POSITIVE TRANSFORMATION IN THE FACE OF ADVERSITY: THE DEVELOPMENT OF A MEASURE OF WORKPLACE POSTTRAUMATIC GROWTH

by

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То

Grandma Nettie.

For the inspiration of this dissertation.

You are truly the embodiment of resilience, acceptance and love.

May your name and message live on through this work.

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Positive Transformation in the Face of Adversity: The Development of a Measure of Workplace Posttraumatic Growth

Abstract by

EMILY ELIZABETH AMDURER

From workplace violence to lay-offs, people experience a variety of traumatic experiences at work. Loss, fear and lack of control over traumatic events at work have a profound impact on employees. While there is clear evidence that employees suffer from these events, there is reason to believe that employees may also benefit from these travails. In this paper I look to work established in psychology and apply posttraumatic growth and organismic valuing theory as a framework in which to understand employee growth after workplace traumas. I address how current measures of posttraumatic growth are inappropriately designed to measure workplace posttraumatic growth. Based on this gap, I describe the methods I took to create an inventory that can accurately measure workplace posttraumatic growth. Building on the dimensions of the Posttraumatic Growth Inventory, I conducted 31 interviews with full-time employees to explore new dimensions of workplace posttraumatic growth. Upon completion of the interviews, I found that employees experienced traumas in the workplace and grew as a result of these incidents. I used a grounded theory approach to code the interviews. This strategy resulted in 17 dimensions of growth, with 8 dimensions adapted from the Posttraumatic

Growth Inventory and 9 newly identified dimensions of workplace posttraumatic growth. Together these dimensions formed the Workplace Posttraumatic Growth Inventory (WPTGI). I conducted an exploratory factor analysis of the measure on a sample of 544 MTurk workers and a confirmatory factor analysis on a sample of 234 alumni. The qualitative and quantitative results show evidence of employee growth after workplace traumas and validate the development of a new measure.

Keywords: posttraumatic growth, trauma, workplace stress, resilience, coping

"Extraordinary people survive under the most terrible circumstances and they become more extraordinary because of it."

- Robertson Davies

CHAPTER I: INTRODUCTION

Over the past ten years there has been an increased focus on taking a positive approach to organizational behavior. This shift was influenced by the broader positive psychology movement and was, in part, a response to Seligman and Csikszentmihalyi's (2000) call to elevate the presence of positive psychology within organizational research by investigating human strengths and positive factors. Organizational scholars have answered the call by focusing on topics that look at the positive side of organizational life, such as job satisfaction (Judge, Thoresen, Bono, & Patton, 2001), motivation (Grant, 2007), thriving (Spreitzer, Sutcliffe, Dutton, Sonenshein, & Grant, 2005), positive psychological capital (Luthans & Youssef, 2004), organizational citizenship behavior (Podsakoff, Whiting, Podsakoff, & Blume, 2009) and high-quality connections (Dutton, 2003). While there has been a surge of interest in the positive aspects of organizations, there has been a continued interest in the negative side as well. These negative areas include job dissatisfaction (Ng & Feldman, 2012), stress (Podsakoff, LePine, & LePine, 2007), abusive supervision (Mitchell & Ambrose, 2007), counterproductive work behavior (Bennett & Robinson, 2003) and workplace violence (Barling, Dupre, & Kelloway, 2009). These positive and negative dichotomies may seem straightforward, but it is important to look at the unexplored intersections. An essential question that arises in this intersection is whether employees' negative experiences help them transform in positive ways. In this dissertation, I address this question by applying the concept of posttraumatic growth to the workplace. I then propose a design for an instrument aimed at measuring how employees' negative experiences may result in positive change.

Posttraumatic growth is a concept which refers to "the experience of positive change that occurs as a result of the struggle with highly challenging life crises" (Tedeschi & Calhoun, 2004, p. 1). Research on posttraumatic growth suggests that experiencing extreme negative events, such as traumas, can lead people to reevaluate themselves and their place in the world. This reexamination often brings about positive benefits in the form of new attitudes, philosophies and behaviors. Posttraumatic growth has been investigated primarily in the fields of psychology and health psychology (for a review, see Linley & Joseph, 2004). A few studies in psychology and social work have looked at the effects of posttraumatic growth in the military (Dekel, Mandl, & Solomon, 2011; Larick & Graf, 2012; Lev-Wiesel, Goldblatt, Eisikovits, & Admi, 2009; Pietrzak et al., 2010) and with police personnel (Paton, 2005). Additionally, there is one published article in the management literature that looks at posttraumatic growth with injured musicians (Maitlis, 2009). Although scholars in the organizational sciences have drawn recent attention to the concept (Dutton, Roberts, & Bednar, 2010; Grant & Wade-Benzoni, 2009; Kahn, Barton, & Fellows, 2013; Lawrence & Maitlis, 2012) and have called for investigations of it in the workplace (Roberts, 2006), there are few studies (Larick & Graf, 2012; Lev-Wiesel, et al., 2009; Maitlis, 2009; Paton, 2005) on posttraumatic growth in the workplace. One large stumbling block is that there are no instruments designed to measure workplace posttraumatic growth. While there are a number of posttraumatic growth measures (Abraido-Lanza, Guier, & Colon, 1998; Joseph, Williams, & Yule, 1993; Park, Cohen, & Murch, 1996; Tedeschi & Calhoun, 1996; Tomich & Helgeson, 2004) that exist, there are a variety of reasons why these measures are not suitable for studying posttraumatic growth in the workplace. The

primary reason is that these instruments assess how life traumas result in general life changes, but they do not measure how workplace traumas result in specific work-related changes. To address this gap, I focus on the development of an instrument that is specifically designed to measure workplace posttraumatic growth. In Chapter II, I review theoretical explanations of posttraumatic growth and how people experience growth after adversity. In this chapter, I explain organismic valuing theory (Joseph & Linley, 2005) as an overarching theory that explains the growth process. Within this discussion I briefly explore aspects of the theory, which include psychological needs, coping styles, social support, personality and emotional states. In Chapter III, I review trauma research in the management literature and identify particular work roles and contexts in which traumas are more common. In Chapter IV, I examine current measures of growth and explain why they are insufficient to measure workplace posttraumatic growth. In Chapter V, I provide an explanation of the inductive and deductive approaches I took to investigate the dimensions of workplace growth through interviews. In Chapter VI, I review the findings from the interviews, item generation and question-methodology processes. In Chapter VII, I describe the methods and samples I used to conduct the exploratory and confirmatory factor analyses. In Chapter VIII, I present the remaining items of the inventory that were identified through the exploratory factor analysis. Next, I reveal the results of confirmatory factor analyses, which were conducted to test foundational aspects of the inventory. Finally in Chapter IX, I interpret the qualitative and quantitative results and describe contributions of the Workplace Posttraumatic Growth Inventory to research. I then suggest practical implications, describe the limitations of the studies and recommend future research studies that can help to better confirm and validate the

Workplace Posttraumatic Growth Inventory and explore this topic more generally in the field of management.

An Overview of Posttraumatic Growth

The idea that traumatic events can lead to positive change has been around for centuries and has roots in many religious, philosophical and literary texts (for a review, see Joseph & Linley, 2005; Tedeschi & Calhoun, 1995). Recently, scholars have begun to empirically test these ancient beliefs. Evidence of positive change has been found following a wide range of traumatic experiences including chronic illness, breast cancer, HIV and AIDS, physical and sexual assault, wartime, military combat, violence, natural disasters, substance abuse, bereavement and parents caring for children with disabilities (for a review, see Linley & Joseph, 2004). Examples of positive change include an increased sense of self-confidence, resilience, wisdom, new experiences and better relationships. This positive change has been referred to by a few different terms, including posttraumatic growth (Tedeschi & Calhoun, 1995, 1996), stress-related growth (Park, et al., 1996), benefit finding (Tomich & Helgeson, 2004) and perceived benefits (McMillen & Fisher, 1998). While each of these labels is measured and discussed slightly differently, they all refer to the same growth experience. Recently, scholars in the area have tacitly agreed to refer to this phenomenon as *posttraumatic growth* (Gunty et al., 2011), which is the term I use here.

Two major concepts within the area of posttraumatic growth are the characteristics of a trauma and the benefits of perceived growth. Tedeschi and Calhoun (1995) describe

trauma as "being an event that is a shock". Events are considered traumatic when they demonstrate some of the following characteristics: (1) they are unexpected; (2) there is a perceived lack of control; (3) they are out of the ordinary; (4) they are irreversible and create long-lasting problems; (5) there is a high degree of personal blame and; (6) they threaten self-identity (p. 16-19).

This characterization is related to Posttraumatic Stress Disorder in that people experience "symptoms following exposure to an extreme traumatic stressor" (American Psychiatric Association, 1994). Over the past few decades, posttraumatic stress disorder has frequently been studied as the only outcome of trauma. However, with a new shift toward empirically testing posttraumatic growth (PTG), researchers have begun to consider both positive and negative outcomes. In posttraumatic stress disorder and PTG, survivors experience negative symptoms because of the trauma. In fact, experiencing distress is necessary in order to catalyze the growth process that occurs in PTG (Kashdan & Kane, 2011; Tedeschi & Calhoun, 2004). When the distress is accompanied by positive factors, which are described in greater detail in Chapter II, PTG is possible. However, when these supportive factors are not present, people are more likely to suffer from posttraumatic stress disorder. It is important to compare these two related concepts, because each outcome can have a major impact on peoples' levels of health and happiness. Furthermore, by contrasting them, we can better understand how to prevent posttraumatic stress disorder and promote PTG.

Scholars have indicated that posttraumatic stress disorder and PTG are distinctive and not unipolar (Joseph & Linley, 2005). While the two outcomes are conceptually distinct, the empirical findings do not always support the differentiation. Thus, the relationship

has been referred to as a Janus face, because there are reports of both positive and negative correlations between posttraumatic stress disorder and PTG (Zoellner & Maercker, 2006). It is quite possible that over time peoples' negative symptoms decrease while their positive benefits increase. Tedeschi and Calhoun (2004) suggest that an increase in PTG may help reduce negative symptoms of the trauma. This notion is backed by recent evidence that found that patients with posttraumatic stress disorder were able to increase their PTG and decrease their negative symptoms with exposure therapy (Hagenaars & van Minnen, 2010). These results are encouraging as they identify factors that influence more growth and less distress, which is essential in helping people lead better lives.

Areas of Growth

According to several sources (Southwick, Vythilingam, & Charney, 2005; Tedeschi, Park, & Calhoun, 1998), the perceived benefits of PTG fall into three broad categories: increased self-worth, understanding of the world, and relationships with others. Selfworth is a function of heightened self-esteem, self-reliance and self-respect, resilience, a greater ability to cope effectively and health quality. Understanding of the world is a function of greater wisdom, an appreciation of life and nature, renewed religion and a sense of spirituality, a sense of meaning and purpose in the world, a shift in values, priorities and a general philosophy of the world. Relationships with others is a function of closer ties to friends and family, greater compassion and acceptance of others, and an enhanced sense of community and faith in humankind. These three areas provide the backdrop for measuring PTG.

Beginning in the late 1990s, scholars developed self-reported psychometric instruments to assess posttraumatic growth. These measures include the *Posttraumatic Growth Inventory* (Tedeschi & Calhoun, 1996), the *Stress-Related Growth Scale* (Park, et al., 1996), the *Benefit Finding Scale* (Tomich & Helgeson, 2004) and the *Changes in Outlook Questionnaire* (Joseph, et al., 1993). These measures, and the reasons they are unsuitable to assess PTG in the workplace, will be discussed in greater detail in Chapter IV.

In developing the Posttraumatic Growth Inventory, Tedeschi and Calhoun (1996) narrowed down the perceived benefits into five distinct factors that were most commonly experienced across a variety of traumas. These five areas are present in one shape or form in the other posttraumatic growth scales. However, it is the PTGI that provides the most extensive and distinctive list of growth arenas. The instrument measures a change in people's sense of 1) personal strength, 2) new possibilities, 3) relating to others, 4) appreciation of life and 5) spiritual change. Personal strength arises when people realize and appreciate the power they were able to muster in order to survive the trauma. With this new confidence people assume that, if they were able to endure something highly traumatic, they can handle future difficulties (Tedeschi & Calhoun, 1996). New *possibilities* surface for a few reasons. As people learn to manage crises, they develop new coping skills. After the crisis has subsided, people can use these skills to do new things in their lives and open up new paths. Another area of development is the willingness to take risks. With a new sense of confidence, people are more likely to take risks and follow a path that feels more true to their own values (Tedeschi & Calhoun, 1996, 2004). *Relating to others* transpires out of the deep connections that people make

as they manage the trauma. During crises, people reach out to friends and family for advice on how to resolve the problem and for emotional support. People also gain a level of humility and empathy when they realize that, like themselves, others have faced similar adversity (Tedeschi & Calhoun, 2004). *Appreciation of life* comes as a result of a change in life philosophy. People's priorities often shift and they tend to realize that life is short and that they would prefer to spend time with people and activities that make them happy (Calhoun & Tedeschi, 2006b; Tedeschi & Calhoun, 2004). *Spiritual change* occurs for many people as a result of questioning the meaning behind the event. Tedeschi and Calhoun (1996) acknowledge that this line of questioning may result in less faith for some. However, they assert that for many others it reignites an even stronger belief in god or universal faith for helping them overcome the adversity.

CHAPTER II: POSTTRAUMATIC GROWTH: THEORY AND MODEL

Various theoretical frameworks have been proposed to explain the process of psychological growth that occurs in response to adversity (for a review, see Joseph & Linley, 2006). It is important to comprehend these processes so that we can understand how employees may change after traumatic events. The most noted theories are Tedeschi and Calhoun's model of posttraumatic growth (Calhoun & Tedeschi, 1998, 2006b; Tedeschi & Calhoun, 2004), Park's meaning making model (Park, 2010; Park & Folkman, 1997) and Joseph and Linley's organismic valuing theory (Joseph & Linley, 2005; Joseph & Linley, 2008a). These theories have two basic premises. The first is that individuals engage in meaning making processes to help make sense of the trauma. The second is that, during the meaning making process, individuals rely on coping mechanisms to help manage their distress and adapt to the changes. These ideas of meaning making and coping are taken from Janoff-Bulman's (1989, 1992) seminal work on "shattered assumptions" and Schaefer and Moos' (1998) conceptual model of positive outcomes of life crises. While the theories have similar overarching ideas, they differ in the mechanics of the process. Organismic valuing theory is unique in that it includes an explanation of motivation for self-improvement, a key element in the growth process (Joseph & Linley, 2005). This motivation is similar to the intrinsic motivation written about in the management literature, which is said to promote prosocial motivation in employees (Grant, 2008) and help them break through negative cycles of burnout (ten Brummelhuis, ter Hoeven, Bakker, & Peper, 2011). As the PTG theories are relatively similar, I focus on Joseph and Linley's (2005) theory of organismic valuing theory,

because it provides the additional focus of motivation which serves as a better lens for understanding PTG in the workplace. Joseph and Linley build on scholarship from a number of fields to establish an inclusive framework that illustrates the desire for selfenhancement following a trauma. In the next section I outline Joseph and Linley's model of organismic valuing theory and provide an adapted version of their conceptual model of how positive growth occurs after a trauma.

Organismic Valuing Theory

Organismic valuing theory is a person-centered perspective that integrates concepts from the natural sciences, cognitive processing and positive psychology in order to explain how people grow through adversity (Joseph & Linley, 2005, 2006)¹. The theory anchors itself on Rogerian person-centered psychotherapy and specifically Roger's (1959) concept of the organismic valuing process. Rogers describes the organismic valuing process as an innate ability to subconsciously engage in a process of valuing experiences or objects that produce growth and devaluing objects or experiences that inhibit growth. These decisions help people move toward their own unique path in life (Rogers, 1964). Joseph and Linley (2005) assert that the organismic valuing process is central in determining whether people grow from a trauma or continue to suffer. After a

¹ The precursor to organismic valuing theory is organismic theory. This earlier theory was developed by early psychotherapists who looked at lower species to simplify understanding of human development (Goldstein, 1939; Rogers, 1947). The theory contends that humans are like organisms in that they have innate tendencies to extend themselves while simultaneously maintaining integrity of the whole (Goldstein, 1939). This activity toward development accounts for fundamental human functions such as reproduction, self-regulation and agency (Jacob, 1973; Jonas, 1966). In looking at early childhood development, Rogers (1959) explains that infants, like other organisms, show innate preferences for objects. Humans continue this intuitive action to fulfill needs throughout their development. They do this by moving toward experiences that maintain, enhance or actualize themselves, and reject experiences that do not fulfill their needs. This ongoing progression is the essence of the organismic valuing process (Rogers, 1959, 1964).

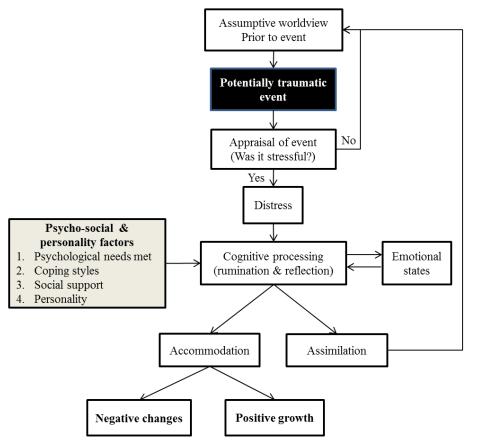
trauma, people are confronted with new information about the world. When people reframe their understanding of the world in a positive way, they are valuing the experience. When they reframe it in a negative way, they are devaluing the experience. However, Joseph and Linley note that this process is hardly straightforward. Traumas are cataclysmic events in peoples' lives and the recovery and growth processes that follow are not linear or as simple as portrayed above. Furthermore, how the event is processed is heavily influenced by psycho-social and personality factors, which are described in greater detail in this chapter.

Organismic Valuing Theory and Self-determination Theory

There have been a number of scholars in positive psychology who have revisited the organismic valuing process in order to enhance our understanding of human motivation (Ryan, 1995; Sheldon, Arndt, & Houser-Marko, 2003; Sheldon & Elliot, 1999). Self-determination theory , in particular, expands on the organismic viewpoint by proposing that people need social nutriments and support in order to strive for well-being, satisfaction and accomplishment (Ryan, 1995). These social nutriments manifest as a need for competence, autonomy and relatedness. According to Deci and Ryan (1985), competence describes a person's desire to feel effective and in control of outcomes in his or her environment. Autonomy indicates a person's desire to feel in control of his or her attitudes and behaviors. Relatedness refers to a person's need to be in relationships, feel cared for and care for others. Numerous studies have found evidence that, for healthy development to continue, the environment must support these basic psychological needs (Ryan & Deci, 2001). Furthermore, it is only when these needs are met that people are able to listen to their valuing process. When people feel efficacious to make changes,

have agency and feel supported by others, they are better situated to make decisions that align with their intrinsic goals (Patterson & Joseph, 2007) and ultimately move in the direction of growth. It is important to note that when the environment does not support competence, autonomy and relatedness, growth and the ability to effectively engage in the organismic valuing process is inhibited.

Joseph and Linley (2005) note that the organismic valuing process is the underlying force that propels the growth process after a trauma. Since the organismic valuing process is subtle, it often takes a major event to help people distinguish internal motivation (and desires) from external pressures related to society's expectations. Traumas are examples of major events that encourage people to listen to their organismic valuing process and move toward their individual path. By having an instinct to grow and achieve a sense of well-being, people are motivated to work through the trauma. By processing their thoughts, attitudes and behaviors, people evaluate their intrinsic values and have the opportunity to move closer to their truer path (Joseph, 2009). It is the incidence of the trauma gives people the chance to get outside of their routinized life and gain perspective on whether they are aligned with their true path. In the next section I explain the cognitive processing theories that Joseph and Linley (2005) draw on to explain posttraumatic growth. After I present this explanation, I integrate the above concepts on organismic valuing process with cognitive processing to explain how they jointly catalyze the growth process after a trauma.



Organismic Valuing Theory

This model was adapted from two models of organismic valuing theory that appear in Joseph and Linley (2008) and Joseph, et al. (2012).

Cognitive Processing of Trauma

In this section I review the cognitive underpinnings of how people incorporate new information after a trauma. This piece of the growth process is essential because it explains how people cognitively make sense of the trauma. According to Horowitz (1986) victims process the traumatic information by sorting incoming stimuli into existing schemas. During this filtering process there is an innate desire to make the new information consistent with the existing schemas. However when there is a discrepancy between the new information and existing schemas, people feel a stress response. At this point people reappraise the new information or revise existing schemas to make the two compatible.

Janoff-Bulman (1989, 1992) builds on these ideas in her "shattered assumptions" theory to explain how people incorporate traumas into their "assumptive worlds." Assumptive worlds (worldviews) comprise many schemas. They refer to people's overall understanding of the world and how they fit into it. These assumptions tend to remain stable throughout people's lives (Parkes, 1971). Only with major interventions, such as traumas, do people question their beliefs and reassess their assumptive worlds (Tedeschi, Calhoun, & Cann, 2007). Common examples of assumptive worlds include believing that good things come to those who do good deeds; the world is a fair place; and people are generally benevolent. Traumas have a tendency to shatter people's preexisting assumptive world, since they tend to offer contradictory information. Often, the most distressing challenge is that traumas remind people that the world is not predictable, fair or controllable. Since humans are constantly processing previous information to predict future events, a trauma tests all schemas that are based on the notions of predictability and justice.

After a trauma occurs, people begin the cognitive process by first appraising the severity of the threat (Schaefer & Moos, 1992). During this phase people judge the extent to which the event seems threatening and controllable (Park, 2010). This first stage of the posttraumatic process is illustrated in the model in Figure 1. If the information is appraised as stressful, people try to reconcile the negative event (Janoff-Bulman, 1992) through assimilation or accommodation of the new information. Assimilation is when

people integrate new information into their existing schemas, so that there is a good fit. Alternatively, accommodation is when people shift their schemas and entire assumptive worlds to incorporate new information (Joseph & Linley, 2005). Take, for example a person that was laid-off. The person will first appraise the threat. If he deems himself as highly employable, he may not appraise the information as distressing. On the other hand, if he has non-transferable skills and lives in an area with declining employment, then he will likely appraise the information as distressing. Going further, if he believes that he is generally unlucky in life, then he will assimilate the information into his "unlucky in life" schema. Through accommodation the person may consider new attitudes about his company, leadership and personal performance.

