead others when there is little direction provided	.48	.49						.42	.55					.40		.52							
4. I need guidance in dealing with novel situations (Reverse)	.13																						
5. I can provide solutions to complex problems	.76	.90						.78	.95					.79	.97					.68	.84		
6. When a problem arises that I have not been trained for, I can solve the issue	.54	.75						.45	.69					.45	.68					.53	.77		
7. I am often able to generate new ideas to solve problems	.53	.66						.56	.74					.56	.72					.55	.71		
8. I am able to easily learn new technology to accomplish tasks	.71				.81			.79				.88		.76		.86				.18			
9. I find it difficult to learn tools or technology at work (Reverse)	.78				.89			.70				.85		.72		.87							
10. I learn from others when they have a different technique from me	.40					.41		.36						.36						.35			
11. I am constantly learning on the job from people around me	.41					.47		.29		.45				.28	.47					.35		.59	
12. I am able to successfully integrate myself into other cultures	.49					.44		.46			.49			.48	.70					.47		.72	
13. I am flexible to modify my own behavior or appearance to 'fit in' with a culture when appropriate to do so	.78				.74			.84			1.01			.50	.75								
14. I feel it is important to modify my own behavior at times in order to respect someone else's culture or values	.55				.65			.50			.60			.44	.70								
15. I am aware that my well-intended actions have the possibility to offend others who are different from me.	.34				.53			.21															
16. I value getting to know cultures, values and viewpoints that differ from my own	.84		.87					.87		.99				.62	.78					.59		.79	
17. Other cultural viewpoints are valuable to my own personal understanding and development	.71		.73					.68		.78				.59	.76								
18. I am able to use my cultural understanding to persuade and leverage a situation	.30							.29						.29	.47					.28		.46	

**Table 6:** *Study 2 Adaptation and Adjustment CFA Results*

<b>Fit Statistics for Adaptation and Adjustment</b>		
	One Factor	Two Factor
Test Stat	609.50	411.41
df	152	151
p-value	0	0
CFI	.62	.78
TLI	.57	.76
RMSEA	.14	.10

**APPENDIX G**  
**STUDY 2 FINAL ITEM DESCRIPTIVES AND RELIABILITIES**

**Table 7:** *Study 2 Final Adaptation and Adjustment Item Descriptives*

<b>Item</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>M</b>	<b>SD</b>
1. I can handle the pressure of an emergency situation	182	2	7	6.14	.96
2. I would feel comfortable if I had to lead in an emergency situation	180	1	7	5.52	1.41
3. I can keep a clear mind and remain focused during emergency situations	180	2	7	6.12	.94
4. In an emergency, I act with urgency and appropriately to find a solution.	181	3	7	6.28	.78
8. I am able to think clearly when experiencing an emergency at work	181	2	7	6.08	.90
12. I remain professional in the face of stressful work circumstances	181	4	7	6.24	.67
13. When I receive shocking news, I remain calm	181	2	7	5.66	1.09
15. When feeling stressed at work, I am able to be constructive.	181	2	7	5.75	1.03
20. I am receptive of negative feedback at work	177	2	7	5.53	1.05
21. I can be flexible when an unclear situation changes	178	4	7	5.94	.73
5. I can provide solutions to complex problems	172	3	7	5.94	.86
6. When a problem arises that I have not been trained for, I can solve the issue	171	2	7	5.45	.98

7. I am often able to generate new ideas to solve problems	170	3	7	5.80	.89
8. I am able to easily learn new technology to accomplish tasks	171	2	7	5.79	1.06
10. I learn from others when they have a different technique from me	171	4	7	6.09	.63
11. I am constantly learning on the job from people around me	171	4	7	6.25	.75
12. I am able to successfully integrate myself into other cultures	168	3	7	5.87	.80
16. I value getting to know cultures, values and viewpoints that differ from my own	166	4	7	6.18	.77
18. I am able to use my cultural understanding to persuade and leverage a situation	166	4	7	5.52	.93

**Table 8:** *Study 2 Final Item Reliabilities*

	<b>All Items Adaptation</b>	<b>Final Items Adaptation</b>	<b>All items Adjustment</b>	<b>Final Items Adjustment</b>
Reliability (alpha)	.84	.79	.81	.84