According to Janoff-Bulman (1998), people generally tend to assimilate new information rather than accommodate it because assimilation is a faster process and does not involve as much effort. However, new information that is presented in a trauma is often so shocking that assimilation is inadequate. In these situations, people's existing schemas are so badly shattered that they cannot easily incorporate the new information. In these cases people need to accommodate by reconstructing their assumptive worlds. Joseph and Linley (2008a) assert that the accommodation process can take on a positive or negative form. Positive accommodations are shifts in people's assumptive worlds that lead to improved well-being and positive growth. Negative accommodations are shifts in peoples' assumptive worlds that lead to decreased well-being and stunted growth. For example, many victims will conclude that the world is random and unkind. If this is a negative accommodation they will probably feel helpless and afraid. This type of processing would lead to greater emotional distress and hinder an ability to move

forward. Other victims may engage in a positive accommodation and feel thankful for the help and support they received after the trauma. In this case, they may still believe that there are malevolent people in the world but that they are fortunate to be surrounded by benevolent people who will help them if they are attacked in the future. Another avenue of positive accommodation would be if the survivors conclude that the world is random and unkind, and therefore determine to improve themselves to better withstand the effects of a random unkind world. In this scenario, the focus on self-development helps the survivors be more effective in the world. Payne, Joseph, and Tudway (2007) offer an analogy of a shattered vase. A person who picks up the pieces can put them back together exactly as they were (assimilation). However, the vase is covered in glue and small fractures and is far more fragile than before. He may also choose to throw the pieces in the garbage (negative accommodation). Alternatively he may take the pieces from the vase and create a new object entirely, such as a beautiful mosaic (positive accommodation).

Psycho-Social and Personality Factors

Joseph and Linley (2005; 2008a; Joseph, Murphy, & Regel, 2012) identify psychosocial and personality factors as essential variables that determine whether people assimilate, negatively accommodate or positively accommodate the information from the trauma. These factors are based on previous research, explained in greater detail below, which shows how these factors in particular support greater growth. Furthermore these factors are said to influence the speed and depth of the processing that people engage in after a trauma (Joseph, et al., 2012). Psycho-social factors include satisfaction of psychological needs, coping styles and social support.

Psychological Needs

In order for people to initiate the growth process, psychological needs must first be met (Joseph & Linley, 2005). When the environment deprives people of their psychological needs for autonomy, competence and relatedness, people do not have the mental and emotional capabilities to fully process challenging information. In these situations, people will most likely assimilate the information, often through self-blame, and return to their previous assumptive world beliefs. In cases where people are able to shift their thinking and begin to accommodate, but still have not had their psychological needs met, they will likely experience negative accommodation (Joseph & Linley, 2008a). However, when psychological needs are met, people have enough confidence, agency and support from others to feel comfortable working through difficult information in order to reconstruct their new worldviews. Instead of contextualizing the information of the trauma in a negative way, people are able to conceptualize the information in the context of feeling efficacious and supported. These reinforcing factors help people see the new unpredictable world through the context of feeling capable of overcoming future challenges and feeling supported by others who care.

Coping Styles

Coping is an essential component in all of the posttraumatic growth models (Joseph, et al., 2012; Park, 2010; Schaefer & Moos, 1992; Tedeschi & Calhoun, 1995, 2004). It serves as an essential factor that explains how to reduce distress and subsequently transform. A common definition of coping is that it is comprised of efforts aimed at preventing or reducing a threat or a loss, thereby diminishing related distress (Carver &

Connor-Smith, 2010; Lazarus, 1991). Once the trauma occurs, people engage in coping to resolve issues, prevent further harm from the trauma and manage their distress from the event. There are a number of different coping strategies that people employ. Some are far more effective in helping deal with the trauma than others. In the following section I describe both the effective and less effective strategies. I describe how the effective strategies help change people from their pre-trauma selves to post-trauma selves and how new skills, abilities and mindsets accompany the growth process.

Lazarus and Folkman (1984) identified two types of coping strategies: problemfocused coping and emotion-focused coping. Problem-focused is said to be adaptive, whereby the person tries to change the source of the stressor through problem solving efforts. Emotion-focused coping is said to involve efforts aimed at managing the emotional distress associated with the stressor. This coping taxonomy is frequently used to measure how people cope with stress, since it describes specific actions that people take in reducing threats (Skinner, Edge, Altman, & Sherwood, 2003).

Another common distinction of coping styles is between approach versus avoidance styles (Folkman & Moskowitz, 2004; Roth & Cohen, 1986). An approach-style coping orientation refers to a tendency to move toward the stressor often through action, whereas an avoidance orientation refers to a tendency to move away from the stressor, usually through distraction. An example of an approach-style coping strategy would be trying to find a lawyer to help with a false criminal charge. An avoidance-style coping strategy example would be to distract oneself from dealing with the false charge by watching television and oversleeping. Examples of approach-style coping strategies include taskfocused coping, active coping, planning, instrumental support, religion, venting, positive

reappraisal, humor, acceptance, and emotional support. Examples of avoidant-style coping strategies include self-distraction, denial, behavioral disengagement, self-blame, and substance use (Kershaw, Northouse, Kritpracha, Schafenacker, & Mood, 2004; Schnider, Elhai, & Gray, 2007).

Generally, avoidance-style coping strategies are related to higher levels of depression, anxiety, stress sensitivity and posttraumatic stress (Schnider, et al., 2007; Taylor & Stanton, 2007). Approach-style coping strategies, on the other hand, have been associated with greater psychological and physical health during stressful situations (Taylor & Stanton, 2007). More specifically, approach-style coping strategies of positive reappraisal, acceptance, seeking social support and religion are associated with greater benefit finding (Helgeson, Reynolds, & Tomich, 2006), posttraumatic growth and lower distress (Prati & Pietrantoni, 2009). Avoidant- style coping strategies, such as behavioral disengagement and alcohol abuse, are related to lower stress related growth (Armeli, Gunthert, & Cohen, 2001) and greater overall distress (Littleton, Horsley, John, & Nelson, 2007). Surprisingly, the avoidant-style coping strategy of denial has been associated with more benefit finding rather than less benefit finding. (Helgeson, et al., 2006). While some denial may be helpful in reestablishing normal routines after the crisis, scholars maintain that prolonged use of this strategy will likely be associated with less growth, since the person is not processing the event (Scrignaro, Barni, & Magrin, 2011). Finally, in the organismic valuing theory framework Joseph (2011) posits that the approach-style coping strategies of task-focused and emotional-focused coping help people positively accommodate a trauma, whereas avoidance-style coping strategies more likely lead to assimilation.

Social Support

Perceived social support has been identified as a major component that facilitates posttraumatic growth (Linley & Joseph, 2004; Prati & Pietrantoni, 2009; Zoellner & Maercker, 2006). Social support is often described as having available social resources to help to solve and manage the trauma (Schaefer & Moos, 1992). This can include supportive family and friends and community resources, such as physical and mental health services, religious associations and support groups. Access to support systems enables victims to seek and receive advice on resolving stressors and managing the emotional outfall from the event. A number of studies have provided evidence of the relationship between social support and growth. In their review, Linley and Joseph (2004) found that higher levels of social support were associated with growth. This finding was corroborated by a meta-analysis of 46 studies (Prati & Pietrantoni, 2009), which found social support to relate to higher growth. Similarly Scrignaro, and colleagues (2011) found that patients who felt their caregivers supported their needs for autonomy, relatedness and competence reported higher levels of growth six months later.

Personality

Personality has been identified as a major predictor of growth. Emotional stability, extraversion, openness to experience, optimism and self-esteem have been identified as personality differences that predict higher levels of growth (Linley & Joseph, 2004). Optimism in particular has been identified as an important indicator of growth levels (Prati & Pietrantoni, 2009). Optimistic people are found to better adjust to stressors (Aspinwall & Taylor, 1992; Carver et al., 1993; Scheier & Carver, 1985) and

utilize more adaptable coping strategies, such as approach and problem-focused coping (Solberg Nes & Segerstrom, 2006). Optimists have been shown to handle traumatic events such as natural disasters, technological catastrophes, terrorist attacks, military combat and sexual and criminal assaults particularly well (Benight & Bandura, 2004). Furthermore, findings from meta-analyses (Helgeson, et al., 2006; Prati & Pietrantoni, 2009) provide evidence that optimism has a positive effect on promoting growth. Tedeschi and Calhoun (2004) explain that optimists have a unique ability to focus on the central elements of the trauma and release themselves from creating unrealistic goals and subscribing to self-defeating worldviews.

Emotional States

Emotional states are the last factor that Joseph and Linley (2008a) identify in their theory of organismic valuing. Emotional states refer to the negative and positive emotions that people experience post-trauma. As illustrated in Figure 1, these emotional states are recursive; they influence how the event is processed and are equally influenced by the processing of the event. Joseph et al. (2012) explain that as people continue to ruminate and ask "what if" questions, they reinforce negative emotions, such as guilt, shame and anger. However, in cases where reflection leads to positive reappraisal, people often experiences feelings of joy, hope and pride. Furthermore, the experience of positive emotions after a traumatic event (i.e. humor, gratitude, appreciation, interest, love, curiosity) are thought to help reverse the effects of the initial distress and prevent the expansion of longer-term negative emotions that result in posttraumatic stress disorder (Joseph & Linley, 2008c). Through the activation of positive emotions and coping,

people are able to transition from ruminative brooding to positive reflection (Joseph, et al., 2012).

The Transformational Process

By moving through the organismic valuing process, engaging in approach-style coping strategies and utilizing social support resources, people can progress toward positive accommodation and experience deep growth. However, in order for these factors to be properly activated, psychological needs must first be met. Once people feel a sense of competence, autonomy and relatedness they can begin the proactive process of growth. Recall that PTG is comprised of five dimensions (*personal strength, new possibilities, relating to others, appreciation of life* and *spiritual change*). Here I briefly describe how growth in each of these dimensions can be facilitated by engagement in the psycho-social factors discussed above.

Personal strength develops through a number of processes. When people engage in new coping efforts they broaden their overall skillsets and abilities. Through the recognition of new skills, feelings of competence, self-reliance and overall self-efficacy rise (Tedeschi & Calhoun, 1995). According to Schaefer and Moos (1992) by engaging in cognitive, problem-solving and helping-seeking coping strategies people develop skills that will boost their self-reliance in the future. Cognitive coping helps to breakdown problems through compartmentalizing. Problem-solving and helping-seeking skills help people identify actions that can be taken to resolve problems. As these skills develop, people learn that they can rely on their own abilities to resolve future problems.

Social support offers a platform for people to talk through their ideas. Through discussions with friends and resources, one becomes clearer on what is important in one's life and moves towards an individualized path in life (Joseph, et al., 2012). A feeling of alignment with values may increase feelings of self-knowledge and result in more overall personal strength. By having a better understanding of oneself, one is more prepared to handle future endeavors. Additionally, when a person feels supported by friends and family, he or she feels valued. This feeling can lead to a greater sense of self. Finally, the development of emotional regulation helps people effectively manage their emotions associated with the trauma. This stretches people's ability to deal with negative emotions and learn how to better manage them. When people recognize that they have the emotional capacity to deal with negative emotions, they feel confident that they can manage future stressors.

New possibilities develop as people struggle to integrate new information from the trauma into their new worldview. This process combined with accommodation helps people see new paths and ways of thinking that make them feel more authentic (Joseph & Linley, 2005). Through this struggle, people become more aligned with their intrinsic goals and begin engaging in new interests and hobbies that are united with their core beliefs. Additionally, new possibilities develop as people realize that their new coping abilities can open up new worlds to them. These abilities work in tandem with personal strength. Whereas a pre-trauma person may have been afraid of taking risks, post-trauma people are reinvigorated with a new strength and toolset of new capabilities. Another dynamic that promotes new possibilities is being forced to develop new skills in order to cope with the change. It often takes an event like a trauma to push people into developing

skills that they otherwise would have been afraid or uninterested in developing. Once the skill is developed it enables them to have greater self-esteem in developing other skills that they once considered off-limits (e.g., Brown, Feldberg, Fox, & Kohen, 1976).

Relating to others is accentuated through the coping strategies of seeking instrumental support and emotional support (Tedeschi & Calhoun, 1995). Reaching out for help increases the frequency of the interaction as well as the emotional relationship. When people reach out for information in order to resolve a problem, the exchange enables people to identify around a similar experience. People deepen their relationships with others through processing the distressful emotions from the traumas. These relationships evolve as the victim initiates trusting relationships by showing vulnerability and reliance on others. Friends and family who show compassion signify to the victim that they care and can be relied upon. This cycle of relating tends to produce more trust and compassion and overall higher quality relationships. The increased compassion also develops when people realize that they survived their crisis because of kindness and help from others. People often want to reciprocate by helping to reduce the pain of other sufferers.

Appreciation of life is a product of cognitive coping, positive reappraisal coping and social support. By engaging in cognitive coping people systematically reprioritize how they spend their personal resources (i.e., time, money, energy). This latter exercise is done in alignment with a fresh acknowledgment of their values. Cognitive coping has been said to help people analytically deduce both positive and negative outcomes of the event (Schaefer & Moos, 1992). Building on this feature, positive reappraisal coping helps people focus on the positive elements of the trauma and attenuates the negative

aspects. Social support helps people talk through the event with friends, family and other resources. Through these discussions, people shift their schemas about the world and themselves (Joseph & Linley, 2006) and recognize aspects of their lives that make them feel happy and fulfilled.

Change in spirituality develops primarily from the coping strategy of engaging in religion and acceptance. By focusing on religion or spirituality, people often believe that God or a higher power has a plan for their struggle. This line of thinking reduces pain by giving meaning and purpose to the trauma. When people feel that there is a reason for the struggle they reduce their need to fix it or have control over it, because they feel it was "meant to be." This acceptance allows people to stop fighting against the stressor and start looking toward the future. Another benefit of religious and spiritual coping is that people feel as though God or a higher power is watching over them. This allows people to feel comforted in knowing that they are protected, are not alone in the struggle and that there is a larger power looking out for them and directing them.

Results from a meta-analysis (Prati & Pietrantoni, 2009) showed that people who used spiritual and religious coping strategies tended to have more growth than people who used other coping strategies. Using religious or spiritual coping methods during a crisis results in strengthened beliefs after the crisis. Moreover, there is an acknowledgement that a higher power deems them worthy of surviving, which leads people to feel special and loved. People often try to reciprocate feelings of love and appreciation towards their faith, in gratitude for helping them get through the crisis. The reflection that occurs as a result of the crisis, combined with constructive coping strategies, can produce positive growth.

Summary

Traumas are terrible events that occur in people's lives. Most of them are unpredictable and uncontrollable. Yet the triumph of the human spirit shows that people can overcome these events and even thrive because of them. This process is explained through organismic valuing theory (Joseph & Linley, 2005) and shows how people are intrinsically drawn toward growth. According to the theory, when people's psychological needs for autonomy, competence and relatedness are met, they are able to engage in approach coping strategies and tap into their social support networks. They are also able to start managing their emotional states and promoting positive emotions. These factors, along with personal characteristics such as optimism, help people to cognitively reframe their worldviews. These elements enable people to change in five ways: with an increase in personal strength, new possibilities, relating to others, appreciation of life and spiritual change. In the following chapter I discuss traumas in the workplace. I review settings where these traumas take place and accounts of the pain and suffering that employees endure, because of these traumas. More importantly, I uncover areas where posttraumatic growth appears to be occurring. Finally, I suggest the need for the development of a workplace PTG measure.

CHAPTER III: POSTTRAUMATIC GROWTH IN THE WORKPLACE

Though the study of PTG has primarily taken place in health psychology, there is strong relevance for the management field. Recently scholars have asked (Driver, 2007) and have started to answer (Kahn, et al., 2013; Larick & Graf, 2012; Lev-Wiesel, et al., 2009; Maitlis, 2009; Paton, 2005) whether and how employees can benefit from suffering. There are a number of contexts where employees may encounter workplace traumas. Two specific contexts include high risk occupations and downsizings. Layoffs can be painful for both employees who are laid off and for survivors who experience job insecurity. In addition to these work contexts, there are on-going instances of trauma that occur in a wide-range of work environments, from workplace injuries to abusive supervision. In the next section I discuss how workers in high-risk occupations, downsizing environments and general work conditions may experience traumatic events and when PTG is more likely to occur.

High-risk Occupations

High risk occupations are characterized by dangerous jobs where the person's life is directly in danger or where the job duties require saving others' lives. These jobs include firefighting, rescue work, police work, combat and medical work (i.e., doctors, nurses, rescue workers and paramedics). The probability of encountering psychological or physical danger in these occupations is extremely high and often leads to feelings of fear and distress (Jermier, Gaines, & McIntosh, 1989). To counteract these risks, many of

these professionals utilize shared role systems and creative role shifting, thus enabling them to adapt to uncertain events (Bechky & Okhuysen, 2011). There is evidence that these types of workers experience posttraumatic stress disorder after exposure to extremely stressful incidents, such as when they are in jeopardy or witness other people in danger (Bacharach & Bamberger, 2007; Corneil, Beaton, Murphy, Johnson, & Pike, 1999; Schaubroeck, Riolli, Peng, & Spain, 2011).

A handful of scholars in psychology have shifted from primarily exploring increases in posttraumatic stress disorder among military veterans and police-workers to investigating areas of growth. Larner and Blow (2011) offer a conceptual model of how combat veterans can engage in meaning making processes that encourage growth. In a study on Vietnam War veterans, Fontana and Rosenheck (1998) found the soldiers reported both psychological benefits and liabilities from fighting in the war. In a second study, Dekel, et al. (2011) examined factors that predicted posttraumatic stress disorder and PTG amongst Israeli veterans of the Yom Kippur War. In this 30- year longitudinal study, the researchers found that soldiers, who felt loss of control but relied on active coping during their captivity, experienced both posttraumatic stress disorder and PTG. A third study looked at veterans of the U.S. Army two years after they had returned from combat (Pietrzak, et al., 2010). This study reported that 72% of the sample recounted an increase in at least one area of PTG. Over half of the veterans experienced a shift in their life priorities, a better appreciation of each day, and a stronger ability to handle difficulties. In a fourth study, Larick and Graf's (2012) findings mirrored the results of the previous study, showing an increase in PTG for combat veterans, with a greater sense of personal strength, appreciation of life, changes in viewpoints and bonding

relationships. They also found that veterans reflected on their appreciation of honor, pride, respect for others, challenge, excitement, structure and learning. A fifth study showed that Israeli wartime nurses and social workers who were directly and indirectly exposed to trauma reported greater levels of posttraumatic stress symptoms and PTG (Lev-Wiesel, et al., 2009). Through the acts of caring for their patients and working closely with colleagues, they felt an enhanced sense of worthiness. Finally, a study by Paton (2005) looked at how organizational aspects helped to promote growth with police officers. Having responsibility, empowerment and recognition of good work were considered predictors of greater PTG. These elements appear to overlap with the psychological needs of autonomy, competence and relatedness, which are necessary for growth.

Downsizing and Job Insecurity

Another area that is predisposed to work-related trauma is downsizing. Jahoda (1982) asserts that employment provides people with positive factors such as structure, sense of community and belonging, socialization, income, sense of purpose, social status and activity. However when people are laid-off, they experience a major loss of these significant factors. DeFrank and Ivancevich (1986) note that job loss is comparable to other traumatic losses in the way that it negatively affects people's health, physical wellbeing, and social and interpersonal relationships. In these reports, people describe job loss as extremely stressful and an event that increases their anxiety, depression and negatively affects their physical well-being (e.g., Hanisch, 1999; Latack, Kinicki, & Prussia, 1995; Wanberg, Kammeyer-Mueller, & Shi, 2001).

Another workplace trauma is surviving a layoff (Roskies, Louisguerin, & Fournier, 1993). Exposure to repeated rounds of downsizing can result in employees feeling anxious about the uncertainty of the future (Roskies, et al., 1993) and thus produce job insecurity. In fact, some scholars suggest that job insecurity may be more traumatic for survivors than for victims of a layoff (Greenhalgh & Rosenblatt, 2010). A number of studies have found that job insecurity has negative effects on health outcomes, attitudes (Cheng & Chan, 2008; Sverke, Hellgren, & Naswall, 2002) and long-term effects on well-being (Hellgren & Sverke, 2003). In a lab study that was designed to replicate the situation of a downsizing, Brockner et al. (1986) found that participants experienced survivor's guilt when others were fired for unjust reasons.

Other Types of Workplace Traumas

High risk occupations and job threats and losses represent severe circumstances that only a segment of the workforce experiences. However, the workplace is filled with examples of other traumatic and highly disturbing occurrences. Employees suffer from a number of different events including abusive supervision (Inness, Barling, & Tumer, 2005; Mitchell & Ambrose, 2007), interpersonal conflict (Baron & Neuman, 1998; Penney & Spector, 2005), sabotage (Ambrose, Seabright, & Schminke, 2002), bullying (Hoel, Rayner, & Cooper, 1999; Zapf, Einarsen, Hoel, & Vartia, 2003), harassment (Barling, Rogers, & Kelloway, 2001; Berdahl, 2007; Rospenda & Richman, 2005) false accusations (Bies & Tripp, 1996), unethical or illegal dealings (Giacalone & Promislo, 2010), workplace violence (Schat & Kelloway, 2000; Schat & Kelloway, 2003), terrorism (Bacharach & Bamberger, 2007; Waldman, Carmeli, & Halevi, 2011), natural disasters (Hochwarter, Laird, & Brouer, 2008), unsafe work conditions (McLain, 1995) work-related injuries (Maitlis, 2009), the death of a co-worker (Frost, 2003) and major organizational changes (i.e. mergers) (Amiot, Terry, & Callan, 2007; Fried, Tiegs, Naughton, & Ashforth, 1996). Frost (2003) notes that the worst pain is produced by hostile coworker interactions, abusive supervision, overly demanding clients, organizational mergers that generate conflict, restructuring and downsizing. In such instances, employees' sense of self-worth, confidence, hope, performance and morale markedly decline.

To date, Maitlis' (2009) qualitative study on injured musicians is the only study that explores how workplace traumas help employees positively transform in relationship to work. Unlike the studies within the military and police force (Larick & Graf, 2012; Lev-Wiesel, et al., 2009; Paton et al., 2008), Maitlis did not measure PTG, but instead qualitatively investigated how growth manifested at work. She interviewed injured musicians and found that their inability to perform dramatically affected their feelings of self-worth and identity. The loss was felt on a few levels, such as loss of income, loss of identity as capable workers, and loss of ability to create music that had provided them with joy and self-esteem. In dealing with these losses, the musicians began the difficult process of reconstructing new positive identities. Many of them reported that they were forced to find creative ways to work and adjust for new mobility. This resourcefulness resulted in feelings of personal strength in their careers and in life.

Maitlis will undoubtedly be the first of many scholars to look at various aspects of posttraumatic growth in the workplace. While her qualitative study uncovered the benefits of adaptability and creativity, the pathway may be different in other occupations.

Quantitative research will be helpful in expanding our understanding of what other benefits may evolve from workplace traumas. Unfortunately, there is currently no measure of workplace PTG. A number of related concepts in the management field have looked at facets of the growth process. Research on career resilience and adaptability (Savickas & Porfeli, 2012), general workplace resilience (Luthans, Vogelgesang, & Lester, 2006; Powley, 2009; Stephens, Heaphy, Carmeli, Spreitzer, & Dutton, 2013; Sutcliffe & Vogus, 2003; Zellars, Justice, & Beck, 2011), eustress (Macik-Frey, Quick, & Nelson, 2007; Meurs & Perrewe, 2011) and organizational compassion (Boyatzis, Smith, & Beveridge, 2012; Dutton, Worline, Frost, & Lilius, 2006; Kanov et al., 2004; Rynes, Bartunek, Dutton, & Margolis, 2012) provide examples of how to manage adversity and suffering in the workplace. However, none of these streams provide a comprehensive assessment of how severe workplace traumas may result in specific positive employee outcomes. Since each of these areas only captures a sliver of the process, what is needed is a thorough examination to see how workplace traumas result in growth. In support of this, a workplace PTG instrument needs to be developed.

CHAPTER IV: ISSUES WITH WORKPLACE POSTTRAUMATIC GROWTH MEASURES

In this chapter, I address the need for an instrument that is distinctly designed to capture the specific work-related growth outcomes that employees experience after a workplace trauma. These growth outcomes could include perceived changes in attitudes toward their abilities, skills, jobs, careers, organizations and relationships at work. Currently, there is no existing scale that measures workplace posttraumatic growth. Looking to the management literature, the Career Adapt-Abilities Scale (CAAS) (Savickas & Porfeli, 2012) comes closest, as it assesses the extent to which employees adapt throughout their careers by "mastering vocational development tasks, coping with occupational transitions, and adjusting to work traumas and contingencies" (p. 662). The full scale appears in Appendix A1. There are two main reasons why the CAAS is not equipped to measure workplace PTG. First, the CAAS does not specifically measure how employees change in response to one particular trauma. Rather, the instructions for the scale ask participants to rate themselves based on how they have developed in their careers. Participants taking the CAAS may consider a number of events that have helped them to positively change in their careers. Some of the events may be positive, like a promotion, where others may be negative, like a trauma. Consequently there is no way to indicate, for certain, whether the participants are attributing their positive growth to one specific traumatic event. Second, and more importantly, the CAAS does not capture all of the facets of PTG. While some of the items on the CAAS are representative of how people change after a trauma (i.e., "Making decisions by myself"; "Doing what's right for me"; "Learning new skills"; and "Overcoming obstacles."), there are other aspects of

PTG, such as higher quality relationships, that are not represented by the items. It is important that an instrument be developed that includes both changes that are due to specific traumatic events and dimensions that depict the full range of workplace PTG.

Below, I review the measures that have been designed specifically to measure PTG. These measures were created for general life traumas and all bear related formats. Because of their similarities I describe their shortcomings together. I address the overarching reason that these measures are inappropriate to measure workplace PTG. Following this, I raise issues that are particular to some of the measures. Finally, I conclude by addressing how I will build on one of the current measures (the Posttraumatic Growth Inventory) in designing a measure of workplace PTG.

As previously mentioned, scholars in psychology and health psychology have developed a few different instruments to measure posttraumatic growth. These instruments include the *Posttraumatic Growth Inventory* (PTGI) (Tedeschi & Calhoun, 1996), the *Stress-Related Growth Scale* (SRGS) (Park, et al., 1996), the *Benefit Finding Scale* (*BFS*) (Tomich & Helgeson, 2004) and the *Changes in Outlook Questionnaire* (*CiOQ*) (Joseph, et al., 1993)². All of these scales ask participants to consider a traumatic event they experienced, and rate the extent to which they perceive they have changed on a number of items. The PTGI (Appendix A2) is a 21 item, multi-dimensional scale with 5 sub-dimensions, which include *personal strength, new possibilities, relating to others, appreciation of life* and *spiritual change*. The SRGS (Appendix A3) is a 50

² There is an additional scale called the *Thriving Scale* (TS) (Abraido-Lanza, et al., 1998), which was designed exclusively for Latina women struggling with illness. I do not explore the details of this scale, because of its specialized use. Additionally, the scale is not entirely different from the above mentioned scales. Out of the 20 items in the Thriving Scale, only two are new ("My relationship with my family became more meaningful"; and "I learned to be more patient"). The other items come from the SRGS (15 items) and the PTGI (3 items).

item uni-dimensional scale. The items represent positive changes in social relationships, personal resources, life philosophies, openness to new information and coping skills. The BFS (Appendix A4) is a 20 item uni-dimensional scale. The items represent changes in personal priorities, daily activities, family relationships and worldviews. The scale has been used almost exclusively with women diagnosed with breast cancer. Finally, the CiOQ (Appendix A5) is a 26 item, two-dimensional scale, which includes the dimensions of *positive change* and *negative change*.

Looking first at the structural issues of the scales, a major concern with the SRGS and the BFS inventories is the stability of the uni-dimensional factor structure. Simply, it is difficult to imagine that all 50 items in the SRGS and 20 items in the BFS cleanly load on one factor, per each scale. Scholars have tried to address this concern with the SRGS by conducting confirmatory factor analyses across student and adult samples (Armeli, et al., 2001). After allowing the items to load freely the authors found that a 7-factor model produced the best fit for the data across both student and adult samples. The items loaded into categories that represented (1) affect-regulation, (2) religiousness, (3) treatment of others, (4) self-understanding, (5) belongingness, (6) personal strength, and (7) optimism. The authors note that many of the items cross-loaded with more than one factor, whereas other items loaded alone, representing only one dimension. Moving forward it is important to create a stable measure in which the items accurately reflect dimensions.

Whereas the PTGI has shown strong factor structure, the inventory raises other concerns as to whether the items accurately represent the dimension definitions. For instance, in describing the dimension of personal strength Tedeschi and Calhoun (1996) say the following; "It appears that living through life traumas provides a great deal of

information about self-reliance, affecting not only self-evaluations of competence in difficult situations but the likelihood that one will choose to address difficulties in an assertive fashion" (p. 456). This description seems to imply three sub-dimensions of personal strength, peoples' perceptions of competence and self-reliance. However, the corresponding items for this dimension do not tap the stated aspects of the definition (See items in Appendix A2). Similar problems occur with the other four dimensions and corresponding items.

The PTGI, SRGS, BFS and CiOQ offer a number of ways to measure general growth that people experience after life traumas. However, none of them specifically focus on workplace growth.³ Looking at the items in these scales, there appear to be quite a few themes that could pertain to how people change at work, for instance, being more self-reliant and patient, developing new skills and having better relationships. However, the actual items do not extend far enough to include workplace changes. Whereas the PTGI, SRGS, BFS and CiOQ assess generally how peoples' relationships may change, a workplace PTG measure should assess how peoples' relationships may change specific to their colleagues, managers, direct reports and clients. Generally, the themes that appear in the above scales need to be altered so that they are appropriate for the workplace.

However, merely adapting the above scales, by adding the words "in your job", "at work", or "with people at work" to the ends of items, is insufficient. Doing this would cause problems with the content validity of the instrument. The constructs that appear in the above measures were derived from literature in psychology and validated on

³ The authors (Tomich & Helgeson, 2004) of the BFS tried to get at a career dimension by including four additional items about career changes (see Appendix A4). However, they were excluded from the published scale because 20% of the participants were not working. Unfortunately, the corresponding items have not been tested and are not expansive enough to include all of the workplace changes that may occur.

specialized populations (i.e., undergraduates in psychology, women with breast cancer). Therefore, it is likely that there are additional dimensions relevant to workers and to workplace growth that are not included in the PTGI, SRGS, BFS and CiOQ. These additional dimensions might represent increased bonding with a team or developing leadership abilities. Additionally there may be dimensions that appear in the PTG scales that are not as relevant for workplace PTG, such as an increase in spirituality. In order to develop a measure that fully captures all aspects of workplace PTG, it should be based on definitions of PTG in conjunction with workers' accounts of their workplace traumas and how they grew in relationship to their work. These accounts should inform PTG dimensions and may even uncover new dimensions which are particular to the workplace. The measure should consist of new and altered dimension definitions, which are represented by items that reflect the definitions. Once constructed, the new measure should be validated on a representative sample of working adults. Finally, when creating a measure of workplace PTG it will be important to take into account individual issues that have emerged in the PTG measures, so as not to repeat them.

While the PTGI has some flaws, of all of the existing growth measures, it has shown the greatest reliability and has become the most widely-used scale for measuring PTG (Cann et al., 2010) in psychology and health psychology studies. This is likely due to its strong theoretical basis and its multi-dimensional structure. In using the PTGI scholars have been able to show differences in growth outcomes (Hagenaars & van Minnen, 2010; Shakespeare-Finch & Barrington, 2012; Thornton & Perez, 2006). For instance, someone who loses a parent may show greater appreciation of life, spiritual change and relating to others, but may not show as great of a change in personal strength

or new possibilities. This level of detail gives researchers more in-depth views of how people grow after traumas. The dimensionality of the scale allowed researchers to ascertain, in one study, how different traumas promote different growth outcomes. Because of the strength and flexibility of this scale, I used a similar format in developing a measure of workplace PTG. I asked participants to reflect on a traumatic event at work and rate the extent to which they felt they changed on a number of work-related items. Furthermore, I designed a multi-dimensional structure that tapped a number of areas of workplace PTG. I clarified and resolved existing definitional issues in the PTGI by creating clearer definitions for workplace-oriented dimensions and ensured that the items accurately reflected the definitions. I also uncovered new dimensions and items that represented growth in the workplace. In the following chapter I outline specifically how I made these improvements.

CHAPTER V: DEVELOPMENT OF WORKPLACE POSTTRAUMATIC GROWTH MEASURE

In this chapter, I describe the steps I took in attempting to create a valid and reliable scale of workplace posttraumatic growth. A scale is a measurement instrument that contains a collection of items. When these items are added together, they reveal the levels of underlying theoretical variables (DeVellis, 2003). I explain the mixed deductive and inductive approaches I took in developing the scale. Following this I describe the interview sample and the procedures I employed to analyze the data from qualitative interviews I conducted to help generate items for the scale.

Inductive and Deductive

One can take a deductive or inductive approach to scale development, or both. According to Hinkin (1998) a deductive approach is driven by a theoretical foundation. By conducting a rigorous examination of the theory and literature, researchers can clarify construct definitions and then proceed to generate items that match the construct definitions. A deductive approach is best suited for situations where a theory already exists. In contrast, an inductive approach is used when the theoretical basis for a construct is absent or is more ambiguous. In such cases researchers usually conduct interviews and ask respondents to provide accounts of their attitudes or behaviors that are related to the construct of interest. These responses are then categorized based on key words or themes that emerge from the interviews. Items are then generated based on the categories.

The phenomenon of posttraumatic growth has been theoretically established and corroborated with evidence in the fields of psychology and health psychology. Because of this, it would appear that a deductive approach could be taken with item generation based on the theory and on existing measures. Looking at the 5 dimensions in the PTGI, it is conceivable that I could create definitions and items that relate to *personal strength*, new possibilities, relating to others, spiritual change and appreciation of life in a work context. However, as previously mentioned in Chapter IV, it is quite possible that other growth areas may occur outside of the 5 PTGI dimensions, and outside of the dimensions illustrated in the other inventories. Therefore, to ensure content validity, it is critical to assess whether additional growth dimensions exist that are specific to workplace PTG. Therefore, I combined the deductive and inductive approaches by conducting interviews with the 5 PTGI categories in mind but being open to the emergence of new dimensions. I coded the data from the interviews using a coding strategy common to grounded theory. It is important to note that I did not use grounded theory for the purpose of constructing a new theory, but rather to identify new categories that could complement or refine existing dimensions that appeared in the PTG literature.

Interview Sample and Procedure

Sample

I recruited 25 mid-level manager-employees from a part-time MBA class, of 48 students, at a mid-western university. Part-time students are a better fit for the study, as compared to full-time MBA students, because they tend to have more work experience and have full-time jobs. The last aspect is particularly important, because participants in this study needed to reflect on how the trauma impacted their current work environment.

To participate in the study, students needed to meet the criteria of working over 20 hours per week in a job and having experienced a workplace trauma over one year ago. A workplace trauma was described to them as "an event that caused you a great deal of stress. The distress from the event should have lasted for at least a few weeks or more. Some other characteristics include an event that was unexpected, you had little control over it or during it, it was out of the ordinary and it may have been irreversible." Students who did not meet the criteria or chose not to participate, were given the option of inviting 3 family members or friends who were willing to be interviewed, worked over 20 hours per week in a job and experienced a workplace trauma over one year ago. This snowball sampling strategy has been used previously in studies where researchers wanted to gain a wide-range of different jobs, industries and circumstances (Grant & Mayer, 2009; Morgeson & Humphrey, 2006). The snowball maneuver brought in an additional 6 participants, resulting in a total of 31 participants.

The demographics of the sample were 67% male, 85% white, with a mean age of 32 years (SD = 8.66). The traumas occurred in a wide range of industries, most frequently in manufacturing (26%), healthcare (19%), financial services (16%) and government/ not-for-profit (16%). Some of the participants switched industries since the traumatic event and, in some cases, because of the event. Industries in which the participants currently worked were manufacturing (26%) healthcare (19%), education (16%), government/ not-for-profit (10%) and marketing (10%). The range of traumas included verbal and sexual harassment (19%), job insecurity (19%), downsizing (16%), sabotage (10%), false accusations (10%) and other such traumatic experiences (26%). The average time since the trauma was 4 years (SD = 5.36). The average stressfulness the participants

felt at the time of the event, when rated on a 7 point scale (1 = a *little stressful, to* 7 = *extremely stressful*), was 5.7 (SD = .93).

Procedure

I recruited the participants at the beginning of one of their class sessions. I explained the purpose of the study and students were offered 2 points of extra credit added to their final grade in exchange for study participation. In order to avoid coercion, students who wanted to earn extra credit but did not want to participate in the study had the alternative of completing a two-page graded assignment. Before asking for participation, I briefly described the study (see Appendix B for recruitment script) and provided the students with two copies of the consent form (Appendix C1), asking them if they would like to participate in the study and assuring them of their rights and confidentiality. Students who did not have a workplace trauma or did not wish to be interviewed (but wanted to participate in the study) were given the opportunity to recruit other participants. I sent these students materials to forward to interested contacts who met the criteria. These materials included a consent form for the snowball candidates (Appendix C2) and information about the study (Appendix D).

The interviews were conducted in person and over the phone. The interview protocol consisted of approximately 16 open-ended questions (Appendix E). Throughout the interviews, I asked follow-up questions to get a clearer idea of the factors surrounding the workplace trauma and the changes that occurred after the event. I was careful to allow the interviewees to reveal their experiences rather than direct them to changes that I would expect to find. The interviews ranged anywhere from 40 minutes to 105 minutes and were conducted in one session.

CHAPTER VI: EXPLORATORY INTERVIEWS

In this chapter, I describe the coding strategy I used to classify the interview data into existing or new dimensions of workplace posttraumatic growth, the results of which are displayed in tables. Next, I explain how items were generated to reflect and properly measure all of the dimensions. Finally, I discuss the question-methodology (Q-sort) I used to pretest the items and assess the content validity.

Item Generation and Scale Development

Coding Strategy

I employed a grounded theory coding strategy in order to detect and categorize attitudes and behaviors that changed as a result of work-related traumas. This strategy, described in more detail below, included open and axial coding (Strauss & Corbin, 1990). Miles and Huberman (1994) recommend that researchers start with a deductive approach to the data and gradually move to an inductive approach. Following this suggestion, I kept a group of pre-defined categories that were similar to the 5 dimensions of the PTGI and related to the workplace.

Once the interviews were conducted, the tapes were transcribed and loaded into the qualitative data analysis software program, Atlas ti. Next, open coding was performed, which is one of coding strategies outlined by Strauss and Corbin (1990). Open coding is described as a process that "fractures the data and allows one to identify some categories, their properties and dimensional locations" (p. 97). To conduct the analysis, I read through the transcripts on Atlas ti and highlighted phrases or sections that described an attitude or behavioral change. The software allowed me to create labels and codes, which were the basis for high-level categories. The next part of the analysis involved axial coding. This process is described as "a set of procedures whereby data are put back together in new ways after open coding, by making connections between categories" (p. 96). During this step, I took the categories that emerged in the open coding process and identified dimensions and sub-categories. I created these relationships in the Atlas ti program. I then ran the data through these categories so that all of the labels and codes were represented in the larger categories. Table 1 displays the categories that emerged during the open coding process and that were refined during the axial coding phase. The table also displays the number of times the categories appeared across the 31 interviews, with examples demonstrating the different features of the dimensions.

A total of 17 dimensions emerged: 1) *self-reliance*, 2) *confidence*, 3) *emotional self-control*, 4) *new career possibilities*, 5) *meaningful relationships*, 6) *compassion*, 7) *identity shift*, 8) *organizational awareness*, 9) *professionalism*, 10) *advocating*, 11) *technical competence*, 12) *social astuteness*, 13) *interpersonal influence*, 14) *networking* 15) *integrity*, 16) *appreciation of life* and 17) *spiritual change*. Recall that the PTGI has 5 dimensions; 1) *personal strength*, 2) *new possibilities*, 3) *relating to others*, 4) *appreciation of life* and 5) *spiritual change*. The first 3 dimensions that emerged from the interviews, *self-reliance, confidence* and *emotional self-control* are sub-dimensions of the 1st PTGI dimension, *personal strength*, because all three exhibit a greater sense of selfdevelopment. New career possibilities is a modified version of the 2nd PTGI dimension, *new possibilities*. It is altered to be more specific to the workplace. *Meaningful relationships* and *compassion*, are sub-dimensions of the 3rd PTGI dimension, *relating to* others. Though not as frequent as the other PTGI dimensions, there was evidence of *spiritual growth* and *appreciation of life* that arose from the interviews. Of all the adapted dimensions, these last two were closest to the original PTGI dimension. The 9 new dimensions included *identity shift, organizational awareness, professionalism, advocating, technical competence, social astuteness, interpersonal influence, networking and integrity. The last four dimensions, <i>social astuteness, interpersonal influence, networking* and *integrity* are newly identified as growth outcomes, but they are constructs that have been previously established as sub-dimensions of *political skill* (Ferris et al., 2005b). I discuss *political skill* in more depth in the next section.

Table 1

Dimension	Frequency of Dimension across Interviews ^a	Examples
1. Self- reliance	13%	More future potentialI'm more reliant on myself and what I can do, instead of relying on my boss's drive or ideas that come out of who knows where. (28, Worked for a boss who committed fraud).
		Just being more independent and realizing that I need to tell the doctors certain things. (31, A nurse who was verbally harassed and falsely accused by a doctor who was harming a patient).
2. Confidence	29%	Overall it just gave me confidence, more than anything, and I think that will be a long-term effect that will always stay with me (11, Was afraid of losing his job).
		Going through that whole exercise of having to get your resume polished and everything, it makes you actually stop and think about what

WPTGI Dimensions

		 accomplishments you had, you know, what impact you had on your organization, stuff like that. So it helps to pull it out, you know. It's like, "Okay, yeah, you know. I am valuable." (5, Was laid-off). I've got a lot more confidence now 'cause I got like more responsibilities and I do more important things now so I feel a lot more confident and talking and expressing my opinions and telling people what we shouldn't and should do. (18, Survived a lay-off). I'm not ashamed, like I said, to talk about some things upfront and get to the bottom of an issue if I don't understand it. Whereas before something like this could happen I wasn't gonna ask those questions, because I didn't want to step on any toes or stir the pot. (27, Was a victim of sabotage and subsequently fired).
3. Emotional self-control	35%	Yeah. So, I have I have been trying to do better. I still catch myself being short with him sometimes, but I do think I can handle it.[laughs] (21, victim of sabotage).
		A lot of times, when it comes to your career in corporate America, there are some things you can control and there are some things you can't. You can only do as much work as you can. I think if anything, that particular instance has taught me that more than anything else, sometimes it's not all about me, it's about them and I can only do what I can do. (17, afraid of losing her job).
		I think that that has taught me not to get so hung up on whether or not something is being done. Because it might be and you just don't realize it. (10, afraid of losing his job).
4. New career possibilities	42%	At both [X] and [X] I was recruiting more entry level people, so there were a lot of people that we were saying "no" to on a daily basis and doing those resume writing and interview skill workshops, during the merger, made me realize that, "oh, you know, I could really help somebody, by doing this sort of thing and leveraging my experience and expertise at the same time." (2,

afraid of losing her job during a merger and since changed careers).

I remember thinking, like, if I got this job, this could be my career, and I ended up getting it and had no hesitation about changing fields. (4, Dealt with a violent employee and since changed careers).

It has changed my career completely. I mean that was the nudge that I needed to realize that I needed to kind of, you know, get out of that situation. So since then I've completely changed careers and changed path totally. (27, victim of sabotage and subsequently fired and found a new career).

I wouldn't have the career I have right now if it didn't happen. I wouldn't have joined the Peace Corps or went to law school, at least not at the time that I did. (10, Afraid of losing his job due to a violent and manipulative co-worker)

It's been great for my career. Like I said you're always think about changing jobs, and moving up the ladder and it made me change jobs, and apply to something. I probably wouldn't have applied to. Getting into [X], I get my MBA paid for. So it's been great for my career. It's definitely positive. (1, laid-off).

I've got a lot more responsibility. I've got a lot more staff working for me now. It really kind of expanded my power. So it's like, in the long term, it's actually been really helpful in my career. But in the short term, it was horrible for like 6 months of not knowing what was going to happen and not really knowing which way my career was going to go if I had stayed in the company. (18, Survived a lay-off).