## APPENDIX H PARTICIPANT DEMOGRAPHICS

**Table 9:** *Study 3 Gender and Ethnicity Demographics*

	<b>M</b>	<b>F</b>	<b>W</b>	<b>AA</b>	<b>H</b>	<b>A</b>	<b>MR</b>
mTurk	24%	74%	77%	6%	2%	8%	6%
Social Media	5%	92%	85%	5%	5%	0%	1%

**Table 10:** *Study 3 Education Demographics*

	<b>HS</b>	<b>SC</b>	<b>BS</b>	<b>MS</b>	<b>PhD</b>
mTurk	15%	9%	55%	15%	4%
Social Media	1%	1%	77%	7%	1%

**Table 11:** *Study 3 Work Area Demographics*

	<b>ICU</b>	<b>ER</b>	<b>P</b>	<b>U</b>	<b>Ps</b>	<b>L</b>	<b>S</b>	<b>E</b>	<b>O</b>
mTurk	23%	17%	8%	6%	6%	6%	11%	9%	15%
Social Media	8%	32%	10%	0%	5%	5%	20%	1%	15%

## **APPENDIX I**

### **STUDY 3 MEASURES**

#### *General Regulatory Focus*

At work I am focused on preventing negative events.

I am focused on achieving positive outcomes.

My major focus at work is to avoid failure.

At work I am anxious about failing short of my responsibilities and obligations.

My major focus at work is to achieve success.

I am more oriented toward achieving success than preventing failure.

#### *Role-Breadth Self-Efficacy*

Analyzing a long-term problem to find a solution?

Representing your work area in meetings with senior management?

Designing new procedures for your work area?

Making suggestions to management about ways to improve the working of your section?

Contributing to discussions about the company's strategy?

Writing a proposal to spend money in your work area?

Helping to set targets/goals in your work area?

Contacting people outside the company (e.g., suppliers, customers) to discuss problems?

Presenting information to a group of colleagues?

Visiting people from other departments to suggest doing things differently?

#### *Coping*

Talk about it with a friend or family

Let my feelings out to reduce the stress

Let my emotions out  
Ask a friend/relative for help/advice  
Try to put things into perspective  
Make a plan of action  
Try to look on the bright side of things  
Tackle the problem head on

*Resilience* (A total of 6 items was used, but copyright purposes do not allow the entire scale to be shown)

When I have a setback at work, I have trouble recovering from it, moving on.  
I usually manage difficulties one way or another at work.  
I can be “on my own”, so to speak, at work if I have to.

*Silence*

I withheld ideas for changing inefficient work policies.  
I kept ideas for developing new products or services to myself.  
I did not speak up about difficulties caused by the way managers and subordinates interact.  
I kept quiet about problems with daily routines that hamper performance.

*Voice*

I proactively develop and make suggestions for issues that may influence the unit.  
I proactively suggest new projects which are beneficial to the work unit.  
I raise suggestions to improve the unit’s working procedure.  
I proactively voice out constructive suggestions that help the unit reach its goals.  
I make constructive suggestions to improve the unit’s operation.

I advise other colleagues against undesirable behaviors that would hamper job performance.

I speak up honestly with problems that might cause serious loss to the work unit, even when/though dissenting opinions exist.

I dare to voice out opinions on things that might affect efficiency in the work unit, even if that would embarrass others.

I dare to point out problems when they appear in the unit, even if that would hamper relationships with other colleagues.

I proactively report coordination problems in the workplace to the management.

### *Safety Performance*

I feel that it is worthwhile to put in effort to maintain or improve my personal safety

I feel that it is important to maintain safety at all times

I believe that it is important to reduce the risk of accidents and incidents in the workplace

I use all the necessary safety equipment to do my job

I use the correct safety procedures for carrying out my job

I ensure the highest levels of safety when I carry out my job

I promote the safety program within the organization

I put in extra effort to improve the safety of the workplace

I voluntarily carry out tasks or activities that help to improve workplace safety

### *Work Domain Goal Orientation*

I am willing to select a challenging work assignment that I can learn a lot from.

I often look for opportunities to develop new skills and knowledge.

I enjoy challenging and difficult tasks at work where I'll learn new skills.

For me, development of my work ability is important enough to take risks.

I prefer to work in situations that require a high level of ability and talent.

I'm concerned with showing that I can perform better than my coworkers.  
I try to figure out what it takes to prove my ability to others at work.  
I enjoy it when others at work are aware of how well I am doing.  
I prefer to work on projects where I can prove my ability to others.  
I would avoid taking on a new task if there was a chance that I would appear rather incompetent to others.  
Avoiding a show of low ability is more important to me than learning a new skill.  
I'm concerned about taking a task at work if my performance would reveal that I had low ability.  
I prefer to avoid situations at work where I might perform poorly.

*Mini-IPIP*

I am the life of the party.  
I sympathize with others' feelings.  
I get chores done right away.  
I have frequent mood swings.  
I have a vivid imagination.  
I don't talk a lot.  
I am not interested in other people's problems.  
I often forget to put things back in their proper place.  
I am relaxed most of the time.  
I am not interested in abstract ideas.  
I talk to a lot of different people at parties or gatherings.  
I feel others' emotions.  
I like order.  
I get upset easily.  
I have difficulty understanding abstract ideas.  
I keep in the background.

I am not really interested in others.

I make a mess of things.

I seldom feel sad.

I do not have a good imagination.

I do not like being the center of attention.

**APPENDIX J**  
**STUDY 3 MEASURE CORRELATIONS AND DESCRIPTIVE**  
**STATISTICS**

**Table 12:** *Descriptive Statistics for Unstandardized Predictor and Criterion Measures*

Variable	N	Min	Max	M	SD	Skewness		Kurtosis	
						Stat	SE	Stat	SE
Adaptation	127	3.13	5.00	4.12	.45	.05	.22	-.42	.43
Adjustment	126	2.88	5.00	4.27	.52	-.13	.22	-.85	.43
Resilience	125	3.17	7.00	5.71	.87	-.55	.22	-.12	.43
Promotion Focus	127	1.75	7.00	5.14	1.26	-.51	.22	-.48	.43
Prevention Focus	127	2.25	7.00	5.35	.81	-.53	.22	.93	.43
RBSE	127	2.00	5.00	3.79	.76	-.42	.22	-.46	.43
Extraversion	127	1.25	5.00	2.95	.92	.03	.22	-.52	.43
Consciousness	127	1.50	5.00	3.78	.81	-.24	.22	-.68	.43
Openness	127	1.25	5.00	3.68	.83	-.40	.22	-.11	.43
Neuroticism	127	1.00	4.75	2.67	.87	-.12	.22	-.72	.43
Learning Goal Orientation	124	3.00	6.00	5.19	.64	-.91	.22	.98	.43
Performance Prove Goal Orientation	127	1.00	6.00	4.13	1.10	-.68	.22	.23	.43
Performance Avoid Goal Orientation	127	1.00	6.00	3.07	1.23	.13	.22	-.86	.43
Emotion Focused Engagement	123	1.50	5.00	3.57	.79	.09	.22	-.48	.43
Coping Problem Focused Engagement	123	2.50	5.00	4.08	.63	-.34	.22	-.31	.43

Safety Compliance	124	2.33	5.00	4.48	.66	-1.21	.22	.95	.43
Safety Participation	124	2.00	5.00	4.15	.83	-.65	.22	-.54	.43
Silence	124	1.00	5.00	2.19	.96	.77	.22	.08	.43
Promotive Voice	124	1.00	5.00	3.82	.85	-.85	.22	.90	.43
Prohibitive Voice	124	1.40	5.00	3.55	.75	-.20	.22	-.05	.43