5. Meaningful	55%	I've continued to develop strong relationships with
relationships		a lot of people at work; more so than I did back thenI've become better at maintaining and creating those strong relationships. (7, Survived a lay-off and was charged with leading knowledge transfer for a plant that was closed down).
		I think it helped me with the importance of building these relationships. Because I think that if I hadn't felt so isolated at the time it wouldn't have this kind of impact on me. (23, publically verbally harassed by superior).
		(When) I started in this rolethe very first thing on my agenda was build relationships with my manager, and then the colleagues that I work directly with every day. (2, afraid of losing her job due to a merger).
		It makes me feel like I want to get to know my electricians more, if they come through. Find out their background, find out their family, you know. One of the new guys is coming through, his name is Joe. I only had him for one week. I find out he is married, he has got one kid. He wants five kids. His wife said only one more. He used to be in construction. (26a, Watched one of his employees die on the job).
6. Compassion	39%	I want to be in a position where I am leading employees and they don't have to worry about that, because I know what that feels like. It is not the best feeling. For me it was sort of a positive bad eventI wanted to be on the other end and say "Look you don't have to fear for your job. We are able to be very transparent in that you won't lose your job and we will do everything in our power as a company, to help you to never have to go through something like this." (11, afraid of losing his job and is now becoming an entrepreneur).
		But I think it's made me even more cognizant in the fact, even more empathetic with my teams. These are people we're dealing with, and I think,

		in that one instance where I really felt like somebody wasn't dealing with us as people, it made me, you know, as humans with feelings, made me more cognizant to that. In any team, in any situationthey've got feelings. You can't step on them and say, horrible, hurtful things. (17, Survived a lay-off).
		I would definitely say it made me more sympathetic to others and realizing that bad things happen all the time and you should help people when you can. (15, laid off).
		When I went to the location to the plant and they're about to lose their jobs, there was nothing I could do about it. I knew they were going through something difficult and finding out that they were okay made me feel better. So if I have the opportunity now to develop a relationship and maybe help somebody, that's a way of knowing that I feel better. And I even have a chance to help them accomplish something or solve a problem or think about something in a different way or whatever it is. (7, Survived a lay-off and was charged with leading knowledge transfer for a plant that was closed down)
7. Identity shift*	26%	Some of the long-term effects are the way that I think that people often look at, owners of companies and management and people that sit in this ivory tower, it really helped me realize that I had the ability to work and play in that space. (11, afraid of losing his job).
		An attitude that changed definitely with like, realizing that, like, I'm a person that advocates for my patients I think I am just a different person in the workforce than I was at that organization. I think, I came out of my shell more or I know more of what I want and what my strengths are and I say "I can do this and I need help with this." (31, verbally harassed and falsely accused by a doctor who was harming a patient).
		It made me realize that I really enjoy working for, maybe it's, it's the size of the organization or the

		area in which I work, where I feel like I have more impact, or at least can see the impact that I'm making in my role. (2, afraid of losing her job due to a merger).I think I probably had an inflated self-esteem for a very long time and it just really made me realize that I am just a normal person. (15, laid-off).
8.Organizatio nal awareness*	35%	I think having a lot more conversations with people about business and what's going on, definitely going to lunch more often with people, talking, having deeper conversations like what they think, what they hear what's going on, what they think's going on, what projects are going on. Like what projects everyone is working on. (18, Survived a lay-off).
		But what really is going on is that there's also a very strong political dynamic that is going on, on reading people internal to your organization. And understanding who is good for you and can help you in your career and is an ally, you know a business asset and who is giving lip service, but if something goes wrong it could be a real liability for you. So it definitely changed how I view my organization and how I do my job. I no longer have the naiveté that if I hit my numbers everything is going to be fine. There's more to it than that. (6, Involved in a sexual harassment investigation when his boss was falsely accused of sexual harassment).
		So I started to think through this and basically look at all possible options. Looking at all these possible options, I started to look more and more on what he was doing and more and more on how the organizational existing networks were, how existing social structures were and how the organization basically works. That made me aware of all these different nuances of the organization that I probably otherwise wouldn't have looked at It has definitely given me an overall picture of things, where I now have a more organizational aspect of how things work. (19, victim of unfair

		(maximum d and a fraction a)
		treatment and sabotage).
		Yeah, so, it made me realize how critical relationships are, absolutely. You know, it, it makes me very curious how those decisions were made in terms of who to lay off and who not to lay off, and, you know, the only conclusion I came to was based on dollars at the end of the day, and that very well could be, but I also think having allies, you know, is something that is very helpful in that type of situation. (2, afraid of losing her job during a merger).
9. Professionalis m*	32%	There are people at work that talk and talk, especially if they ever talk about politics. Now I am not involved in it at all. People say ridiculous things, and I have learned that it is not a good idea, at work especially. I basically don't do it now because I don't want to get involved in that kind of conversation It is not a good way to spend time. (8, afraid of losing his job when a colleague accused him of being racist).
		I started dressing more professionally on a regular you know every day and I was trying to reduce the amount of conversations that I was having regarding the assistant and that whole situation, because I realized at that point I wasn't really helping anything, and so if I wanted to distinguish myself as a professional especially in my new position I needed to act that way. (21, victim of sabotage).
		That's how I feel. So that's why I say to myself, put a professional attitude forward, be positive, be open, but make sure that you understand the person you're meeting, (33, sexually harassed by a superior).
		I think just the way I carry myself with others probably changed. (14, falsely accused of financial negligence).
		We used to go hang out and go to a bar around 9 or 10, when we were 25 or 26 years old, like go to a bar and stay there maybe until 3am, just hanging

		out drinking and having a good time. I don't really do that anymore, usually I'm in bed by about 10:30. Part of that is getting older and I just can't stay up that late, but a lot of it is that good things rarely happen after midnight. It is sort of the sense that once you have seen too many or the team has seen too many, this is often where things go awry. I don't think that is what happened in this particular sexual harassment issue, but that type of a culture did contribute to her ability to say that and for people to at least consider that it was a possibilityI got rid of foul language at work, not that I curse a lot in my personal life. I've found that in relating to people at work you gain a lot of respect in work, not in being overly PC, but just acting more professional in your environment. I work very hard to portray that I am very hardworking and (have a) professional demeanor So you are more guarded but also more professional. It raises your professionalism, which is a very good thing. (6, Involved in a sexual harassment investigation when his boss was
10. Advocating*	29%	falsely accused of sexual harassment). You know, when I'm able to do something, to make a change, I love it and I get energized by it. And I love that motivation that it's just coming from me, you know? But on the other hand, when things, when I see something unfair is happening or people are being wronged, accused of something or overwhelmed with work and they cannot deliver because one person couldn't possibly deliver that much. It's just, it's frustrating. I take it personalI just speak up for other people. I tend to speak out a lot and get into trouble sometimes. But I just tend to be fighting something that I don't agree with or somebody is being treated unfairly. I tend to be the one to raise the flag. (7, Survived a lay-off and was charged with leading knowledge transfer for a plant that was closed down).
		There was individual I had here at work who was a guy, who for no other reason, was malcontent and he did not get along with individuals. He

threatened people, and he got into it with me one day and I just wanted nothing to do with it. I got other people involved immediately. I said "I don't want anything to do with this." I went right up to the top and I said, "This is inappropriate and this kind of behavior is not ok in the workplace." (9, Witnessed unstable behavior by supervisor at work, i.e. brought a gun to work and stalked employees outside of work).

I can't control if they eliminate my position, but I can control whether or not they are aware if people are upset, and I am upset, as one of those people. Not dwelling on what I can't impact, but trying to at least fix it or make people aware of what I can potentially impact, I can do that. So what I tend to do is try to find things I can actually have an impact on and then I feel like I have done my duty. I let her know there was an issue. Now whether or not she deals with it or not is her issue, but I can at least go to bed with a clear conscience knowing that I told them what was going on... I definitely have been more vocal, and at times that is not a good thing as I have been told about being that vocal about things. When I think something is wrong I will definitely say something about it now instead of letting it go. (30, laid-off).

And I also now, like, I feel like I learned, it's totally appropriate to turn a physician in if he's acting ridiculous. Before, I would have been very timid to do that. And now that I've done it, you know, if someone else acted like that I would be able to say, "No, that's not okay." Like, this resident, you know, needs to be reprimanded for what he did. And told him it's not okay. Whereas, before I don't think I would have done that. So, yes, that's definitely, like, a positive that came out of that. (31, A nurse who was verbally harassed and falsely accused by a doctor who was harming a patient).

11. Technical	55%	I feel like it drove me to a part where I almost
competence*		demanded a higher level of performance from
		myself. (19, victim of unfair treatment and

sabotage).

It became known (amongst the group), like, because of my attention to detail that, I'm going to lead the process, so, I think that I've become process focused. (2, afraid of losing her job during a merger).

I'm trying to be more hands on than what I was before. Even though, I thought that I was pretty hands on (before)... I think now I see that, how it can all be taken away so quickly, I don't want to be responsible for that happening again. So, I'm more conscientious of what I do. (34, laid-off)

And it was hard to, like, get yelled at by a physician. And to see that happen. But I think what came out of it was that I became more confident in my skills. And I became more confident, in the way that I take care of my patients. (31, A nurse who was verbally harassed and falsely accused by a doctor who was harming a patient).

naïve. (2, afraid of losing her job during a merger

I think that because of the issue I ran into, it's kind of.. prompted me to be more diligent than I was in the past, not that I wasn't diligent in following things and analyzing things but I think it's basically left an impression on me that you need to look at everything you need to look at, and then actually spend a little bit more time looking at things. So it maybe just caused me to be a little more critical of issues in the past, maybe I wouldn't have thought much about.. It's made me have a better appreciation, definitely, for complexity of issues and looking at things that, you know, could possibly go wrong or create problems. (3, Made a major error that threatened the business). 12. Social 39% I think it's, it gives me a little bit of insight on the astuteness** individual which then helps me think of whether I can trust them or maybe it's even like to understand their strategy or what their plan is, and see if I agree with it, or if maybe I think they're

and since changed careers).

In the long run it helped me to become a better sales rep and a better employee because I understood more about human dynamics. Honestly that takes me a lot farther than the numbers do in terms of learning how to manage my career. From that point forward I was the number one rep in that company until I left. (6, Involved in a sexual harassment investigation when his boss was falsely accused of sexual harassment).

It definitely changed the way that I saw people in the organization. Even people with more advanced roles. You know, I definitely question people, I question their motives. (27, a victim of sabotage and subsequently fired).

I think long term I realized that it's ok to question people and question motives of people...I see negatives in people that I might have looked up to previously... I was a very naive woman before this instance. And then I found this [event] happening and it completely changed the way that I see people. And I'm more apt to question people now when I see things that are a little funny that are going on. (27, a victim of sabotage and subsequently fired).

Maybe just having a better understanding of what ... the other individual's goal is. (2, afraid of losing her job during a merger and since changed careers).

Exactly, exactly. I can basically tell that whether somebody is trying to give me the run around...I can find the real intent behind a person's actions, more easily now...Like I said one of the other habits is always looking at the bigger picture. I try to now see beyond what people are typically just saying at face value and try to analyze what their intent is. Analyze their actions as you would. (19, victim of unfair treatment and sabotage). 13. 19% I think it also helped me just experience-wise, to Interpersonal talk to people. Like I said, how you word things, influence** and how you say things could drastically change a

conversation and, you know, some people call-in
ready to fight and your composure and your
professionalism and how, like I said, how you
word things could immediately change that
attitudeSo, I try to be careful in what I say and
how I say it. (16, constantly verbally harassed by
customers while working in a call center).

	But so, whenever I need anything, I know that I could send it to him in email, because he'll be forced to respond to me in a professional and like, a bare-bones manner, like, he's not gonna give me any lip, there's not gonna be any bad tone that I have to deal with. It's just he has to give me a straight-up answer. I don't have to worry about any other b***, you know? But if I went and I tried to talk to him one on one, I don't know? I don't know how it would beI'm just gonna avoid all the risks. I'm not gonna take any chances. I'll just communicate with him online, because I know I'm gonna get where [I need to], if I tried to talk to him one on one, you know, you never know what will happen. (32, verbally harassed by supervisor).
	I know I don't want to spend my entire life in an entry engineering role. So I tailored my performance so that, nobody could technically question me. They knew that what I was talking about was correct. So I put myself in a position where my technical skills were not questioned. (19, victim of unfair treatment and sabotage).
14. 16% Networking**	I think I am very aware of business in general, and the larger the network the easier it is to find a job. I think that is in the back of my mind every time I go to a networking event or I have the opportunity to network with peopleCertainly networking; I put more emphasis on that. (11, afraid of losing his job).
	Also I really networked more or lots of people who really make the decisions, make sure that they like you. Instead of before, like I never really talked to them much. But now I realized, I really kind of have to make sure that people know what you're doing, respect what you're doing and know

your name. (18, Survived a lay-off). At that point I started developing relationships across the organization, going up, down, and across, all ways, almost like a spider web, if you would. This incident helped me solidify that role even more where I knew that if I focused on these things regardless of what one person would think, they would eventually end up undermining their own credibility which is exactly what happened. (19, victim of unfair treatment and sabotage). Looking back now I started talking to environmental more, talking to quality more, talking to safety more, helping, also expanding my networks. I ask them question about the process, they realize, 'Oh, I am interested in this stuff. I have a vested interest in the company. They should tell me more, ask me more that's needed and then that kind of helps snowball. (26b, uncovered illegal behavior that led to unsafe work equipment). 13% 15. My major one being my overall integrity. If they Integrity** didn't know that before ... (now) just knowing that when they come to me for something that it is going to be handled in a respectful way. (14 falsely accused of financial negligence). You know, I'm definitely more genuine I think after that. I don't know if it was the direct result of that actual incident but I think a lot of the changes that I made in my career have transitioned into my life. You know, I'm very genuine at work. I'm very genuine in my life. And you know, I'm not ashamed to be like that. (27, victim of sabotage and subsequently fired). As far as the days when I'm there, I will not say "Joe, cover me for ten minutes. I'm gonna take a walk." I'm going to stay there and make sure that things are going properly, before I think about leaving. I'm not gonna count on someone else to do something that I should be making right. I'm not going to take anything for granted. I'm not

going to push off my responsibilities on someone

		else. I want to make sure that I do everything to the best of my ability and not cause an issue. (34, laid-off).
16. Spiritual change	10%	The last couple of months after I kinda reached that acceptance part of it that helped me with this there was a row of trees that you walk through to get into the building. Every day I get in my car, I take a deep breath and I just walk through the streets and I just feel like, you know what, trees are coolGod made them, and He made this day. I went into fasting (when coping with the event) and now have made that a routine part of my life, like, through originally a traumatic event, but now I do it regularly every January (16, constantly verbally harassed by customers while working in a call center).
		I would definitely say that I felt a lot more connected, 'cause, you know, it's just one of those things where, I mean, you were just kinda helpless, right? And, I just, kinda, said a prayer and, I mean, there was almost like a calming sensation, and, you know, even after it, it was like one of those things where, I was, like, we definitely need to make sure that we start going to church. And so, we found, a new church and we got involved in it. (24, Experienced a bomb threat and cartel shootings at an on-site plant in Mexico).
17. Appreciation of life	23%	I don't take that for granted and I think that event taught me to always do your job and always try and do the best that you can because you never know. It is great; I love it now, but something could happen tomorrow and I could be working at a job I don't like. I am thankful for where I am atAnd so, I think long term, it's just something to always think of and it puts (things) into perspective. The rough days now where people might complain and I'd say, "Still better than the call center." (laughs) (11, afraid of losing his job).
		I don't take anything for granted. I appreciate things much more than I did before. (34, laid-off).
		It also forced me to reevaluate if I want to do this.

We are from the United States. We are trained to
want to climb the corporate ladder as fast as we
possibly can. I am supposed to want to be
promoted, and the reality is I don't want to. I like
what I am doing and I like opportunities, but I
don't want to be the director. I don't want that
job. And in reality I don't want to be working
much more than ten years more. It has been a
long road and granted I won't be quite to
retirement at that point in time, but I am hoping to
take a step back and enjoy my life a little bit. I
really have reevaluated where I want to be and
what do I want to do. (30, laid-off).

Note. n = 31.

* = New dimension that emerged from the interviews; ** = New dimension that emerged from the interviews, but adapted from the Political Skill Inventory; No asterisk = Dimension that was adapted from the PTGI

^a The numbers in the middle column indicate the frequency with which the dimension arose across the 31 interviews. For instance, the dimension *new career possibilities* appeared in 42% of the 31 interviews (13 different interviews).

Item Generation

Using the dimensions that were uncovered during the open coding process and the definitions that were crafted through the axial coding process (presented in Table 2), I generated items that reflected the adapted and new definitions. As a basis, I adapted the items from the PTGI and modified items from other existing scales. These modifications are displayed in Appendix F. Of the 17 dimensions, 8 were altered to be sub-dimensions or adaptations of the 5 PTGI dimensions (personal strength, new possibilities, relating to others, appreciation of life and spiritual change). These adapted dimensions included self-reliance, confidence, emotional self-control, new career possibilities, meaningful relationships, compassion, appreciation of life and spiritual change. Of the 9 newly identified dimensions of growth, 5 dimensions were wholly new constructs and 4 were adapted from the Political Skill Inventory (Ferris, et al., 2005b). The 5 new constructs included *identity shift, organizational awareness, professionalism, advocating, and* technical competence. The 4 political skills included social astuteness, interpersonal influence, networking and integrity. Figure 2 illustrates the 17 dimensions of the WPTGI and the 5 dimensions of the PTGI, from which the first 8 WPTGI dimensions were adapted. These adapted dimensions are in the left column. The new 9 dimensions of the WPTGI appear in the middle and right columns with the dimensions on the far right, encased in the broken line, coming from the Political Skill Inventory.

Table 2 begins with the 5 dimensions from the Posttraumatic Growth Inventory. The first PTGI dimension, *personal strength* was clarified and broken into 3 subdimensions, called *self-reliance, confidence* and *emotional self-control*. The labeling of the *emotional self-control* dimension was not straightforward. The dimension is comprised of a greater ability to control one's frustration, let go of distress and maintain

an overall acceptance of difficulties. Not all of these aspects are best described by the label *emotional self-control*, but I chose it because it related to the majority of the descriptions that evolved from the interviews. The second PTGI category, *new possibilities*, was modified to *new career possibilities* with a focus on careers. The third dimension in the PTGI, *relating to others*, was more clearly defined and separated into meaningful relationships and compassion. The definitions were streamlined for the fourth and fifth PTGI dimensions, *spiritual change* and *appreciation of life*. While these scales remained closest to the original PTGI dimensions, they were enhanced with items from other posttraumatic growth scales and from the interviews. I grappled with the decision of including these dimensions in the inventory because they were geared more toward life changes and were not specifically directed to changes at work. Ultimately, I decided to include them for three reasons. First, they were mentioned in the interviews. Second, there were aspects of appreciation and spirituality that were somewhat related to the workplace. For instance, participants spoke about appreciating their jobs more as a result of workplace traumas. Finally, I wanted to determine if there was a difference between the other work-related dimensions and these more life-oriented dimensions.

The newly-created dimensions of *identity shift, organizational awareness, professionalism, advocating* and *technical competence* were based primarily on the interviews. I looked to relevant literature and existing scales to generate many of the items. These references appear in Appendix F and are discussed further in Chapter IX. One important clarification is regarding the dimension of *technical competence*. While Tedeschi and Calhoun (1996) include *competence* in their definition of *personal strength*, I chose to exclude it as a sub-dimension of *personal strength*. Even though the names are

similar, the type of competence that arose in the interviews referred to employees improved technical work skills, rather than the inner sense of strength referred to by Tedeschi and Calhoun in the PGTI. This conceptual distinction is tested in a confirmatory factor analysis and the results, which are shown in Table 7 Chapter VIII, support the notion that *technical competence* is not a sub-dimension of *personal strength*.

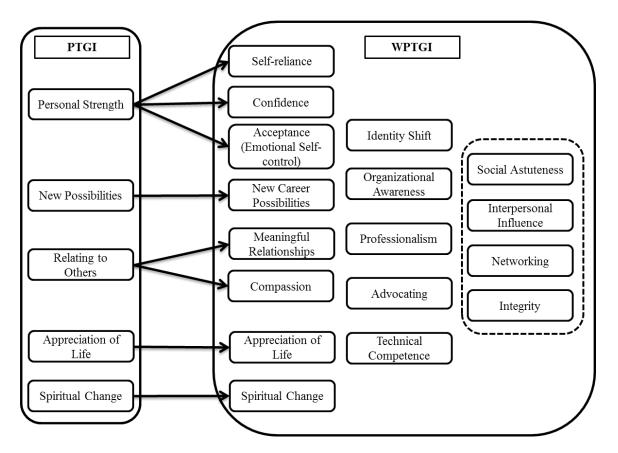
The 4 politically-oriented themes of *social astuteness, interpersonal influence, networking and integrity* arose in the interviews. Since these competencies have a strong theoretical and empirical standing in the management literature (Munyon, Summers, Thompson, & Ferris, 2013), I looked to the Political Skill Inventory (Ferris, et al., 2005b) as a foundation for the definitions and items. The last *political skill* dimension, *integrity* is formally called *apparent sincerity*. However, in the interviews participants described themselves as feeling like they had more integrity. There was less of a focus on whether their new levels of integrity were apparent to others, rather it was an internal feeling of growth. Because of this nuanced difference I titled the final growth dimension plainly, *integrity*. I adapted the definition of the integrity scale and the items from both the apparent sincerity scale and the behavioral integrity scale (Simons, 2002). These changes are shown in Appendix F.

The entire measure included 17 scales and 121 items. Because scales with high internal consistency need at least three to four items per construct (Cook, Hepworth, & Warr, 1981; Harvey, Billings, & Nilan, 1985), I developed twice as many items as needed in order to have optimal items for the final scale (Hinkin, 1998). Following recommended guidelines, I kept the items simple, short, consistent, used familiar language and proper grammar and avoided double-barreled items (DeVellis, 2003;

Hinkin, 1998). The stem was similar to the PTGI in that participants were given the following instructions "Reflecting on the trauma you identified earlier, for each of the statements below please indicate the extent to which you experienced this change in yourself at work, as a result of the trauma." The *appreciation of life* and *spiritual change* items were preceded with a similar, but different stem "Reflecting on the trauma you identified earlier, for each of the statements below please indicate the extent to which you experienced this change in yourself in life generally, as a result of the trauma." ⁴ The items were scaled with a 7-point Likert scale to include more variance. The scale was anchored at the low end with a 1, indicating no change (1 = not at all) and at the high end a 7, indicating the greatest amount of change possible (7 = maximum amount).

⁴ The different stem was used to see if workplace traumas affect people in their lives more generally. This division will enable a more expansive view of how workplace traumas affect people.

Figure 2 The 17 Dimensions of Workplace Posttraumatic Growth



PTGI = Posttraumatic Growth Inventory, WPTGI = Workplace Posttraumatic Growth Inventory

Table 2

WPTGI Dimensions, Definitions and Item Generation

PTGI Dimensions, Definitions and Items

Personal strength

Living through a trauma affects peoples' perceptions of selfreliance and competence. It also affects the "likelihood that one will choose to address difficulties in an assertive fashion" (Tedeschi & Calhoun, 1996, p. 456)

- 1. A feeling of self-reliance.
- 2. Knowing I can handle difficulties.
- 3. Being able to accept the way things work out.
- 4. I discovered that I'm stronger than I thought I was.

Modified Dimensions, Definitions and Items

Personal strength: Self-reliance, Confidence, Emotional self-control

A strengthened sense of self-reliance, confidence and emotional self-control at work.

Self-reliance

- 1. Feeling self-reliant at work.
- 2. Discovering that in my work environment, I'm much stronger independently than I thought I was.
- 3. Feeling that I can work effectively in an independent manner on some tasks at work.
- 4. Believing that I can perform high quality work independently.
- 5. Feeling successful in my independent contributions at work.

Confidence

- 1. Knowing I can handle difficulties at work.
- 2. Believing I can overcome difficult situations at work.
- 3. Feeling secure in my ability to meet challenges at work.
- 4. Feeling successful at what I do at work.
- 5. Knowing that I am capable of taking the correct actions at work.
- 6. Knowing that the actions I take at work are usually right.
- 7. Feeling confident to express my ideas at work.

Emotional self-control

- 1. Accepting the way things work out at work.
- 2. Not letting things upset me at work.
- 3. Managing my frustration at work.
- 4. Remaining patient during stressful situations at work.
- 5. Appropriately managing my emotions at work.
- 6. Being okay with how things happen at work.

- 7. Letting go of decisions that are outside of my control.
- 8. Disengaging from stressful situations at work.

New possibilities

Identification of new possibilities for one's life or the possibility of taking a new and different path in life" (Tedeschi & Calhoun, 2004, pg. 6)

- 1. I developed new interests.
- 2. I established a new path for my life.
- 3. I'm able to do better things with my life.
- 4. New opportunities are available which wouldn't have been otherwise.
- 5. I'm more likely to try to change things which need changing.

New career possibilities

Identification of a better path for one's career.

- 1. Establishing a new path for my career that is a better match for me.
- 2. Accessing new career opportunities that align with me.
- 3. Changing things in my career to fit me better.
- 4. Working in a new role that suits me more.
- 5. Finding a role that I enjoy more.
- 6. Working in a new capacity that is more than I ever believed was possible.

Relating to others

Closer, more intimate and more meaningful relationships with other people (and) an increased sense of compassion (Tedeschi & Calhoun, 2004, pg. 6.)

- 1. Knowing that I can count on people in times of trouble.
- 2. A sense of closeness with others.
- 3. A willingness to express my emotions.
- 4. Having compassion for others.
- Putting effort into my relationships.
 I learned a great deal about
- how wonderful people are. 7. I accept needing others.

Relating to others: Meaningful relationships and Compassion

A greater sense of compassion for others at work (including colleagues, clients/patients/family member of patients, manager, direct reports) and/or a sense of closer and more meaningful relationships at work.

Meaningful Relationships

- 1. Knowing who I can count on at work in times of trouble.
- 2. Feeling a sense of closeness with others at work.
- 3. Expressing my emotions at work willingly.
- 4. Putting effort into my relationships at work.
- 5. Recognizing how wonderful some people are at work.
- 6. Realizing that I need others at work.
- 7. Feeling accepted by my co-workers.

8. Feeling a sense of belonging at work.

Compassion

- 1. Having compassion for others at work.
- 2. Noticing people who need help at work.
- 3. Feeling a powerful urge to take care of people who are in need at work.
- 4. Feeling it is important to take care of people who are vulnerable at work.
- 5. Finding meaning in helping others at work.
- 6. Providing support to others who need help at work.
- 7. Considering others' feelings when interacting with them.
- 8. Feeling more sympathetic to people who have had similar experiences to my own.

Spiritual change

Growth in the domain of spiritual and existential matters...(either a "strengthening of religious beliefs" Tedeschi & Calhoun, p. 38 or) a greater engagement with fundamental existential questions (Tedeschi & Calhoun, 2004 p. 6)

- 1. A better understanding of spiritual matters.
- 2. I have a stronger religious faith.

Spiritual change

A strengthening of spiritual beliefs or a greater engagement with fundamental existential questions.

- 1. Feeling a sense of meaning in my life.
- 2. Believing that there is a reason for everything.
- 3. Having a better understanding of spiritual matters.
- 4. Having stronger faith.
- 5. Understanding how a supreme being allows things to happen.
- 6. Believing in a supreme being.

Appreciation of life

An increased appreciation for life in general, and smaller aspects with it along with a changed sense of what is important... a radically changed sense of priorities can accompany the increase in appreciation (Tedeschi & Calhoun, 2004 p. 6)

1. My priorities about what is

Appreciation of life

An increased appreciation for general aspects of life, which is often characterized by a changed sense of priorities.

- 1. Reprioritizing what is important in my life.
- 2. Appreciating the value of my own life.
- 3. Having gratitude for each day.
- 4. Not taking things for granted.
- 5. Being thankful for my physical health.
- s 6. Valuing my psychological well-being.

important in life.

- 7. Being grateful for my job.
- 2. An appreciation for the value of my own life.
- 8. Appreciating where I work.
- 9. Placing more value on work-life balance.
- 3. Appreciating each day.

New Dimensions, Definitions and Items

Identity shift

The realization of a new professional identity.

- 1. Realizing that I am a different person at work now.
- 2. Having a new conception of who I am at work.
- 3. Knowing more of what I want at work now.
- 4. Discovering new strengths at work.
- 5. Recognizing attributes of personal strengths that I didn't know were there before.
- 6. Acknowledging attributes of personal weaknesses that I didn't know I had.

Organizational awareness

A broader understanding of one's organization.

- 1. Having a broader perspective of my workplace.
- 2. Understanding how my organization really works.
- 3. Being aware of how things actually get done at work.
- 4. Gaining insight into how other departments function.
- 5. Increasing my knowledge about the workplace as a whole.
- 6. Having a higher level of understanding of issues and problems in my workplace.
- 7. Having a better sense of my organization's politics

Professionalism

Being more of a professional.

- 1. Representing my ideal image of a professional through my actions.
- 2. Being thoughtful about how I express my opinions to others in the workplace.
- 3. Gossiping about others at work (R).
- 4. Making sure that the way I communicate is appropriate for the workplace.
- 5. Presenting myself in a professional manner.
- 6. Treating others with respect, regardless of their behavior.
- 7. Conducting myself in a manner which reflects a high degree of professionalism.

Advocating

Advocating on behalf of others in the organization.

- 1. Attempting to prevent unfair treatment of others at work.
- 2. Trying to attain more resources for those who need them at work.
- 3. Trying to find resolutions for work issues that are unfair.
- 4. Being an advocate for others at work.
- 5. Making management aware of changes that need to be made to protect others' wellbeing.
- 6. Communicating my opinions about work issues to supervisors, regardless of whether they disagree with my views.
- 7. Giving supervisors additional information that will let them help others.
- 8. Helping connect others at work to powerful people.
- 8. Making supervisors aware of specific circumstances of which they are unaware.

Technical competence

Having a greater level of work-related competence.

- 1. Feeling more confident about my ability to do my job.
- 2. Feeling more self-assured about my capabilities to perform my work activities.
- 3. Feeling a greater sense of mastery over the skills that are necessary for my job.
- 4. Having a greater understanding of the key elements that are important for my job.
- 5. Having a higher level of job related skills.
- 6. Having a broader set of job related skills.
- 7. Being able to educate myself about what is needed to do my job well.

Social astuteness **

Being more keenly attuned to diverse social situations.

- 1. Understanding people well.
- 2. Being particularly good at sensing the motivations and hidden agendas of others.
- 3. Having good intuition or savvy about how to present myself to others.
- 4. Instinctively knowing the right things to say or do to influence others.
- 5. Paying close attention to peoples' facial expressions.
- 6. Having a better understanding of nonverbal communications.

Interpersonal influence **

Having a greater subtle and convincing personal style that exerts a powerful influence on others.

- 1. Being able to make most people feel comfortable and at ease around me.
- 2. Being able to communicate easily and effectively with others.
- 3. Developing good rapport with most people.
- 4. Being good at getting people to like me.

Networking **

Being more adept at identifying and developing diverse contacts and networks of people.

- 1. Spending a lot of time and effort at work networking with others.
- 2. Being good at building relationships with influential people in my workplace.
- 3. Developing a large network of colleagues and associates at work whom I can call on for support when I really need to get things done.
- 4. Making sure that at work I know a lot of important people and am well connected.
- 5. Spending a lot of time at work developing connections with others.
- 6. Being good at using my connections and network to make things happen at work.

Integrity **

Possessing higher levels of sincere integrity, where one's words match one's actions.

- 1. Possessing high levels of integrity, authenticity, sincerity, and genuineness.
- 2. Being genuine in what I say and do when communicating with others.
- 3. Feeling it is important that people believe I am sincere in what I say and do.
- 4. Trying to show a genuine interest in other people.
- 5. Matching my words with my actions.
- 6. Delivering on promises.
- 7. Practicing what I preach.
- 8. Doing what I say I will do.
- 9. Conducting myself by the same values I talk about.
- 10. Showing the same priorities that I describe.
- 11. Making sure that when I promise something, I make it happen.
- 12. Ensuring that when I say I am going to something, I do it.

** = Dimension definitions and items were adapted from the Political Skill Inventory

Q-Methodology

Employing similar procedures that have been used in other published scales (Cole, Bruch, & Vogel, 2012), I assessed content validity by pre-testing the items in a question-methodology (Q-sort). I conducted the Q-sort according to recommendations from Schriesheim, Powers, Scandura, Gardiner, and Lankau (1993). The Q-sort was completed by 17 faculty and PhD students in the management field. Participants were instructed to read 14 construct definitions carefully (definitions appear in Table 2) and classify 121 items into the appropriate construct. The construct definitions were presented on one page with a corresponding matrix of the items (in rows) and construct labels (in columns). There was also a column titled "does not match any definition." Of the responding participants, 69% were female and 81% were PhD students. Inter-rater agreement (Kappa) was .55. According to Landis and Koch (1977), Kappa scores ranging from .40 to .60 represent moderate agreement (Landis & Koch, 1977).

Summary of Methods

The results of the interviews showed that, in fact, there are additional areas of growth specific to the workplace. The dimensions of the PTGI, while present in the workplace, look different than they do for general life traumas. These differences were coded in the interviews and led to the construction of 17 dimensions of workplace posttraumatic growth. Following the definition phase, I modified and developed items that could accurately assess the dimensions and pre-tested them for content validity.

CHAPTER VII: MEASURE VALIDATION AND CONFIRMATION STUDY: SAMPLE AND PROCEDURES

In the next two chapters, I describe how I took steps to demonstrate some initial validity of the Workplace Posttraumatic Growth Inventory (WPTGI). In this chapter, I describe the two samples used in the factor analyses (an exploratory factor analysis on one sample and a confirmatory factor analysis on the other) and I describe the procedures for both samples.

Participants and Procedure for Amazon Mechanical Turk Sample

I recruited 544 participants from Amazon.com's Mechanical Turk⁵ (MTurk)

website.⁶ A description of the study was posted on the website and participants were paid \$1 to complete the survey. As per the study criteria, all of the participants were over 18 years of age, lived in the United States, had at least two years of work experience and experienced a workplace trauma over one year ago. With regard to sample demographics,

⁵ Amazon Mechanical Turk is an online crowdsourcing website that enables users to pay a large pool of people to participate in research studies. These studies can include tasks, experiments and surveys. Data collected from Mturk have been shown to be as reliable as data that is collected from more traditional social science methods (Buhrmester, Kwang, & Gosling, 2011). The respondent pool has even been shown to be more representative of the general U.S. population as compared to convenience samples (Berinsky, Huber, & Lenz, 2012).

⁶ Initially I set out to collect data from members of two alumni groups hosted on the online social network site Linkedin.com. I intended to use the common method (DeVellis, 2003) of splitting the sample to conduct separate exploratory and confirmatory factor analyses. The alumni groups together had approximately 5,600 members. While the sample pool was robust enough, access to the members proved difficult. As a member of the group, I was only allowed to send emails to 500 names from each alumni groups. I contacted the manager of the group and obtained the full list of names for one of the alumni groups. Once I received the names I was able to invite alumni members to be contacts on Linkedin.com. Once they accepted my invitation to be a connection, I was able to send emails to participate in the research. Linkedin.com limits connection invitations to 80 per day. I sent out around 2,000 invitations to connections, but acceptance rates were about 30%. Because of these limitations I obtained a second sample from MTurk rather than splitting a larger Linkedin.com sample. These two samples (i.e., the alumni group and the MTurk sample) were used in the factor analyses.

the mean age was 37 years (*SD* =11.66), mean work experience was 17 years (*SD* =10.61), 54% of the respondents were female, and 81% were white. The industries that most of the participants worked in, during time of participation included retail and sales (13%), education (11%), information technology (9%), healthcare (8%), government and not-for-profit (7%), financial services (7%) and hospitality and entertainment (7%). The variety of workplace traumas appears in Table 3 (discussed further in the results section in Chapter IX). The mean number of years since the trauma occurred was 5 years (*SD* = 4.44). The majority of industries, in which, participants worked in when they experienced traumas included retail and sales (15%), hospitality and entertainment (13%), education (9%), healthcare (8%), government and not-for-profit (8%), manufacturing (8%), financial services (7%) and information technology (6%).

Participants and Procedure for Alumni Sample

Surveys were sent to 2,047 members of two alumni associations through the online social networking site, Linkedin.com, over a period of two months. I posted information about the study on both Linkedin.com alumni home pages. I advertised an additional post on one of the alumni pages on Facebook.com. However, I did not email anyone through Facebook.com. Participants who were eligible and completed the survey were given the opportunity to participate in a raffle for an Apple iPad. The criteria for the study were similar to the MTurk study, in that people needed to be older than 18 years of age, with at least two years of work experience and have experienced a workplace trauma one or more years ago. Unlike the MTurk sample, alumni from outside of the United States were allowed to participate in the study. While MTurk workers have been shown to be representative of the U. S. population (Berinsky, et al., 2012), it is difficult to make

the same claim for their international workers. With the alumni sample however, all participants had the same educational background. Therefore, even if alumni choose to work in a different country they are still representative of the larger alumni sample.

I calculated a response rate of 26%. The reduced response is in large part due to the specific nature of the study. Many alumni members replied to my email stating that they were not eligible to participate in the study, because they had not experienced a workplace trauma. Because of the difficulty in contacting alumni through the online site and the restrictive criteria, I used a snowball sample. I asked people involved in the study to forward the recruitment email to people they thought would be eligible and interested in participating. I forwarded recruitment materials to 20 people. A total of 528 people attempted to take the survey and, of those responses, only 234 were eligible and completed the survey. The snowball method only accounted for 15% of the sample, with the remaining 85% of participants coming from Linkedin.com. No participants responded to the Facebook.com post.

In terms of the alumni sample demographics, the mean work experience was 20 years (SD = 10.11), mean age was 43 years (SD = 10.69), 71% of the respondents were male, and 84% were white. The industries that most of the participants worked in, during time of participation included education (14%), healthcare (11%), consulting (9%), financial services (8%), information technology (8%), manufacturing (7%), and government/ not-for-profit (7%). The breakdown of the workplace traumas was similar to the MTurk sample, as can be seen in Table 3. The mean number of years since the trauma occurred was 6 years (SD = 5.12). The majority of the traumas occurred in the following

industries education (14%), healthcare (10%), information technology (9%),

manufacturing (9%), financial services (8%), and government/ not-for-profit (6%).

Table 3

	Sample 1 ^a	Sample 2 ^b
Workplace Trauma Items	(MTurk)	(Alumni)
1. You were laid-off	25%	28%
2. You were afraid of losing your job.	21%	21%
3. You were verbally harassed by an immediate supervisor.	6%	9%
4. You were verbally harassed by a superior.	4%	4%
5. You were physically harmed.	4%	1%
6. You witnessed a crime or unethical behavior at work.	3%	3%
7. You witnessed an act of violence at work.	3%	2%
8. You witnessed a severe accident at work.	3%	2%
9. You were sexually harassed by a superior or colleague.	3%	1%
10. You were wrongfully accused of making a major error that threatened the success of your work or business.	2%	4%
11. You were the victim of sabotage.	2%	2%
12. Your life was threatened.	2%	2%
13. You were verbally harassed by a colleague.	2%	1%
14. Your colleague was physically harmed.	2%	1%
15. Your colleague or supervisor passed away unexpectedly (suicide, heart-attack, stroke, etc.)	2%	1%
16. You were verbally harassed by a client.	2%	1%
17. You were affected by unsafe equipment at work.	2%	1%
18. You were physically assaulted by a superior or colleague.19. You were involved with a crime or unethical behavior at	2%	0%
work.	1%	1%
20. You made a major error that threatened the success of your work or business.	1%	0%
21. Your colleague's life was threatened.	1%	0%

22. You saw a colleague make a major error that threatened the success of your work or business.	0%	1%
23. You experienced a natural disaster at work.	0%	1%
24. Other	8%	13%
<i>Note</i> : ${}^{a}n = 544$; ${}^{b}n = 234$.		

Measures

Trauma. Participants were asked to "Please take a moment to think of an event at work that you perceived to be somewhat traumatic (something that caused you acute psychological or physical pain). This may be an event which caused you stress that lasted for a few weeks or months. This event could likely be described as having one or more of the following characteristics: *it was sudden, chaotic, the outcome was negative or uncertain and you had little or no control over it. Take note: this event is more than just burnout or feeling overworked*. While you may have a few different examples, choose the event that had the greatest impact on you." After participants provided a description, they were asked to categorize their trauma according to a list of workplace traumas. The list included a number of examples ranging from job insecurity to workplace accidents. The distribution of workplace traumas for both samples appears in Table 3. Participants were also asked to estimate how long ago the trauma occurred. Additional questions that pertain to the trauma can be seen in the survey in Appendix G.

Impact of Event Scale. I included a shortened version (Thoresen et al., 2010) of the Impact of Event Scale-Revised (Weiss, 2004), which is one of the most commonly used measures in research on posttraumatic reactions. The brief version included six items, with two items each representing the avoidant, hyperarousal and intrusion reactions. Together the six items show the immediate impact the event had on people. Participants were asked to "Read each item and indicate how distressing each difficulty was for you with respect to your trauma. How much were you distressed or bothered by these difficulties?" The scale was measured on a 7-point Likert scale (1 = none, to 7 = extremely). Higher scores on the scale indicated more severe reactions to the trauma. The Cronbach alpha for the MTurk sample was .78 and for the alumni sample was .77.

Workplace Posttraumatic Growth Inventory. The 121 item multidimensional scale included the items from the item development phase. They represented 17 dimensions (self-reliance, confidence, emotional self-control, new career possibilities, meaningful relationships, compassion, identity shift, organizational awareness, professionalism, advocating, technical competence, social astuteness, interpersonal influence, networking, integrity, spiritual change and appreciation of life). For the first 106 items participants were provided with the following instructions "Reflecting on the trauma you identified earlier, for each of the statements below please indicate the extent to which you experienced this change in yourself at work, as a result of the trauma." The remaining fifteen items represented the *spiritual change* and *the appreciation of life* dimensions. For these items, participants were given the following instructions "Reflecting on the trauma you identified earlier, for each of the statements below please indicate the extent to which you experienced this change in yourself in life generally, as a result of the trauma." All items were rated on a 7-point Likert scale (1 = not at all, to 7 =*maximum amount*).

Controls. A measure of social desirability was included to control for impressionmanagement bias. This measure was used in the development of the PTGI and the SRGS and seemed appropriate in this setting in order to adjust for respondents' desire to appear in a positive light. I used the abridged version (Strahan & Gerbasi, 1972) of the Crowne– Marlowe Social Desirability Scale (Crowne & Marlowe, 1960). The scale consists of ten items, with a dichotomous (true/ false) response format. The instructions direct participants to "Read each item and decide whether the statement is true or false as it pertains to you personally." The Cronbach alpha for the MTurk sample was .71 and for the alumni sample was .59.

CHAPTER VIII: MEASURE VALIDATION AND CONFIRMATION STUDY ANALYSES AND RESULTS

This chapter contains the results of the exploratory and confirmatory factor analyses which were used to refine and validate the scale. I begin by discussing the exploratory factor analyses, which were used to investigate the loadings of all 121 items. Next, I discuss the relationships among the factors and their associations with demographic variables. I conclude by explaining the results of the model tests I conducted to explore the factor structure of the inventory.

Exploratory Factor Analyses

Prior to conducting any analyses, the data were cleaned and checked for assumptions of normality. Since there was less than 10% of missing data in both sample datasets, I was able to replace the missing values by using the mean imputation method. Using exploratory factor analysis allowed me to identify the number of latent dimensions required to account for the common variance among the items (Reise, Waller, & Comrey, 2000). Following recommendations by Conway and Huffcutt (2003), I used an oblique rotation method (direct oblimin) and principal axis factoring. These methods were especially appropriate for the Workplace Posttraumatic Growth Inventory, because they assume that the underlying factors are related. Looking at other posttraumatic growth scales, such as the PTGI and SRGS, it is clear that growth outcomes are highly related, rather than independent factors. After conducting these methods on the data, eigenvalues above 1 indicated a 12 factor solution; however I had theoretical justification (Hinkin,

1998) to force a 17 factor solution. Unfortunately, the 17 factor solution would not run. Instead the data produced a 16 factor solution. After obtaining the 16 factor solution, I dropped items from the scale if they had loadings below 0.4 (Ford, MacCallum, & Tait, 1986) and if they had a cross-loading above 0.3 with a second factor (Tabachnik & Fidell, 2007). These steps reduced the scale to 60 items. I reran the factor solution after items were dropped, and the 16 factor solution fit the data the best.

Table 4 shows the item loadings from the EFA using the MTurk sample. The high item loadings indicate strong item convergence on individual factors. Recall that the *personal strength* dimension included three sub-dimensions, *self-reliance, confidence* and *emotional self-control*. The *emotional self-control* sub-dimension included items that reflected managing emotions at work through self-control and acceptance. After reducing the items in the EFA process, the remaining items in the *emotional self-control* sub-dimension no longer represented self-control. The remaining items were more representative of emotional acceptance. Because of this shift, I renamed the *emotional self-control* sub-dimension is called *acceptance*.

The items relating to the *confidence* sub-dimension loaded mainly on the *self-reliance* and *acceptance* factors. Investigating this further, I tested items from the three factors, *self-reliance, confidence* and *acceptance* in a separate EFA and forced a three factor solution. The model would not run, suggesting that *confidence* was not distinct from the other two factors. Based on these results, the second-order dimension of *personal strength* no longer includes *confidence* and instead consists of the two sub-dimensions *self-reliance* and *acceptance*. Overall, the loadings in Table 4 support the

convergent validity of the WPTGI, with factor items loading highly with each other, on

16 independent factors.