**Table 13: Uncorrected Correlations for All Variables**

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
1. Adaptation																				
2. Adjustment	.49**																			
3. Resilience	.50**	.62**																		
4. Promotion Focus	.21*	.01	.02																	
5. Prevention Focus	-.11	-.30**	-.30**	.46**																
6. RBSE	.46**	.51**	.45**	.03	-.38**															
7. Extraversion	.07	.19*	.14	.08	-.12	.24**														
8. Conscientiousness	.15	.31**	.40**	.18*	-.18*	.27**	.08													
9. Openness	.33**	.23**	.40**	.07	-.09	.27**	.20*	.24**												
10. Neuroticism	-.24**	-.36**	-.41**	.02	.32**	-.38**	-.40**	-.40	-.23**											
11. Learning Goal Orientation	.60**	.42**	.47**	.20*	-.10	.43**	.20*	.27**	.37**	-.20*										
12. Performance Prove Goal Orientation	.08	-.01	.10	.34**	.27**	.03	.05	.02	.02	.02	.08									
13. Performance Avoid Goal Orientation	-.42**	-.24**	-.40**	-.01	.24**	-.22*	-.03	-.14	-.34**	.09	-.42**	.29**								
14. Emotion Focused Engagement Coping	.27**	.05*	.22*	.15	-.03	.23*	.05	.24**	.10	-.01	.27**	.10	-.09							
15. Problem Focused Engagement Coping	.50**	.40**	.56**	.13	-.22*	.42**	.23*	.36**	.37**	.33**	.41**	.06	-.30**	.33**						
16. Safety Compliance	.34**	.31**	.36**	.11	-.00	.16	.11	.24**	.18	-.30**	.36**	-.03	-.24**	.23**	.39**					
17. Safety Participation	.45**	.25**	.27**	.10	-.02	.28**	.11	.17	.15	-.26**	.33**	.07	-.23*	.33**	.43**	.69**				
18. Silence	-.28**	-.34**	-.38**	-.04	.25**	-.45**	-.18	-.28**	-.31**	.34**	-.35**	-.03	.30**	-.14	-.24**	-.27**	-.26**			
19. Proactive Voice	n	.38**	.36**	.10	-.23**	.60**	.25**	.18*	.24*	-.32**	.36**	.10	-.29**	.07	.37**	.23*	.23**	-.54**		
20. Prohibitive Voice	.36**	.36**	.31**	.04	-.26**	.61**	.22*	.12	.05	-.30**	.40**	.18*	-.19*	.22*	.34**	.18*	.34**	-.57**	.65**	

Note: \*\*\*p < .001, \*\*p < .01, \*p < .05

**APPENDIX K**  
**STUDY 3 MEASURE RELIABILITIES**

**Table 14:** *Measure Reliabilities*

<b>Variable</b>	<b>Chronbach's Alpha</b>	<b>N of items</b>
Adaptation	.77	7
Adjustment	.88	8
Resilience	.82	6
Promotion Focus	.49	3
Prevention Focus	.50	3
Role Breadth Self-Efficacy	.91	10
Extraversion	.71	4
Conscientiousness	.62	4
Openness	.72	4
Neuroticism	.68	4
Learning Goal Orientation	.88	5
Performance Prove Goal Orientation	.81	4
Performance Avoid Goal Orientation	.88	4
Emotion Focused Engagement Coping	.83	4
Problem Focused Engagement Coping	.73	4
Safety Compliance	.88	3
Safety Participation	.91	3
Silence	.88	4
Promotive Voice	.92	5
Prohibitive Voice	.86	5

**APPENDIX L**  
**STUDY 3 BETWEEN GROUP ANALYSES**

**Table 15:** *One-Way Analysis of Variance of Role Breadth Self-Efficacy by Type of Data Collection (Mturk or social media)*

<b>Source</b>	<b><i>df</i></b>	<b><i>SS</i></b>	<b><i>MS</i></b>	<b><i>F</i></b>	<b><i>p</i></b>
Between groups	1	5.24	5.24	9.57	.002
Within groups	125	68.42	.84		
Total	126	73.65			

**Table 16:** *One-Way Analysis of Variance of Promotion Focus by Type of Data Collection (Mturk or social media)*

<b>Source</b>	<b><i>df</i></b>	<b><i>SS</i></b>	<b><i>MS</i></b>	<b><i>F</i></b>	<b><i>p</i></b>
Between groups	1	7.72	5.09	8.16	.005
Within groups	125	118.28	.62		
Total	126	126			