Table 4

Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) Item
Loadings Across Two Samples

Factor loadings		
	EFA	CFA
T.	Sample 1 ^a	Sample 2 ^b
Items	MTurk	Alumni
Self-reliance		
Feeling self-reliant at work.	.67	.87
Feeling that I can work effectively in an independent		
manner, on some tasks at work.	.74	.90
Believing that I can perform high quality work	71	00
independently.	.71	.90
Acceptance		
Accepting the way things work out at work.	.76	.73
Not letting things upset me at work.	.55	.79
Being okay with how things happen at work.	.74	.85
Letting go of decisions that are outside of my control at		
work.	.62	.75
New career possibilities		
Establishing a new path for my career that is a better		
match for me.	.93	.89
Accessing new career opportunities that align with me.	.89	.87
Changing things in my career to fit me better.	.82	.88
Working in a new role that suits me more.	.90	88
Finding a role that I enjoy more.	.93	.90
r manig a role that r enjoy more.	.75	.90
Meaningful relationships		
Feeling a sense of closeness with others at work.	.67	.88
Realizing that I need others at work.	.65	.78
Feeling accepted by my coworkers.	.65	.83
Feeling a sense of belonging at work.	.72	.84
Compassion		
Noticing people who need help at work.	.60	.88

Feeling a powerful urge to take care of people who are in		
need at work. Feeling it is important to take care of people who are	.72	.85
vulnerable at work.	.78	.80
Providing support to others who need help at work.	.68	.86
Identity shift		
Realizing that I am a different person at work now.	.71	.79
Having a new conception of who I am at work.	.76	.89
Knowing more of what I want at work now.	.53	.80
Organizational awareness		~-
Understanding how my organization really works.	.88	.87
Being aware of how things actually get done at work.	.64	.89
Having a higher level of understanding of issues and	50	05
problems in my workplace.	.53	.85
Having a better sense of my organization's politics.	.81	.80
Professionalism		
Representing my ideal image of a professional through		
my actions.	.69	.86
Making sure that the way I communicate is appropriate		
for the workplace.	.60	.84
Presenting myself in a professional manner.	.80	.95
Conducting myself in a manner which reflects a high		
degree of professionalism.	.86	.91
A dynamica		
Advocating Making management aware of changes that need to be		
made to protect others' wellbeing.	.81	.84
	.01	.04
Communicating my opinions about work issues to		
supervisors, regardless of whether they disagree with my	77	0 7
views.	.77	.82
Giving supervisors additional information that will let	61	01
them help others.	.61	.91
Making supervisors aware of specific circumstances of	70	20
which they are unaware.	.79	.89
Technical competence		
Feeling a greater sense of mastery over the skills that are		
necessary for my job.	.60	.91
Having a greater understanding of the key elements that		
are important for my job.	.57	.92
Having a broader set of job related skills.	.57	.96

Social astuteness		
Understanding people well.	.57	.88
Being particularly good at sensing the motivations and		
hidden agendas of others.	.55	.78
Paying close attention to peoples' facial expressions.	.67	.90
Having a better understanding of nonverbal	02	02
communications.	.83	.92
Interpersonal influence		
Being able to communicate easily and effectively with		
others.	.52	.94
Developing good rapport with most people.	.61	.96
Being good at getting people to like me.	.51	.92
Networking		
Spending a lot of time and effort at work networking		
with others.	.83	.90
Being good at building relationships with influential	70	02
people in my workplace.	.78	.92
Developing a large network of colleagues and associates		
at work whom I can call on for support when I really need to get things done.	.75	.89
Making sure that at work I know a lot of important	.15	.09
people and am well connected.	.87	.89
people and an wen connected.	.07	.07
Integrity		
Being genuine in what I say and do, when		
communicating with others.	.83	.94
Feeling it is important that people believe I am sincere in		
what I say and do.	.73	.94
Practicing what I preach.	.82	.93
Doing what I say I will do.	.82	.94
Spiritual change		
Feeling a sense of meaning in my life.	.75	.85
Believing that there is a reason for everything.	.83	.82
Having a better understanding of spiritual matters.	.83	.87
Appreciation of life		
Reprioritizing what is important in my life.	.66	.87
Appreciating the value of my own life.	.75	.90
Being thankful for my physical health.	.69	.86
Valuing my psychological wellbeing.	.72	.88

Note: ${}^{a}n = 544; {}^{b}n = 234$.

Confirmatory Factor Analyses

A thorough confirmatory factor analysis tests an entire structure of an inventory at one time, in order to see how the factors and items relate to each. Unfortunately I was unable to examine the full structure of the WPTGI, because the alumni sample size was not large enough. Hair, Black, Babin, and Anderson (2010) recommend using an estimate of 5 times the parameters in the model to determine an adequate sample size for model fit. The full 16-factor model (a total of 60 items) resulted in 258 parameters. To test the full model, I would need a sample of 1,290 participants; the alumni sample only had usable data from 234 participants.⁷

Because of this limitation, I opted to test smaller aspects of the inventory model through smaller tests, including only a few of the dimensions. I used confirmatory factor analyses to administer these tests and investigate certain relationships that were theoretically questionable. In particular, I wanted to understand the structure of the second-order dimensions of *personal strength* and *relating to others* and their respective sub-dimensions (*self-reliance* and *acceptance; meaningful relationships* and *compassion*). Additionally, I wanted to see if the new dimension *technical competence* should be considered a sub-dimension of *personal strength*, along with *self-reliance* and *acceptance*. I wanted to better understand the relationships among the politically oriented dimensions of *social astuteness, interpersonal influence, networking and integrity*. Then I wanted to see how *professionalism* related to these conceptually similar *political skill*

⁷ While the MTurk sample was larger and would have provided more power, I wanted to use the alumni sample for the confirmation of the dimensions. Though the MTurk population is said to be a representative sample (Berinsky, et al., 2012), the workers are paid and therefore may be less conscientious than voluntary participants (Downs, Holbrook, Sheng, & Cranor, 2010).

dimensions. Finally I wanted to better understand the structural relationship between the life-oriented dimensions of *appreciation of life* and *spiritual change*.

Prior to running confirmatory factor analyses to test these queries, I supplemented my theoretical inquiries with empirical evidence. In an effort to obtain this data, I created composites of the dimensions in both samples, and conducted correlation tests among the factors and demographics. Although the alumni sample was used primarily for confirming the factor structure, it was important to see if there were similar relationships within the two samples. The composites were created after the item reduction process during the EFA. The results of the correlation tests appear in Tables 5 and 6.

Before I review the results of the theorized relationships, I briefly discuss the loadings of the items in the alumni sample, the reliabilities of the WPTGI factors and additional patterns that appear in the correlation tables (Tables 5 and 6). While the sample was not large enough to run a full confirmatory factor analysis with conclusive fit statistics, I was able to obtain item loads for all 60 items. The loadings are presented in Table 3. Since the sample size is prohibitive, these loadings are only suggestive.

For the factor reliabilities the Cronbach's alphas ranged between .83 and .96 in the MTurk sample and .86 to .97 in the alumni sample. These results appear on the diagonal in Tables 5 and 6. The dimensions of the WPTGI, across both samples, met scale development recommendations that alpha coefficients be above a .70 minimum (Cortina, 1993). The mirrored results speak to the consistency of these scales across two different populations.

The first theme, revealed in Tables 5 and 6, are the strong relationships among the factors. In both samples, many of the factors are highly correlated (ranging from .60 -.73;

p < .01). This was expected since growth outcomes are highly related and are considered by some to be a single dimension (Park, et al., 1996).

A second theme that emerges is the differences between the two samples. The impact of event scale, age, gender, race and work experience have varying relationships with growth outcomes in the two samples. Whereas some of these variables are highly significant with growth outcomes in the MTurk sample, they are not significant with the same growth outcomes in the alumni sample. The breakdown of the traumas (Table 3) and many of the means are similar in the two samples. Therefore it is highly possible that some of the demographic variables are related to unmeasured moderators, such as social support, thus causing different results. As mentioned in Chapter II, coping strategies may be a factor that changes the nature of the relationships between demographic variables and growth outcomes.

The final theme centers on impression management. Measured as social desirability, it is highly related to all of the WPTGI factors in the MTurk sample. Almost all of the relationships are significant at the .01 level. Yet these results are not replicated with the alumni sample, with few variables being significant. While social desirability is not significant in both studies it is safe to assume that it could play a part in exaggerating growth estimates, as people may inflate their scores to appear better to themselves and to survey assessors. This notion is upheld with the highly significant associations in at least one of the samples, the MTurk sample.

Table 5

Means, Standard Deviations and Correlations of Sample 1 (MTurk)

Variables	М	SD	1	2	3	4	5
1. Self-reliance	4.54	1.74	(.90)				
2. Acceptance	4.28	1.48	.61**	(.83)			
3. New career possibilities	4.71	1.90	.40**	.31**	(.96)		
4. Meaningful relationships	4.14	1.65	.56**	.51**	.29**	(.91)	
5. Compassion	4.63	1.56	.49**	.42**	.28**	.70**	(.90)
6. Identity shift	4.82	1.61	.47**	.35**	.57**	.44**	.46**
7. Organizational awareness	4.80	1.65	.48**	.33**	.37**	.43**	.42**
8. Professionalism	4.96	1.71	.56**	.47**	.37**	.53**	.59**
9. Advocating	4.39	1.72	.43**	.34**	.30**	.56**	.58**
10. Technical competence	4.50	1.92	.66**	.49**	.44**	.58**	.52**
11. Social astuteness	4.52	1.69	.47**	.40**	.34**	.50**	.54**
12. Interpersonal influence	4.38	1.79	.61**	.49**	.40**	.60**	.53**
13. Networking	3.74	1.86	.52**	.48**	.34**	.64**	.53**
14. Integrity	5.05	1.78	.54**	.36**	.36**	.51**	.57**
15. Spiritual change	3.74	2.09	.37**	.34**	.28**	.37**	.35**
16. Appreciation of life	5.13	1.72	.50**	.45**	.42**	.49**	.52**
17. Impact of event	5.12	1.14	.00	.00	.09*	.09*	.20**
18. Time since trauma	4.70	4.44	03	.01	.10*	07	.01
19. Social desirability	5.15	2.37	.20**	.21**	.14**	.16**	.18**
20. Age	37.16	11.66	.15**	.08	.06	.03	.09*
21.Gender	.46	0.50	08	.02	08	.00	06
22. Race	.81	0.40	.02	02	04	01	.04
23. Work experience	17.15	10.61	.13**	.06	.05	.02	.09*

Variables	6	7	8	9	10	11
6. Identity shift	(.86)					
7. Organizational awareness	.56**	(.90)				
8. Professionalism	.59**	.58**	(.94)			
9. Advocating	.48**	.49**	.58**	(.91)		
10. Technical competence	.61**	.57**	.70**	.56**	(.94)	
11. Social astuteness	.58**	.51**	.63**	.56**	.59**	(.91)
12. Interpersonal influence	.54**	.55**	.67**	.58**	.73**	.71**
13. Networking	.50**	.53**	.56**	.57**	.64**	.62**

14. Integrity	.53**	.51**	.72**	.54**	.67**	.66**
15. Spiritual change	.39**	.28**	.45**	.34**	.44**	.41**
16. Appreciation of life	.54**	.43**	.62**	.47**	.59**	.56**
17. Impact of event	.21**	.13**	.18**	.12**	.09*	.19**
18. Time since trauma	.06	08	03	05	.00	02
19. Social desirability	.19**	.13**	.22**	.11*	.18**	.17**
20. Age	.13**	.03	.11*	02	.09*	.07
21.Gender	06	.00	12**	.03	04	07
22. Race	01	.00	04	02	01	02
23. Work experience	.12**	.02	.10*	01	.06	.06

Variables	12	13	14	15	16	17
12. Interpersonal influence	(.93)					
13. Networking	.73**	(.96)				
14. Integrity	.70**	.56**	(.96)			
15. Spiritual change	.47**	.43**	.45**	(.89)		
16. Appreciation of life	.61**	.49**	.58**	.60**	(.90)	
17. Impact of event	.11**	.11**	.20**	.18**	.20**	(.78)
18. Time since trauma	08	08	.02	01	.04	01
19. Social desirability	.17**	.12**	.16**	.23**	.18**	.06
20. Age	.03	.00	.13**	.18**	.16**	.04
21.Gender	06	.01	12**	10*	04	13**
22. Race	03	05	.01	09*	02	03
23. Work experience	.03	01	.11*	.19**	.17**	.06

Variables	18	19	20	21	22
18. Time since trauma					
19. Social desirability	.04	(.71)			
20. Age	.39**	.18**			
21.Gender	.07	10*	05		
22. Race	.08	01	.12**	05	
23. Work experience	.37**	.15**	.92**	04	.12**

Note. n = 544. For gender, 0 = female, 1 = male; for race, 0 = non-White, 1 = White. Time since trauma, age and work experience are measured in years. Reliabilities of each measure are displayed on the diagonal of the matrix in parentheses.

Table 6

Means, Standard Deviations and Correlations of Sample 2 (Alumni)

Variables	М	SD	1	2	3	4	5
1. Self-reliance	4.50	1.91	(.92)				
2. Acceptance	3.99	1.49	.59**	(.86)			
3. New career possibilities	4.71	1.99	.47**	.23**	(.95)		
4. Meaningful relationships	3.95	1.73	.58**	.44**	.42**	(.90)	
5. Compassion	4.50	1.68	.57**	.40**	.38**	.71**	(.91)
6. Identity shift	4.61	1.71	.49**	.32**	.54**	.50**	.51**
7. Organizational awareness	4.74	1.71	.42**	.28**	.35**	.51**	.47**
8. Professionalism	4.56	1.88	.61**	.38**	.35**	.56**	.53**
9. Advocating	4.31	1.74	.43**	.28**	.21**	.54**	.55**
10. Technical competence	4.28	1.99	.63**	.36**	.48**	.52**	.50**
11. Social astuteness	4.19	1.76	.56**	.45**	.36**	.50**	.54**
12. Interpersonal Influence	4.11	1.87	.52**	.41**	.31**	.53**	.45**
13. Networking	4.02	1.79	.41**	.34**	.38**	.47**	.33**
14. Integrity	4.74	2.05	.60**	.41**	.30**	.51**	.50**
15. Spiritual change	4.01	2.07	.34**	.32**	.30**	.35**	.36**
16. Appreciation of life	4.81	1.81	.44**	.38**	.40**	.46**	.51**
17. Impact of event	4.63	1.24	.19**	.13*	.07	.23**	.36**
18. Time since trauma	6.23	5.12	01	07	.02	03	06
19. Social desirability	5.57	1.98	.01	.13*	.03	.05	.10
20. Age	43.38	10.69	.01	12	03	01	01
21.Gender	0.71	0.45	.01	.02	.15*	.03	02
22. Race	0.84	0.37	04	14*	.00	01	05
23. Work experience	19.47	10.11	04	15*	04	01	03
24. Country	0.93	0.25	06	06	04	04	03

Variables	6	7	8	9	10	11
6. Identity shift	(.87)					
7. Organizational awareness	.53**	(.92)				
8. Professionalism	.58**	.48**	(.94)			
9. Advocating	.44**	.51**	.53**	(.92)		
10. Technical competence	.68**	.56**	.63**	.48**	(.95)	
11. Social astuteness	.61**	.52**	.73**	.57**	.66**	(.93)
12. Interpersonal influence	.53**	.52**	.68**	.53**	.60**	.73**
13. Networking	.52**	.49**	.51**	.48**	.56**	.61**

14. Integrity	.49**	.42**	.72**	.51**	.59**	.72**
15. Spiritual change	.49**	.22**	.47**	.29**	.46**	.53**
16. Appreciation of life	.57**	.40**	.54**	.42**	.49**	.60**
17. Impact of event	.33**	.28**	.27**	.30**	.23**	.33**
18. Time since trauma	07	08	.08	.01	02	01
19. Social desirability	.03	04	.03	.09	.07	.07
20. Age	06	09	.00	04	.02	04
21.Gender	02	.05	.03	.04	.03	.03
22. Race	13	09	14*	04	18**	15*
23. Work experience	09	10	04	06	.00	11
24. Country	03	08	12	08	06	11

Variables	12	13	14	15	16	17
12. Interpersonal influence	(.96)					
13. Networking	.69**	(.95)				
14. Integrity	.71**	.53**	(.97)			
15. Spiritual change	.43**	.37**	.45**	(.88)		
16. Appreciation of life	.51**	.42**	.53**	.62**	(.93)	
17. Impact of event	.16*	.09	.21**	.24**	.33**	(.77)
18. Time since trauma	03	12	10	01	02	04
19. Social desirability	01	.00	.07	.07	.14*	.04
2. Age	09	06	03	.03	.02	.01
21.Gender	.09	.16*	.05	.10	.02	15*
22. Race	18**	08	14*	22**	06	05
23. Work experience	14*	09	09	.02	01	02
24. Country	11	01	12	.02	06	02

Variables	18	19	20	21	22	23
18. Time since trauma						
19. Social desirability	.03	(.59)				
2. Age	.42**	.14*				
21.Gender	.04	13*	10			
22. Race	.14	06	.07	02		
23. Work experience	.42**	.12	.89**	05	.11	
24. Country	.05	.02	.00	.05	.16*	.02

Note. n = 234. For gender, 0 = female, 1 = male; for race, 0 = non-White, 1 = White; for country, 1 = United States, 0 = non-United States. Time since trauma, age and work

experience are measured in years. Reliabilities of each measure are displayed on the diagonal of the matrix in parentheses.

Below I draw on the correlation results in Tables 5 and 6 and theoretical justifications to examine smaller subsets of the inventory. First, I examined the relationship between the *personal strength* sub-dimensions of *self-reliance* and acceptance. Second, I looked at the relationship between technical competence and the sub-dimensions of *personal strength*; self-reliance and acceptance. Third, I investigated the structure of *relating to others* through the sub-dimensions of *meaningful relationships* and *compassion*. Fourth, I considered the structure of the politically oriented dimensions of social astuteness, interpersonal influence, networking and integrity. Fifth, I examined how *professionalism* related to three of the political skills; *social astuteness*, *interpersonal influence* and *integrity*. Finally, I explored the structural relationship between the life-oriented dimensions of *appreciation of life* and *spiritual change*. I tested these relationships as six separate models in confirmatory factor analyses in AMOS, a statistical structural-equation modeling software program. I used maximum likelihood estimation with data from the alumni sample, to fit the models. The six models appear in Table 7 as separate rows. Each model was tested in a few alternative factor structures. The first alternative factor structure was a uni-dimensional structure, the second was a second-order structure and the third was a separate factor structure. The alternative factor structures are presented in Table 7 as separate columns. A fourth structure was tested for Models 2 and 5. I explain these fourth structures in more detail under Models 2 and 5. The far right column in Table 7 shows the comparison between the two best fitting

structure in the model. This column highlights whether the better fitting structure is significantly different from the second best fitting structure.

Model 1: Personal Strength Second-order Dimensions

Looking at the first model, I explored the structure of the PTGI dimension *personal strength*. Recall that I broke this dimension into 3 sub-dimensions *self-reliance, confidence* and *acceptance*. The data from the EFA did not support the evidence of the *confidence* sub-dimension. The remaining two sub-dimensions of *self-reliance* and *acceptance* were significantly correlated (MTurk sample, r = .61, p < .01; alumni sample, r = .59, p < .01), as can be seen in Tables 5 and 6. These results implied that a second-order factor of *personal strength* could be a good fit for the factor structure, rather than separate dimensions. Furthermore, since these sub-dimensions were modified from the higher-order PTGI *personal strength* dimension it was conceivable that of *self-reliance* and *acceptance* were connected through a latent-variable. Based on these reasons I proposed that a second-order factor structure would be the best fitting model.

I tested this assumption in a confirmatory factor analysis and three alternative factor structures. First I tested a uni-dimensional structure. To do this I loaded all of the items from the *self-reliance* and *acceptance* scales on to 1 latent variable. Second I tested a second-order structure. Here, I created two factors and constrained the covariance parameter between the two factors, to signify a latent variable. Third I tested a separate factor structure. Like in the previous structure, I created two factors. However, in this case I allowed the factors to freely covary.

The results appear in Table 7, Model 1. The best fit for the data is a separate factor structure. The chi-square statistic is less than three times the degrees of freedom, which is considered acceptable for larger datasets. (Carmines & McIver, 1981). Model 3

also meets threshold statistics (Hu & Bentler, 1999) with the comparative fit index (CFI = .98) above the .95 cutoff, the goodness of fit index (GFI = .96) is above the .95 recommendation and the adjusted goodness of fit index (AGFI = .91) is above the .90 rule of thumb. The Akaike's information criterion (AIC) = 64.74, is lowest in Model 3, indicating a more parsimonious fit. Finally the root-mean-square error of approximation (RMSEA) is .09. While it is better in the separate factor structure, as compared to the other structures, it is still above the recommended .05 cutoff. Chen, Curran, Bollen, Kirby, and Paxton (2008) caution researchers when using a cutoff for RMSEA, because it highly dependent on model specifications, degrees of freedom and sample size. Being that the other fit indices are in acceptable range, it is conceivable that the separate factor structure is a good fit for the data, even with the higher RMSEA. These results indicate that while *personal strength* may make sense as a conceptual dimension, empirically it is not a second-order factor. Therefore, the hypothesized structure, that a second-order structure would be the best fit, is rejected. These results speak to the distinctiveness of the self-reliance and acceptance as separate factors.

Model 2: Personal Strength and Technical Competence Dimensions

The second model builds on the above model, by including the dimension of *technical competence*, along with *self-reliance* and *acceptance*. *Technical competence* is one of the new dimensions and could conceptually be seen as an indicator of *personal strength*, since being more technically competent could give people an overall feeling of strength. *Technical competence* was significantly associated with *self- reliance* in both the MTurk sample (r = .66, p < .01) and the alumni sample (r = .63, p < .01). Even while the relationship between *technical competence* and *acceptance* was not as strong as with *self- reliance*, the correlations were still significantly associated.

I investigated the relationships among technical competence, self-reliance and acceptance in confirmatory factor analyses. I carried out similar analyses to Model 1. Here I tested a uni-dimensional model first, by loading all of the items from the three factors onto one variable. Next I tested all three factors as sub-dimensions of *personal* strength, in a second-order factor structure. To do this I constrained the covariance parameters among all three factors. In the next structure I tested all three factors separately. Here, I allowed the covariances to load freely. Unlike in Model 1, in this model I tested a fourth structure. In this structure I covaried the *technical competence* factor with a second-order factor of *self-reliance* and *acceptance*. This structure assumed that *technical competence* was separate from the second-order dimension of *personal* strength. To do this I constrained the covariance parameter between self-reliance and acceptance, but allowed the covariance parameter to covary freely with the *technical competence* factor. I proposed that this last structure would be the best fit for the data, based on an earlier assumption that *self-reliance* and *acceptance* were sub-dimensions of personal strength and that technical competence was focused on a less global feeling of strength, but more narrow and technical feeling of growth.

The results of Model 2 indicate that a separate factor structure is the best fit for the data with the *self-reliance, acceptance* and *technical competence* as separate factors. The chi-square statistic = 63.73 is lowest in this structure (Δ in χ^2 =8.78, df = 1, p = .003) and almost all of the fit statistics meet threshold criteria (GFI = .95; AGFI = .91; CFI = .98). However, the RMSEA is .07 which is slightly higher than the recommended cut-off point. The fit statistics imply that *self-reliance, acceptance* and *technical competence* are distinct factors and do not fit with any second-order factors. These results disconfirm the hypothesis that structure 4 would be the best fit. The clean division among the three factors helps to support the discriminant validity of this segment of the WPTGI. Taken together, the results from Models 1 and 2, illustrate that the dimension of *personal strength*, is purely conceptual. The dimensions of *self-reliance, acceptance* and *technical competence* are not empirically linked by a higher-order factor, but instead are all separate indicators of growth.

Model 3: Relating to Others Second-order Dimension

Model 3 investigates the second PTGI second-order dimension of *relating to others*. The sub-dimensions of *meaningful relationships* and *compassion* were significantly related in the MTurk sample, (r = .70, p < .01) and in the alumni sample (r = .71, p < .01). Based on these results and the fact that these dimensions were split from the higher-order PTGI *relating to others* dimension, I proposed that the second-order structure would be the best fitting model.