**Table 17:** *One-Way Analysis of Variance of Conscientiousness by Type of Data Collection (Mturk or social media)*

<b>Source</b>	<b><i>df</i></b>	<b><i>SS</i></b>	<b><i>MS</i></b>	<b><i>F</i></b>	<b><i>p</i></b>
Between groups	1	4.89	4.89	7.95	.006
Within groups	125	76.89	.62		
Total	126	81.78			

**Table 18** : *One-Way Analysis of Variance of Performance Prove Goal Orientation by Type of Data Collection (Mturk or social media)*

<b>Source</b>	<b><i>df</i></b>	<b><i>SS</i></b>	<b><i>MS</i></b>	<b><i>F</i></b>	<b><i>p</i></b>
Between groups	1	15.42	15.42	14.10	.000
Within groups	125	136.69	1.11		
Total	126	152.11			

**Table 19** : *One-Way Analysis of Variance of Performance Avoid Goal Orientation by Type of Data Collection (Mturk or social media)*

<b>Source</b>	<b><i>df</i></b>	<b><i>SS</i></b>	<b><i>MS</i></b>	<b><i>F</i></b>	<b><i>p</i></b>
Between groups	1	20.62	20.62	15.17	.000
Within groups	125	169.89	1.36		
Total	126	190.52			

**Table 20**: *One-Way Analysis of Variance of Role Breadth Self-Efficacy by Type of Work Area*

<b>Source</b>	<b><i>Df</i></b>	<b><i>SS</i></b>	<b><i>MS</i></b>	<b><i>F</i></b>	<b><i>p</i></b>
Between groups	8	9.50	1.19	2.15	.04
Within groups	116	64.15	.55		
Total	124	73.65			

**Table 21** : *One-Way Analysis of Variance of Role Breadth Self-Efficacy by Type of Job Title*

<b>Source</b>	<b><i>df</i></b>	<b><i>SS</i></b>	<b><i>MS</i></b>	<b><i>F</i></b>	<b><i>p</i></b>
Between groups	4	8.33	2.08	3.83	.006
Within groups	120	65.31	.54		
Total	124	73.65			

**Table 22:** *One-Way Analysis of Variance of Prevention Focus by Type of Job Title*

<b>Source</b>	<b><i>df</i></b>	<b><i>SS</i></b>	<b><i>MS</i></b>	<b><i>F</i></b>	<b><i>p</i></b>
Between groups	4	12.09	3.77	2.52	.05
Within groups	120	179.97	1.50		
Total	124	195.06			

**Table 23:** *One-Way Analysis of Variance of Conscientiousness by Type of Job Title*

<b>Source</b>	<b><i>df</i></b>	<b><i>SS</i></b>	<b><i>MS</i></b>	<b><i>F</i></b>	<b><i>p</i></b>
Between groups	4	7.08	1.77	2.86	.026
Within groups	120	74.20	.62		
Total	124	81.28			

**Table 24:** *One-Way analysis of Variance of Performance Avoid Goal Orientation by Job Title*

<b>Source</b>	<b><i>df</i></b>	<b><i>SS</i></b>	<b><i>MS</i></b>	<b><i>F</i></b>	<b><i>p</i></b>
Between groups	4	14.91	3.73	2.59	.04
Within groups	120	172.80	1.44		
Total	124	187.71			

**APPENDIX M  
STUDY 3 CFAS**

**Table 25:** *Adjustment CFA*

<b>Fit Statistics for Adjustment</b>			
	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>
Model Fit Test Statistic	95.26	60.96	86.24
df	33	18	20
p-value	0	0	0
CFI	.90	.93	.88
TLI	.87	.88	.84
RMSEA	.12	.14	.16

**Table 26:** *Adaptation CFA*

<b>Fit Statistics for Adaptation</b>			
	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>
Test Stat	385.01	10.22	119.97
df	36	12	14
p-value	0	.60	0
CFI	.92	1	.61
TLI	.88	1.01	.42
RMSEA	.09	0	.24

**Table 27:** *Adaptation and Adjustment CFA*

<b>Fit Statistics for Adaptation and Adjustment</b>		
	<b>Model 1</b>	<b>Model 2</b>
Test Stat	387.76	298.04
df	90	89
p-value	0	0
CFI	.67	.77
TLI	.62	.73
RMSEA	.16	.14

**APPENDIX N**  
**STUDY 3 FINAL ADAPTATION AND ADJUSTMENT ITEMS**  
**AND RELIABILITIES**

**Table 28:** *Study 3 Final Adaptation and Adjustment Items*

<b>Item</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>M</b>	<b>SD</b>
1. I can handle the pressure of an emergency situation	126	2	5	4.46	.56
2. I would feel comfortable if I had to lead in an emergency situation	126	1	5	4.02	1.0
3. I can keep a clear mind and remain focused during emergency situations	125	2	5	4.33	.67
4. In an emergency, I act with urgency and appropriately to find a solution.	124	3	5	4.43	.59
8. I am able to think clearly when experiencing an emergency at work	126	2	5	4.34	.63
12. I remain professional in the face of stressful work circumstances	126	1	5	4.35	.65
13. When I receive shocking news, I remain calm	126	2	5	4.14	.72
15. When feeling stressed at work, I am able to be constructive.	126	2	5	4.14	.72
5. I can provide solutions to complex problems	127	2	5	4.12	.60
8. I am able to easily learn new technology to accomplish tasks	127	2	5.	3.87	.74

10. I learn from others when they have a different technique from me	127	2	5	4.09	.67
11. I am constantly learning on the job from people around me	127	1	5	4.45	.72
12. I am able to successfully integrate myself into other cultures	127	2	5	4.11	.66
16. I value getting to know cultures, values and viewpoints that differ from my own	127	4	7	6.18	.77
18. I am able to use my cultural understanding to persuade and leverage a situation	127	4	7	5.52	.93

**Table 29:** *Reliabilities*

	Adaptation		Adjustment	
	All Items	Final Items	All items	Final Items
Reliability (alpha)	.79	.77	.84	.88

**APPENDIX O**  
**STUDY 3 EFAS**

**Table 30:** *Adjustment, Emotion Focused Coping (EFC), and Resilience*

<b>18 Item EFA</b> (TCV=66.62%)					
	<b>Extracted Comm</b>	<b>Factor 1</b>	<b>Factor 2</b>	<b>Factor 3</b>	<b>Factor 4</b>
Adjustment	.79	.83			
Adjustment	.58	.67			
Adjustment	.79	.84			
Adjustment	.67	.84			
Adjustment	.72	.81			
Adjustment	.41				
Adjustment	.36				.41
Adjustment	.72				.82
Resilience	.27		.49		
Resilience	.39		.48		
Resilience	.54		.61		
Resilience	.63		.74		
Resilience	.66		.90		
Resilience	.61		.73		
EFC	.57			.75	
EFC	.67			.79	
EFC	.53			.72	
EFC	.52			.73	

**Table 31:** *Adaptation, Problem Focused Coping (PFC), Resilience*

<b>18 Item EFA</b>					
<b>(TCV=62%)</b>					
	<b>Extracted Comm</b>	<b>Factor 1</b>	<b>Factor 2</b>	<b>Factor 3</b>	<b>Factor 4</b>
Resilience	.36			.43	
Resilience	.36				
Resilience	.49	.73			
Resilience	.58	.59			
Resilience	.66	.79			
Resilience	.68	.81			
Adaptation	.67				.71
Adaptation	.36				.52
Adaptation	.78				.87
Adaptation	.38		.59		
Adaptation	.58		.71		
Adaptation	.61		.78		
Adaptation	.45		.67		
PFC	.49			.60	
PFC	.45			.69	
PFC	.44			.57	
PFC	.35			.50	

**APPENDIX P**  
**STUDY 3 PREDICTOR REGRESSION TABLES**

**Table 32:** *Summary of Multiple Regression Analysis for Personality on Adaptation*

	<i>R</i>	<i>R</i> <sup>2</sup>	<i>SE</i> of the Estimate	$\Delta R^2$	<i>b</i>	<i>SE</i>	<i>t</i>
Model 1	.03	.00	1.00	.00			
Survey Method					-.05	.18	-.29
Model 2	.33	.11	.96	.11			
Extra					.00	.09	.05
Conscientiousness					.07	.09	.81
Openness					.31	.09	3.44***