As in the previous models, I loaded all of the items onto one latent variable for a uni-dimensional structure. I created a second-order factor structure by constraining the parameter between *meaningful relationships* and *compassion*. In the last structure, I allowed all factors to load freely.

The results of Model 3 show that the separate factor structure is the best fit for the data ($\chi^2 = 36.74$, df = 19, p = .009) (GFI = .96; AGFI = .93; CFI = .99). The RMSEA is .06, which in some cases can be considered a good cutoff (Hu & Bentler, 1999). As with the *personal strength* dimension, the higher-order dimension of *relating to others* does not stand up to empirical tests. These results indicate that both of the second-order structures from the PTGI should be precluded in measuring workplace posttraumatic growth. The previously considered sub-dimensions, *self-reliance, acceptance, meaningful*

relationships and *compassion*, can be considered to be stand-alone dimensions. The results from Model 3 also help to establish discriminant validity between *meaningful relationships* and *compassion*.

Model 4: Political Skill Dimensions

In Model 4 I investigated the relationship among *social astuteness, interpersonal influence, networking* and *integrity*. The inter-correlations between these factors, which are displayed in Tables 5 and 6, are all highly significant, ranging between .53 to .73 (*p* <.01) in both samples. These constructs have been shown to be conceptual sub-dimensions of *political skill* with a separate factor structure (Ferris, et al., 2005b). Since the items were adapted for the WPTGI and the dimension of *integrity* was bolstered with items from the behavioral integrity scale (Simons, 2002), it was important to investigate whether these dimensions followed the same pattern as previously indicated (Ferris, et al., 2005b). Building on the previous literature I hypothesized that a separate factor structure would best suit the data.

I followed the same procedures as I did in the previous models, by testing a unidimensional structure, second-order structure and separate factor structure. One note of importance is that I covaried the error terms for the *networking* items, "Being good at building relationships with influential people in my workplace," and "Making sure that at work I know a lot of important people and am well connected." I did this in all 3 models. These items go beyond the desire to increase connections and focus on making connections to important or influential people. There may be a strategic oriented variable that is influencing these two variables in the networking factor. Therefore, in order to account for the external factor I covaried the error terms.

Like the previous models, a separate factor structure appeared to be the best fitting model (GFI = .93; AGFI = .90; CFI = .99; RMSEA = .05). These results replicate the separate structure results found with the Political Skill Inventory (Ferris, et al., 2005b). In the Tables 5 and 6, the strong correlations between *social astuteness*, *interpersonal influence, networking* and *integrity* suggest that these factors may not be distinct, yet the results in Model 4 show that in fact there is discriminant validity.

Model 5: Professionalism and Three Political Skill Dimensions

The rationale for Model 5 was primarily based on the results of the correlation tests. Correlations between *professionalism* and three sub-dimensions of *political skill*, *social astuteness, interpersonal influence*, and *integrity*, were extremely high ranging between .63 to .73 (p <.01) in both samples. Conceptually there is a strong linkage between acting professional and having integrity. Both of those actions are when people are on their best behavior and display their best possible selves. In addition to relating to *integrity*, it is conceivable that *professionalism* relates to *social astuteness* and *interpersonal influence*, because in all three, people monitor their actions when interacting with others. I proposed that a separate factor structure would be the best solution. This is grounded in the belief that *the political skill* dimensions are separate factors and that no additional second-order structures exist between *professionalism* and the other variables.

I used a similar procedure for this model as I did with Model 2. I first tested a unidimensional structure. Second I tested a second-order structure among all of the factors. Third I tested a separate factor structure. As in Model 2, I tested a fourth structure, in which I allowed *professionalism* to covary freely with *social astuteness, interpersonal influence and integrity*, but constrained these last three variables as a second-order factor.

This model was tested to see if the political skills were best suited as a second-order factor, where *professionalism* was related but distinct from them.

The results indicate, that again, a separate factor structure is the best structure for the data ($\chi^2 = 183.71$, df = 84). The CFI (= .96) is within a good range, but the GFI (=.91), AGFI (= .87), and RMSEA (=.07) indicate that the structure might not be the best fit for the data. These results could be due to the sample size not being robust enough to run the model. There are 55 parameters in the model, which calls for a sample of 275. This sample is somewhat lower (n = 234). While there may be a better fitting model, the separate factor structure is superior to the alternative structures. The separate factor structure seems to indicate that the factors are distinctive, but more investigation to this factor structure could better confirm the discriminant validity.

Model 6: Life-oriented Dimensions

The last relationship examined is between the life-oriented dimensions of *appreciation of life* and *spiritual change*. These scales were included in the development of the WPTGI, because they were part of the predecessor the PTGI. Additionally representative themes arose in the interviews. However, these scales pertain to life changes as opposed to workplace changes. Therefore, it is possible that these constructs became confounded as one general life growth outcome. Supporting this idea, the correlation tables reveal the relationship between *appreciation of life* and. *spiritual change* as highly associated (MTurk sample, r = .60, p < .01; alumni sample, r = .62, p < .01). These results indicated a need for further exploration through a CFA. Since these constructs have already been found to be separate factors in the PTGI (Tedeschi & Calhoun, 1996), I supported the notion and hypothesized a separate factor structure.

The results of the last model test, show a separate structure as the best fit for the data. The chi-square statistic is good ($\chi^2 = 22.23$, df = 13), as are the other fit statistics (GFI = .97; AGFI = .99; CFI = .99; RMSEA = .06). These results help dismiss the concern that these two scales may have been confounded, because they were the only life-oriented growth dimensions. The results confirm the hypothesized factor structure as separate factors and support the discriminant validity of *spiritual change* and *appreciation of life*.

Summary

"The construction of the measuring devices is perhaps the most important segment of any study. Many well-conceived research studies have never seen the light of day because of flawed measures" (Schoenfeldt, 1984, p. 78). This statement attests to the importance of sound measure development. In this chapter I reviewed the analyses that I conducted to begin initial validation of the inventory. Through careful statistical analysis I refined the WPTGI to 16 factors, represented by 60 items, with all factors reporting high reliability scores. These factors were tested in correlation analyses, revealing a number of significant relationships. The relationships deemed theoretically and empirically questionable were assessed through confirmatory factor analysis. During this step, I found the second-order dimensions of *personal strength* and *relating to others* to fail empirically, indicating that these second-order dimensions are only conceptual in nature. *Technical competence* was distinct from the other two sub-sets of *personal strength*, namely *self-reliance* and *acceptance*. I found that the *political skill* factors were best measured as separate factors. *Professionalism* was distinct from *social astuteness*,

interpersonal influence and *integrity*. Finally, the life dimensions of *spiritual change* and *appreciation of life* were seen as unique factors. Since all of the factors were not tested at the same time, these results cannot be conclusive. However, they are a good beginning step to confirm the measure and a guide for future tests. Furthermore, although future work is necessary to test the full model, these beginning steps get at the foundation of the relationships that make up the WPTGI. Additionally they show the distinction between many of the dimensions.

Table 7

Models	Alternat			
	1	2	3	Comparison
1. Self-reliance and Acceptance	One Dimension	Second- order	Separate Factors	between 2 and 3
Chi-square (χ ²) Degrees of freedom	228.65	43.64	34.74	
(df)	14 (<i>p</i> = .000)	14 (<i>p</i> = .000)	13 (<i>p</i> = .001)	
\varDelta in χ^2				8.90 df = 1 (p = .003)
Root mean square error of				ų)
approximation (RMSEA) Goodness of fit	.26	.10	.09	
index (GFI) Adjusted	.72	.95	.96	
goodness of fit	.44	.90	.91	

Confirmatory Factor Analyses (CFA) Results and Comparisons of Alternative Factor Structures

index (AGFI)				
Comparative fit				
index (CFI)	.79	.97	.98	
⊿ in CFI				.01
Akaike's				
information				
criterion (AIC)	256.65	71.64	64.74	
\varDelta in AIC				6.9

	А	lternative Fac	ctor Structure	S	
	1	2	3	4	
2. Self-reliance,				Covaried	
Acceptance and				with	Comparison
Technical	One	Second-	Separate	Second-	between
competence	Dimension	order	Factors	order	3 and 4
χ^2	720.22	110.483	63.73	72.51	
df	35	35	32	33	
	(p = .000)	(p = .000)	(<i>p</i> = .001)	(p = .000)	
					8.78
\varDelta in χ^2					df = 1
					(p = .003)
RMSEA	.29	.10	.07	.07	
GFI	.57	.91	.95	.94	
AGFI	.32	.86	.91	.90	
CFI	.63	.96	.98	.98	
⊿ in CFI					.00
AIC	760.22	150.48	109.73	116.51	
\varDelta in AIC					6.78

	Alter	rnative Factor	r Structures	
	1	2	3	
3. Meaningful				Comparison
relationships and	One	Second-	Separate	between
Compassion	Dimension	order	Factors	2 and 3
$\chi^2 df$ $\Delta \text{ in } \chi^2$	206.58 20 <i>p</i> = (.000)	75.98 20 <i>p</i> = (.000)	36.74 19 <i>p</i> = (.009)	39.24 df = 1 (p = .000)

RMSEA	.20	.11	.06	
GFI	.76	.92	.96	
AGFI	.57	.86	.93	
CFI	.86	.96	.99	
⊿ in CFI				.03
AIC	238.58	107.98	70.74	
\varDelta in AIC				37.24

Alternative Factor Structures				
	1	2	3	
				Comparison
	One	Second-	Separate	between
4. Political Skills	Dimension	order	Factors	2 and 3
χ^2	1294.26	213.82	123.02	
df	89	89	83	
	(p = .000)	(p = .000)	(p = .003)	
	• /	* /	•	90.80
\varDelta in χ^2				df = 6
				(p = .000)
RMSEA	.24	.08	.05	
GFI	.50	.88	.93	
AGFI	.32	.84	.90	
CFI	.71	.97	.99	
⊿ in CFI				.02
AIC	1356.26	275.82	197.02	
\varDelta in AIC				78.80

	Alternative Factor Structures				
	1	2	3	4	
5.					
Professionalism,					
Social astuteness,				Covaried	
Interpersonal				with	Comparison
influence and	One	Second-	Separate	Second-	between
Integrity	Dimension	order	Factors	order	3 and 4
χ^2	1295.29	269.08	183.71	254.87	
df	90	90	84	87	
	(p = .000)	(p = .000)	(p = .000)	(p = .000)	
\varDelta in χ^2					71.16
Δ III χ					df = 3

					(p = .000)
RMSEA	.24	.09	.07	.09	
GFI	.51	.86	.91	.87	
AGFI	.34	.81	.87	.82	
CFI	.71	.96	.98	.96	
⊿ in CFI					.02
AIC	1355.29	329.08	255.71	320.87	
\varDelta in AIC					65.16

	Alternat	ive Factor St	ructures	
	1	2	3	
6. Spiritual change and Appreciation of life	One Dimension	Second- order	Separate Factors	Comparison between 2 and 3
.2				
χ^2	221.57	47.93	22.23	
df	14	14	13	
	(p = .000)	(p = .000)	(p = .052)	
\varDelta in χ^2				25.70 df = 1 (p = .000)
RMSEA	.25	.10	.06	
GFI	.76	.94	.97	
AGFI	.52	.88	.94	
CFI	.83	.97	.99	
⊿ in CFI				.02
AIC	249.57	75.93	52.23	
\varDelta in AIC				23.70
Note $n - 234$				

Note. *n* = 234.

Chapter IX: DISCUSSION

From inter-office politics to near-death experiences, employees experience a range of highly disturbing and traumatic situations at work. In the management field, a good deal of research has been conducted on these incidents and their negative outcomes (Ambrose, et al., 2002; Barling, et al., 2009; Hoel, Einarsen, & Cooper, 2003; Latack, et al., 1995; Mitchell & Ambrose, 2007; Sverke, et al., 2002). In the field of psychology, there has recently been much interest in the idea of posttraumatic growth (for a review, see Linley & Joseph, 2004). Namely, the idea that rather than always having negative effects, people can actually grow and learn from traumas (Helgeson, et al., 2006; Prati & Pietrantoni, 2009). While the idea behind Nietzsche's idiom "that which does not kill us makes us stronger" has been around for centuries, it has only recently been empirically studied in psychology. Aside from a few lone studies (Larick & Graf, 2012; Lev-Wiesel, et al., 2009; Maitlis, 2009; Paton, 2005) that have explored posttraumatic growth in rare workplace contexts, this concept has not been examined in the overall context of work. Therefore, I took this seminal idea and applied it to the world of work. My main questions were whether posttraumatic growth can take place in broad work contexts and, if so, what that growth looks like in a work context. More specifically, what are the various forms of growth that occur as a result of traumatic workplace experiences? Additionally, how would workplace growth outcomes compare to more general life growth outcomes? Answering these questions could open the door to begin acknowledging traumas in the workplace, understanding how employees cope with these events and how people transform because of them. By looking at this topic from a

positive angle, organizations may be more willing to engage in exploring instances of trauma at work, rather than trying to hide or ignore them. If such explorations were done in a caring way, employees may respond positively by increasing their commitment, engagement, performance and feeling less of a desire to leave the organization. Furthermore, organizations could learn how to leverage the positive ways in which employees grow as a result of their traumatic events. Yet, perhaps most importantly, by facilitating this growth organizations may be able to help employees make significant self-discoveries and recognize critical behavioral changes that impact their work and lives.

It is obvious that the study of workplace posttraumatic growth may be a rich resource for scholars, organizations and even employees. In an effort to advance this research, the data in this study offer three major contributions. First, up until now, scholars have studied workplace suffering primarily in a negative vacuum by looking at the negative predictors and negative outcomes of such events. Using a posttraumatic growth framework, I bridge the negative and positive divide and investigate how negative events at work can lead to positive outcomes. I substantiate the evidence of posttraumatic growth in the workplace with both qualitative and quantitative data. These results illustrate how employees can grow in a positive fashion after experiencing highly negative events at work.

The second contribution is the development of the Workplace Posttraumatic Growth Inventory (WPTGI). After conducting 31 interviews, I was able to uncover 17 discreet dimensions of growth, which were then confirmed in two survey data samples. These

dimensions reflect the different attitudinal and behavioral changes employees make at work due to overcoming workplace difficulties.

While the interviews generated 17 dimensions, the data in the EFA did not support the *confidence* dimension, hence reducing the scale to 16 dimensions. Though it is possible that the *confidence* dimension is not distinct, the problem with the data is more likely due to content validity issues of the *confidence* items. Therefore, I consider the scale to have 17 dimensions, including the *confidence* dimension. I address steps that can be taken to improve the *confidence* dimension in the future research section of this chapter.

The creation of the WPTGI will enable researchers to measure if, how and when employees grow after workplace traumas. It will help in the identification of potential moderators that explain higher levels of growth. In addition, the instrument provides scholars with an expansive list of divergent growth outcomes that can be used to advance the management literature in any number of directions.

Finally, the third contribution distinguishes traumas from stressors. Up until now, within the management literature, workplace traumas have been grouped together with less critical stressors such as role ambiguity, role conflict and work overload (Spector, Chen, & O'Connell, 2000). By grouping the two types of disruptions together, it is difficult to tease out the powerful positive impact that workplace traumas can have on employees. I propose that scholars distinguish between workplace stressors and workplace traumas. Workplace traumas encompass events that cause psychological or physical pain and are characterized by being sudden, chaotic, uncontrollable and yielding

uncertain outcomes. Furthermore events that inflict strain, but do not have the above characteristics, should not be considered workplace traumas.

Below, I elaborate on how the results of this research support these contributions. Starting with the main contribution of this paper, I review the evidence of posttraumatic growth in the workplace. I invoke the narratives from the interviews to establish support for the claim that people do in fact grow from workplace traumas. Next, I discuss the contributions of the WPTGI by first highlighting the kaleidoscope of growth outcomes that occur at work. I tie these outcomes to the management literature and discuss how they enrich current research. In doing so, I review the structural components brought forth by the confirmatory factor analyses. I explore how these results refute the existence of second-order factors. Subsequently, I suggest that the WPTGI is more suitable for measuring workplace posttraumatic growth than other scales. In support of the final contribution, I use the results to highlight the unfortunate presence of workplace traumas. Earlier in the paper, I used prior research to suggest that workplace traumas exist. With the results of this work, it is indisputable that, in fact, traumas do happen at work. I suggest that the presence of these events should be a larger part of the discussion in management literature and practice. As such, I discuss the implications of the inventory for future research, as well as the implications for employees and organizations. I conclude with several study limitations and ideas for future research.

Evidence of Posttraumatic Growth at Work

Borrowing from the field of psychology, I use the concept of posttraumatic growth to explain how workplace traumas can lead to positive outcomes. As with life

traumas, employees appear to follow the model of organismic valuing theory after experiencing workplace traumas. Recall that this theory explains how the transformation process occurs after a trauma. People re-conceptualize their worldviews by going through a process of accommodation. During this process people incorporate new information from the trauma to enhance their understanding of themselves and their environments. Additional factors such as coping, social support, psychological needs and personality factors help to catalyze or hinder this process. From the three samples in this dissertation, it is evident that participants went through the stages of the model (Figure 1) and specifically engaged in cognitive processing and accommodation. Participants in the interviews spoke of grappling with the new information they were confronted with after the traumas. In one particular case, a woman who had been downsized talked about how she dealt with the event. She had always seen herself as invincible, coming in first place in competitions, being at the top of her class and receiving the best job offers. She remarked on the difficulty she had in making sense of her first real rejection. She couldn't reconcile being rejected with her high sense of self. With time she was able to adjust her worldview and came to the realization that calamities can happen to anyone, even the best and the brightest of people. This paradigm shift caused her to reconsider her sense of self in other areas of her life and work. It also caused her to be less judgmental and more compassionate of others. This type of self-examination helps employees consider new paradigms and advances their worldviews. These re-conceptualizations are the mechanisms that lead to new behaviors at work. As noted earlier, many of the examples in Table 1 demonstrate how the participants accommodated their traumatic events. Another example was highlighted by a participant who philosophized about how the

experience made him a better individual and a better employee. Similarly, another participant remarked that "it ended up working out for the better." These examples attest to the fact that employees make sense of these traumatic events and in many cases change their outlooks of themselves, their workplaces and their lives in general.

How the Workplace Posttraumatic Growth Inventory Can Advance Management Research

The second major contribution of this paper is the development of the multidimensional Workplace Posttraumatic Growth Inventory. Not only does the inventory offer scholars a way to measure WPTG, but it identifies a large number of growth outcomes. From prior research it is apparent that employees experience growth after work-related traumas (Dekel, et al., 2011; Larick & Graf, 2012; Lev-Wiesel, et al., 2009; Maitlis, 2009; Paton, 2005). However, the range and specificity of growth outcomes, particularly in the workplace, are less clear. As evidenced by the interviews, employees experience a range of growth outcomes after work crises. Through careful analysis using a grounded theory coding approach I was able to uncover 17 distinctive types of workplace posttraumatic growth, which included: 1) self-reliance, 2) confidence, 3) acceptance (emotional self-control)⁸ 4) new career possibilities, 5) meaningful relationships, 6) compassion, 7) identity shift, 8) organizational awareness, 9) professionalism, 10) advocating, 11) technical competence, 12) social astuteness, 13) interpersonal influence, 14) networking 15) integrity, 16) appreciation of life and 17) spiritual change. These dimensions are depicted in Figure 2. The first 6 dimensions (self-

⁸ Recall that the *acceptance* dimension was previously called *emotional self-control*. The name changed after the EFA, when the items that reflected *emotional self-control* were dropped from the factor.

reliance, confidence, acceptance [emotional self-control], new career possibilities, meaningful relationships and compassion) and the last 2 dimensions (appreciation of life and spiritual change) were adapted from the PTGI. Recall that the PTGI has 5 dimensions; 1) personal strength, 2) new possibilities, 3) relating to others, 4) appreciation of life and 5) spiritual change. The remaining 9 dimensions were newly identified as workplace growth outcomes (identity shift, organizational awareness, professionalism, advocating, technical competence, social astuteness, interpersonal influence, networking and integrity). The last 4 of these new dimensions (social astuteness, interpersonal influence, networking and integrity) were adapted from the Political Skill Inventory (Ferris, et al., 2005b). Using 2 samples of MTurk workers and alumni participants, these growth dimensions were explored and confirmed using factor analyses. Below I describe the dimensions in more depth, explain how they evolve after traumas and how each dimension contributes to the current management literature.

Self-reliance

Self-reliance is the first dimension in the WPTGI and the first of the adapted PTGI dimensions. *Self-reliance* was initially identified by Tedeschi and Calhoun (1996) in their description of *personal strength*. Building on this theme, participants mentioned feeling more reliant on themselves and their abilities at work as a result of overcoming difficulties. As people realized that they had the wherewithal to triumph over their circumstances, they felt stronger in being able to rely on their own abilities with future difficulties. A good example of this progression is evidenced by the interviewee who turned in a doctor who was mistreating patients (Table 1, Row 1, Example 31). This interviewee said she knew the supervising doctor was wrong in how he handled the patient. After reporting this incident to the head nurse, she was encouraged to bring it up

to hospital management, which she did. Reflecting on this event, the interviewee said that she now trusts her own notion of what is right and can rely on herself to take appropriate actions to ensure high quality patient care.

In this case, the woman was supported by her supervisor. Reaching out for social support is a coping mechanism that has been shown to lead to growth outcomes (Helgeson, et al., 2006). Not just reaching out to others, but having available social support resources has been shown to lead to higher levels of growth (Prati & Pietrantoni, 2009). It is likely that people who seek social support but, more importantly, receive it develop stronger self-reliance. The aspect of social support is discussed further in the future research section.

In the management literature, the theoretical basis for *self-reliance* is attachment theory (Quick, Joplin, Nelson, & Quick, 1992). According to attachment theory, people with secure attachments can balance both independence and interdependence. Therefore employees who have secure attachment styles are better able to rely on themselves at work. Kahn (2002) raised the thought-provoking paradox that, in order for employees to feel self-reliant, they need to reach out for help. He explains that people can rely only on their own abilities when they are able to securely trust others. Conversely, when employees are isolated and hampered by fear of failure, they are less likely to take independent and seemingly risky steps to resolve their problems. Supporting this claim, executives who have more extensive social support resources report greater *self-reliance*, which results in greater career success (Quick, Nelson, & Quick, 1987). Career counselors have been found to be a specific type of social support resource; they are particularly helpful in encouraging *self-reliance* in employees. One way they do this is by

helping employees reframe their schemas about their work (Gianakos, 2013). Identifying *self-reliance* as an outcome of workplace traumas extends the current literature by isolating a new predictor, namely traumatic events, that helps to develop *self-reliance* under certain conditions. Additionally, the inclusion of this outcome in the WPTGI should help revive research on *self-reliance* in the management literature, which has been scant in recent years (ibid).