Note: \*\*\**p* < .001, \*\**p* < .01, \**p* < .05

**Table 33:** *Summary of Multiple Regression Analysis for Goal Orientation and Adaptation*

	<i>R</i>	<i>R</i> <sup>2</sup>	<i>SE</i> of the Estimate	$\Delta R^2$	<i>b</i>	<i>SE</i>	<i>t</i>
Model 1	.03	.00	1.00	.00			
Survey Method					-.05	.18	-.29
Model 2	.61	.37	.80	.37			
Learning Goal Orientation					.61	.07	8.41***
Performance Prove Goal Orientation					.01	.08	.08

Note: \*\*\**p* < .001, \*\**p* < .01, \**p* < .05

**Table 34:** Summary of Multiple Regression Analysis of Promotion Focus and Role Breadth Self-Efficacy on Adaptation

	<i>R</i>	<i>R</i> <sup>2</sup>	<i>SE</i> of the Estimate	$\Delta R^2$	<i>b</i>	<i>SE</i>	<i>t</i>
Model 1	.03	.00	1.00	.00			
Survey Method					-.05	.18	-.29
Model 2	.52	.27	.86	.27			
Promotion Focus					.24	.08	2.98***
RBSE					.50	.08	6.22***

Note: \*\*\**p* < .001, \*\**p* < .01, \**p* < .05

**Table 35:** Summary of Multiple Regression Analysis for Personality on Adjustment

	<i>R</i>	<i>R</i> <sup>2</sup>	<i>SE</i> of the Estimate	$\Delta R^2$	<i>b</i>	<i>SE</i>	<i>t</i>
Model 1	.04	.00	1.00	.00			
Survey Method					-.08	.18	-.42
Model 2	.43	.18	.92	.18			
Conscientiousness					.18	.09	1.92
Openness					.13	.09	1.49
Neuro					-.27	.00	-2.92***

Note: \*\*\**p* < .001, \*\**p* < .01, \**p* < .05

**Table 36:** *Summary of Multiple Regression Analysis for Prevention Focus and Performance Avoid Goal Orientation on Adjustment*

	<i>R</i>	<i>R</i> <sup>2</sup>	<i>SE</i> of the Estimate	$\Delta R^2$	<i>b</i>	<i>SE</i>	<i>t</i>
Model 1 Survey Method	.04	.00	1.00	.00			
Model 2 PAGO Prevention Focus	.36	.13	.95	.13			
					-.22	.09	-2.30*
					-.24	.09	-2.72**

Note: \*\*\* $p < .001$ , \*\* $p < .01$ , \* $p < .05$

**APPENDIX Q**  
**STUDY 3 OUTCOME REGRESSION TABLES**

**Table 37:** *Summary of Multiple Regression Analysis for Silence*

	<i>R</i>	<i>R</i> <sup>2</sup>	<i>SE</i> of the Estimate	$\Delta R^2$	<i>b</i>	<i>SE</i>	<i>t</i>
Model 1	.34	.11	.91	.11			
Adjustment					-.62	.16	-3.94***
Model 2	.36	.13	.90	.02			
Adjustment					-.48	.18	-2.66**
Adaptation					-.34	.21	-1.60

Note: \*\*\**p* < .001, \*\**p* < .01, \**p* < .05

**Table 38:** *Summary of Multiple Regression Analysis for Safety Compliance*

	<i>R</i>	<i>R</i> <sup>2</sup>	<i>SE</i> of the Estimate	$\Delta R^2$	<i>B</i>	<i>SE</i>	<i>t</i>
Model 1	.34	.12	.62	.12			
Adaptation					.50	.13	4.02***
Model 2	.38	.14	.61	.03			
Adaptation					.37	.14	2.60**
Adjustment					.23	.12	1.91

Note: \*\*\**p* < .001, \*\**p* < .01, \**p* < .05

**Table 39:** *Summary of Multiple Regression Analysis for Safety Compliance*

	<i>R</i>	<i>R</i> <sup>2</sup>	<i>SE</i> of the Estimate	$\Delta R^2$	<i>b</i>	<i>SE</i>	<i>t</i>
Model 1	.31	.10	.63	.10			
Adjustment					.39	.11	3.58***
Model 2	.38	.14	.62	.05			
Adjustment					.23	.12	1.91
Adaptation					.37	.14	2.60**

Note: \*\*\* $p < .001$ , \*\* $p < .01$ , \* $p < .05$

**Table 40:** *Summary of Multiple Regression Analysis for Safety Participation*

	<i>R</i>	<i>R</i> <sup>2</sup>	<i>SE</i> of the Estimate	$\Delta R^2$	<i>b</i>	<i>SE</i>	<i>t</i>
Model 1	.45	.20	.75	.20			
Adaptation					.83	.15	5.53***
Model 2	.45	.20	.75	0			
Adaptation					.80	.17	4.59***
Adjustment					.06	.15	.43

Note: \*\*\* $p < .001$ , \*\* $p < .01$ , \* $p < .05$

**Table 41:** *Summary of Multiple Regression Analysis for Promotive Voice*

	<i>R</i>	<i>R</i> <sup>2</sup>	<i>SE</i> of the Estimate	$\Delta R^2$	<i>b</i>	<i>SE</i>	<i>T</i>
Model 1	.36	.13	.80	0.13			
Adaptation					.69	.16	4.25***
Model 2	.43	.18	.78	0.05			
Adaptation					.44	.18	2.43*
Adjustment					.43	.16	2.78**

Note: \*\*\* $p < .001$ , \*\* $p < .01$ , \* $p < .05$

**Table 42:** *Summary of Multiple Regression Analysis for Prohibitive Voice*

	<i>R</i>	<i>R</i> <sup>2</sup>	<i>SE of the Estimate</i>	$\Delta R^2$	<i>b</i>	<i>SE</i>	<i>t</i>
Model 1	.36	.13	.71	.13			
Adjustment					.51	.12	4.17***
Model 2	.41	.17	.69	.05			
Adjustment					.34	.14	2.46*
Adaptation					.41	.16	2.54**

Note: \*\*\* $p < .001$ , \*\* $p < .01$ , \* $p < .05$

**APPENDIX R**  
**STUDY 3 HYPOTHESIS SUPPORT**

**Table 43:** *Summary of Hypothesis Support*

Hypothesis 1	Adaptation and adjustment have discriminant validity.	Supported
Hypothesis 2	Adjustment is distinct from emotion focused coping and resilience.	Supported
Hypothesis 3	Adaptation is distinct from problem focused coping and resilience.	Supported
Hypothesis 4	Promotion-focus positively predicts adaptation.	Supported
Hypothesis 5	Prevention-focus positively predicts adjustment.	Supported
Hypothesis 6	Openness positively predicts adaptation.	Supported
Hypothesis 7	Openness positively predicts adjustment.	Not supported
Hypothesis 8	Conscientiousness positively predicts adjustment.	Not supported
Hypothesis 9	Conscientiousness positively predicts adaptation.	Not supported
Hypothesis 10	Extraversion positively predicts adaptation.	Not supported
Hypothesis 11	Neuroticism negatively predicts adjustment.	Supported
Hypothesis 12	Role Breadth Self-Efficacy predicts adaptation.	Supported
Hypothesis 13	Learning goal orientation and performance prove goal orientation predicts adaptation.	Partially supported
Hypothesis 14	Performance avoid goal orientation predicts adjustment.	Supported
Hypothesis 15	Adaptation positively predicts safety compliance.	Supported
Hypothesis 16	Adjustment positively predicts safety compliance.	Supported
Hypothesis 17	Adaptation positively predicts safety participation.	Supported
Hypothesis 18	Adaptation positively predicts promotive voice.	Supported
Hypothesis 19	Adjustment negatively predicts prohibitive voice.	Supported
Hypothesis 20	Adjustment negatively predicts silence behavior.	Supported