Confidence

Confidence is the second dimension in the WPTGI and the second dimension adapted from the PTGI dimension, *personal strength*. The theme of *confidence* came out strongly in the interviews. In the literature, Tedeschi and Calhoun (1996) mention that people come out of traumas feeling stronger, "a confidence which may generalize to all kinds of situations, including future traumas" (p. 456). In the interviews, *confidence* was described as a sense of feeling more valuable and an overall greater sense of one's abilities at work. This develops when people recall that they were able to effectively prevail at work. They reflect on the unique abilities they relied on to get through the crisis. This reflection helps them discover, and in some cases rediscover, talents that they previously ignored.

The data, however, did not support *confidence* as a specific dimension of WPTG. The results of the Q-sort may shed some light on why this was the case. Recall that the entire inventory had an inter-rater agreement of 55%. More specifically, there was an average inter-rater agreement of 50% for the seven *confidence* items. Given these results, the failure of this dimension may be due to unclear items rather than *confidence* not being a theoretical dimension of WPTG. However, it is also possible that *confidence* is an

antecedent to *self-reliance*; in that people feel self-reliant only once they feel confident about their capabilities.

In the fields of management and psychology, *confidence* is most often referred to as self-efficacy (Luthans, 2002). It refers to people having confidence in their abilities. Self-efficacy has been explored as a buffer between stress and strain, (Jex, Bliese, Buzzell, & Primeau, 2001; Jones, 1986; Nauta, Liu, & Li, 2010) and even more prominently, as a key component of psychological capital (Luthans, Youssef, & Avolio, 2007) and core self-evaluations (Judge, Locke, Durham, & Kluger, 1998). Together these studies have shown how employees with higher self-efficacy/ confidence have higher levels of job satisfaction, organizational commitment, and psychological well-being, (Avey, Reichard, Luthans, & Mhatre, 2011; Judge & Bono, 2001). Though some scholars have found that self-efficacy can be developed through training interventions (Luthans, Avey, & Patera, 2008), self-efficacy is considered by many to be trait-like (Chang, Ferris, Johnson, Rosen, & Tan, 2012), and therefore relatively stable across adulthood (MacCrae & Costa, 1990). In contrast to the dispositional stability notion, a number of posttraumatic growth studies have shown that traumas can help gradually shift personalities over time (Tennen & Affleck, 1998). Given that generalized self-confidence is difficult to alter later in life, the notion that traumas may help develop *confidence* for those that have not developed it earlier in life is promising. Despite the empirical results from the survey, the qualitative data from the interviews show strong evidence of *confidence* being an outcome of workplace traumas. Therefore, more work on this dimension is warranted.

Acceptance

Acceptance is the third dimension in the WPTGI and the third dimension adapted from the PTGI dimension, *personal strength*. Acceptance was identified as a workplace growth outcome later in the analysis process. In the early conceptualization stage, I had named the dimension *emotional self-control*. Recall from Chapter VI that this dimension was a sub-dimension of *personal strength* and therefore did not have its own definition (see Table 2). Since there was not a specific definition driving the items, I adapted and generated items to reflect the overall theme of an ability to manage frustration at work by controlling one's emotions and learning to accept difficulties (for a review of the item generation, see Appendix F). These items were adapted from other PTG scales and were taken from the interviews. In retrospect, it is evident that this construct was problematic. The results of the Q-sort revealed that the original 8 items only had an average inter-rater agreement of 40%. This problem was elevated during the EFA, when the items that reflected managing emotions did not load well in the EFA and were subsequently dropped. The process of the EFA helped to parse out the distinction between managing and accepting emotions by excluding the ambiguous items and leaving ones that represented an ability to accept difficulties. The remaining items formed a clearer dimension of acceptance.

In the interviews, participants recalled that they no longer fought against changes or difficulties that arose at work. Rather they tended to "go with the flow." This area of growth most likely comes from the wisdom that things will work out with time and one does not need to spend energy worrying about them. Moreover, people tend to let go of smaller annoyances after traumas, because they realize that life is short and that things

could be much worse. Both of these attitude shifts tend to put people in a greater mindset of *acceptance*.

In psychotherapy, the concept of *acceptance* has been broadly studied and practiced in Acceptance and Commitment Therapy (Hayes, Strosahl, & Wilson, 1999). Building on this body of literature, Bond and Bunce (2003) looked at acceptance in the workplace. They defined *acceptance* as a two-step process whereby people display "a willingness to experience all psychological events (i.e., thoughts, feelings, and sensations) without changing, avoiding, or otherwise controlling them" which then allows people to "effectively use their energies, formerly given over to resignation, avoidance, or control of these events, to act in a way that is congruent with their values and goals" (p. 1057). This description aligns with the organismic valuing process that people go through. Once through the crisis, people are more in touch with their values and goals. These internal changes most likely manifest in the workplace as accepting difficulties that arise. People who develop this specific growth outcome will reap benefits in other areas as well. The unique ability to accept difficulties without judgment or resistance has been associated with greater mental health and performance (Bond & Bunce, 2003). The acceptance dimension of the WPTGI advances research on acceptance by identifying a trauma as a likely antecedent. By examining these relationships scholars can further understand how to promote *acceptance* in the workplace. Additionally, the development of this ability has the cyclical effect of helping employees deal with future ordeals.

New Career Possibilities

New career possibilities is the fourth dimension in the WPTGI and was adapted from the second PTGI dimension, *new possibilities*. *New career possibilities* took on a new and career-specific form in the WPTGI, as compared to the PTGI dimension of *new*

possibilities. Recall that the PTGI dimension was focused on general new opportunities in one's life. This newer WPTGI dimension looks at how the trauma propels people to discover new careers, jobs and organizations that are a better fit for them. The qualitative results revealed how many interviewees who were laid-off used the occasion to look for careers that better suited them. In this case the combination of new strength, coupled with a change in perspective, seemingly led employees to seek out new career opportunities that they previously had not considered. This theme also arose for downsizing survivors, who took the opportunity to craft their jobs during the re-organization process. Research on job insecurity and downsizing support these accounts, such that lay-off victims adapt to the loss by developing new and different skills (De Cuyper, Mäkikangas, Kinnunen, Mauno, & Witte, 2012) and exploring new career paths (Zikic & Klehe, 2006). The dimension of *new career possibilities* will undoubtedly help advance research in the careers arena by offering a positive framework in which to study career transitions and long-term effects of downsizing.

Meaningful Relationships

Meaningful relationships is the fifth dimension in the WPTGI and was adapted from the third PTGI dimension, *relating to others. Meaningful relationships* are developed as a result of seeking support when dealing with a trauma. Employees who seek out emotional and instrumental support during the trauma often deepen their relationships with their managers and colleagues. When they see that others at work are willing to help them during a crisis, they come to value those connections more. Consequently, these closer ties have lasting effects that continue after the trauma or crisis has been resolved.

This phenomenon is evident in a few different areas in management. Looking first at dyadic relationships, Kram and Hall (1989) found that mentors played a central role in helping employees understand traumas. Employees who receive compassion during difficult times are said to develop high quality connections with others at work (Lilius, Worline, Dutton, Kanov, & Maitlis, 2011; Powley & Piderit, 2008). A sense of bonding and closeness has been shown to take place, at the team level, with military personnel after experiencing combat (Pietrzak, et al., 2010). At the organization level, employees who have witnessed workplace traumas have been shown to increase information exchange as a result of trying to manage the crisis (Sutcliffe & Vogus, 2003). Such exchanges have been shown to lead to broader social networks and greater social capital in the aftermath of the crisis (Powley, 2009). What is common among these studies is that people had social support resources available. Social support is an essential piece of the organismic valuing theory (Linley & Joseph, 2004) and has been substantiated by research (Prati & Pietrantoni, 2009) as being critical in the development of many of the growth outcomes, and for *meaningful relationships* in particular. This dimension adds to a growing set of findings and suppositions (Kahn, et al., 2013) that suggest that organizational crises can serve as a catalyst for developing closer relationships in the workplace.

Compassion

Compassion is the sixth dimension in the WPTGI. It too was adapted from the third PTGI dimension, *relating to others*. This dimension emerged in a number of the interviews. Survivors of downsizings, job insecurity, supervisor abuse and bullying all mentioned an increased sense of compassion for others as a result of the trauma. Research on *compassion* asserts that people first notice, second feel and third respond

(Kanov, et al., 2004). Workers who have experienced traumas and have gone through sense-making processes are more aware of what suffering looks like and are therefore more capable of noticing others' pain. Second, they are familiar with the toxic feelings that pain brings. This familiarity enables them to easily empathize with other sufferers. Finally, they reflect on the care and compassion that was shown to them during the event and therefore feel compelled to reciprocate by showing others compassion (Boyatzis, et al., 2012). They are also able to pass on the expert knowledge they gained through experience to new sufferers. *Compassion*, as a dimension of workplace posttraumatic growth, can contribute to the management literature by adding to the limited yet growing research stream on *compassion* in the workplace (Rynes, et al., 2012).

Identity Shift

Identity shift is the seventh dimension in the WPTGI and the first of the newly identified dimensions detected as a theme in the interviews. Participants spoke of new understandings they had about themselves and their abilities at work. Take, for example, the woman who had high self-confidence in all areas of her life until she was laid-off. In making sense of the event she stated that she is now "normal." While this may sound like a negative outcome, she found it to be liberating. She observed that, prior to the lay-off, she held herself to incredibly high standards, which led to a great deal of anxiety. Post lay-off, she saw herself as highly competent, but also as a person who was fallible and vulnerable. These new characteristics helped her be less judgmental and kinder to herself, thereby reducing her anxiety. They also helped shape how she engaged with others at work, in that she was more compassionate toward others, but also more selective in whom she chose to trust.

While literature on posttraumatic growth in the workplace is scarce, one of the few studies that has been conducted acknowledged *identity shift* as a key outcome (Maitlis, 2009). In this study, injured musicians benefited when they took future-oriented approaches and asked questions like "who can I become?" instead of self-defeating approaches by ruminating on questions such as "why me?" Through this exploration, they were able to construct new identities that matched their new circumstances. While it is possible that the musicians, and employees in general, may incorporate these new identities without the trauma, it is these pivotal events that serve as "alert intermissions" that catalyze change (Ibarra, 2004). These changes are echoed in case studies on soldiers and Marines (Haynie & Shepherd, 2011). By looking at discontinuous career transitions of veterans, Haynie and Shepherd found that veterans who broke away from their previous soldier-identities and envisioned new identities were better able to enact futureoriented career strategies. The inclusion of *identity shift* in the WPTGI will extend research on identity construction at work (Ibarra, 1999) by identifying an antecedent that helps compel employees to craft positive identities (Dutton, et al., 2010) that are more aligned with their goals and values. Additionally, it will supplement qualitative work that has linked workplace traumas to identity construction (Haynie & Shepherd, 2011; Maitlis, 2009) by offering an empirical way to measure such growth.

Organizational Awareness

Organizational awareness is the eighth dimension in the WPTGI and the second of the newly identified dimensions. It was mentioned by a number of interviewees across a variety of workplace traumas. Workers who cognitively processed the event were able to consider organizational factors that impacted the event. This analysis included questioning organizational structures, processes and procedures, political factions and

cultural norms. Through this examination people gleaned a better understanding of the organization, which helped them better navigate such systems in the future.

The *organizational awareness* dimension in this study bridges former research on this particular type of knowledge by providing a higher level understanding of the organization. Having a bird's eye view of the organization overlaps with the construct of relational job learning, which Lankau and Scandura (2002) define "as increased understanding about the interdependence or connectedness of one's job to others" (p. 780). Relational job learning is more about the interplay between one's role and the entire organization, whereas *organizational awareness* is less about the comparison and more of an expansive overview of how the organization works. *Organizational awareness* has been identified as an emotional intelligence competency by Boyatzis (2007) and is defined as "reading a group's emotional currents and power relationships" (p. 230). The emotional intelligence competency is quite similar to the wisdom that comes with posttraumatic growth, but in the WPTGI the *organizational awareness* dimension extends beyond political knowledge to include greater understandings of organizational processes, power dynamics, procedures and structures.

Organizational awareness as a WPTGI dimension offers the literature a new way to look at learning in the aftermath of a crisis. It combines organizational knowledge from two similar constructs, job relational learning and the emotional intelligence competency. Additionally, it presents a new way for scholars to understand how this tacit knowledge develops. Until now, the presiding avenue was understood to happen through mentorship from supervisors, coaches and peers (Parker, Hall, & Kram, 2008), but this study shows that negative experiences can be powerful developmental agents as well.

Professionalism

Professionalism is the ninth dimension in the WPTGI and the third of the newly identified dimensions. It was referred to, specifically, by a number of interviewees in that they desired to act with a higher level of propriety which conveyed respect and trust among others. More specifically, participants recalled that they aspired to be more professional after reflecting on their colleagues' and superiors' contemptible behavior. The concept of *professionalism* in management research deviates from this idea in that it denotes the structure of a professional entity or the characteristics of belonging to a professional body (Swailes, 2003) and is specific to specific types of jobs (e.g., nursing, academe, law, medicine). In contrast, the *professionalism* dimension in the WPTGI can manifest in any type of job and be embodied by any employee. Specifically, it is about employees' desire to portray themselves as models of their profession in more general terms. Additionally, it is tied to witnessing colleagues' lack of appropriate behavior and going to the other extreme in terms of being a role model.

The type of reactive behavior that the interviewees recalled is captured in research on cultural norms. Cialdini, Reno, and Kallgren (1990) found that participants littered less when they saw a confederate litter in a dirty environment. Gino, Ayal, and Ariely (2009) built on this line of research through studies that showed that people are more likely to reject unethical behavior when the egregious acts are performed by an out-group member and when unethical behavior is salient. Taken together, it is likely that during traumatic instances, the bullies and cheaters become outcasts, influencing those around them to reject such behavior and instead turn to more professional behavior. This was especially true in the stories that involved sexual harassment and unethical action investigations. The investigations likely heightened the saliency of honesty and proper

work behavior, causing the participants to want to act more professionally. While abusive and unethical behaviors are painful and have many damaging consequences, one of the positive effects may be more professionalism in the workplace. Even Sutton (2007), who is a major proponent of firing toxic employees, suggests that companies implement the "one asshole" rule. He explains that by keeping one jerk around the office it influences others to be on better behavior (Sutton, 2004).

The type of *professionalism* identified in this paper has not yet appeared in the management literature. It is closely related to *integrity*, which has received a great deal of attention (Davis & Rothstein, 2006; Ones, Viswesvaran, & Schmidt, 1993) but, as shown in the CFA, *professionalism* is distinct from *integrity*. One of the additive benefits of the current research is the contribution of *professionalism* as a stand-alone construct. Employees often speak of what it means to be a professional, yet their descriptions are not appropriately captured by *integrity* or other constructs in the management literature. In these conversations, people often describe an attitude that goes beyond *integrity*, i.e., matching their words to their actions. Instead these attitudes encompass the way people represent their companies, professions, and teams, as well as how they dress and carry themselves in public. Investigation into this construct will indeed advance the field and be more representative of the workplace experience.

Advocating

Advocating is the tenth dimension in the WPTGI and the fourth of the newly identified dimensions. It arose as a consequence of a few different types of traumas. Both victims and survivors of lay-offs responded by advocating for others more, as well as for people who were wrongfully accused of mistakes. In these cases, people recognized mistreatment and retaliated against it. These findings echo O'Reilly and Aquino (2011)

theoretical work, which suggests that employees who witness or learn of unfair treatment of others in the organization identify the injustice and react by punishing the perpetrators and supporting the victims. Those who are more likely to actively resolve the transgression, rather than avoid it, are people who have a greater moral identity. Posttraumatic growth may be an experience that helps to develop people's moral identity so that they stand up for fairness the next time they see an injustice occurring. Additionally, this study extends O'Reilly and Aquino's theory by providing evidence of how third parties support victims, by voicing the issues to powerful decision makers.

While, the dimension of *advocating* bears similarity to the construct of voice, the former is more prosocial. LePine and Van Dyne (2001) define voice as "constructive change-oriented communication intended to improve the situation" (p. 326). Bolino, Turnley, and Bloodgood (2002) describe the advocacy participation sub-dimension of voice, which was initially identified by Van Dyne, Graham, and Dienesch (1994), as "the willingness of employees to be controversial in order to improve the organization by making suggestions, innovating, and encouraging other employees to speak up." When people advocate as a WPTGI behavior, they do all of the above by bringing issues to upper management. However, with the WPTGI dimension of *advocating*, they do it with the specific intention of protecting others' rights and restoring justice. As such, this targeted aim takes the dimension of voice one step further. Not only are people trying to help the organization resolve problems, but they are doing it in a prosocially oriented way by helping less fortunate employees and righting a wrong. Studying *advocating* in this form will certainly help to extend both the organizational citizenship behavior and justice research streams.

Technical Competence

Technical competence is the eleventh dimension in the WPTGI and the fifth of the newly identified dimensions. Recall that *technical competence* is distinct from the *personal strength* PTGI dimension, in that it is specific to workplace skills and not to overall competence. In the interviews, people mentioned both forms of competence but more often recalled gaining specific technical strength rather than general competence. Another distinction is that people may develop *technical competence* but not overall competence. Alternatively, they may feel better about their general competence but feel lacking in the specific skills necessary for their jobs. For instance, people who lost their jobs may reflect on their accomplishments, which may lead to overall feelings of pride and confidence. However, they may still feel inadequate in job-specific skills and therefore not benefit from greater feelings of *technical competence*. This may be especially true if people change professions or roles.

Technical competence develops as people attempt to resolve problems associated with the trauma and prevent future occurrences. As people analyze the intricacies of the event, they learn more about their jobs, which increases their knowledge base and abilities. Research on medical errors and failed business ventures illustrate that workers learn from past failures by discussing the events and identifying ways to prevent similar mistakes in the future (Carmeli & Gittell, 2009; Gunther McGrath, 1999; Shepherd, 2003; Vogus, Sutcliffe, & Weick, 2010). Firefighters have been shown to have better performance when they learned from others' "war stories," as compared to stories without failures (Joung, Hesketh, & Neal, 2006).

One participant's story, in particular, highlights the effect of learning from mistakes. An engineer recounted a major mistake he made at work. This one mistake caused his company great financial, reputational and productivity loss. After months of feeling shame and anxiety, the manager began to see a change in how he went about his job. He recalled being far more diligent than he had been in the past. The event also caused him to be more critical of projects, allowing him to judge possible pitfalls and catch errors. However, the most interesting discovery was that he remarked upon his new appreciation for the complexity of issues in the business. Going through the ordeal propelled him to develop seemingly opposing abilities. He was able to concurrently have greater focused attention on current projects, whilst also being open and flexible to higher-level information. This specific type of competency has been said to lead to organizational ambidexterity (Good & Michel, 2013). This latter ability, organizational ambidexterity, explains how effective leaders have the capacity to concurrently align activities across business units, while being adaptable to quickly meet changing demands. Such abilities have been shown to predict performance (Gibson & Birkinshaw, 2004). This story illustrates the type of effective competencies that employees can develop by going through traumas and taking the opportunity to learn from them. Research on job performance and organizational learning can benefit from this dimension by acknowledging and exploring the trauma context and its ability to promote development.

Political Skills

The twelfth, thirteenth, fourteenth and fifteenth dimensions in the WPTGI are *social astuteness, interpersonal influence, networking* and *integrity*. These are the last four of the newly identified growth dimensions. These dimensions were adapted from the Political Skill Inventory (Ferris, et al., 2005b) in the management literature. In the

interviews, people reported gaining these skills after the traumas by being better able to understand others at work, influence others, develop stronger networks and act with more with integrity.

Social astuteness. *Social astuteness*, the twelfth dimension in the WPTGI and the first of the political skills, refers to the ability to understand human behavior. This ability changed for people across a variety of different traumas. This change was most prominent in cases of sabotage and employee violence, when people were harmed by others and witnessed ugly behavior. In these cases, people identified and isolated dangerous and manipulative behaviors by others. Through this analysis people were better able to understand motivations, intentions and actions of others. After the trauma, this wisdom helped people to better interpret and meet customer needs and make better decisions in whom to trust at work. These accounts support research by Ferris, et al. (2005b) that finds that people with high *social astuteness* have better job performance ratings and are more effective leaders.

Interpersonal influence. *Interpersonal influence*, the thirteenth dimension in the WPTGI and the second of the political skills, refers to the ability to influence others. It likely develops as a result of engaging in active coping. This type of coping involves people moving toward the obstacle to resolve it and regain control over their chaotic environments. Asserting one's influence is a tactic that helps people control others and outcomes (Paulhus & Christie, 1981). Whereas prior to a trauma people may have been pawns in someone else's game of workplace chess, post-trauma, people use their understanding of others and the organization to influence favorable outcomes for themselves. Take, for example, the man who dealt with an abusive supervisor in the past

(Table 1, Row 13, Example 32). In his new job he developed strategies to influence his supervisor. In order to direct the discussion and decisions, he made sure to email his supervisor using specific language. This technique helped him control the conversation, by forcing his boss to be more forthright and agreeable. This example highlights findings that show that people who can influence their supervisors have more career success (Judge & Bretz Jr, 1994).

Networking. *Networking*, the fourteenth dimension in the WPTGI and the third of the political skills, was mentioned by survivors of job insecurity, downsizing and sabotage. In these situations people coped with the loss and danger by expanding their networks. Prior evidence supports the idea that many survivors networked as a way to develop new job opportunities (Fleig-Palmer, Luthans, & Mandernach, 2009; Gowan & Gatewood, 1997) and establish stronger reputations in their organization (Zinko, 2013). In these circumstances, people took such actions to create more security and greater support networks to rely on in the future. It is likely that as people developed these coping strategies, they realized the value in these skills and further enhanced the frequency in which they networked, as well as the expansiveness of their networks.

Integrity. *Integrity*, the fifteenth dimension in the WPTGI and the last of the *political skill* dimensions, was found primarily in situations where people witnessed wrongdoing. In one participant's story, an engineer found out that the staff was negligent in creating safety reports. There was evidence of illegal behavior, as well as unsafe work equipment. Upon reflecting on this event, the participant stated that it had impacted his desire to act with more integrity in all arenas of his life, including his working relationships as well as his relationship with his partner. This type of reaction could help

extend research on whistleblowing by providing a positive outcome to offset the many negative outcomes that whistleblowers often face, such as retaliation (Mesmer-Magnus & Viswesvaran, 2005) and regret (Fredin, 2011). *Integrity*, like *professionalism*, often comes when people witness unattractive behaviors of others. In cases of integrity development, people may be especially influenced by seeing others who lack integrity through lying or cheating. In seeing instances such as these, when the accounts of dishonesty are extremely high, people may counteract by trying to have more integrity (Cialdini, et al., 1990).

Looking at the four dimensions of *political skill*, it is evident that traumas provide an opportunity in which people can learn how to be more adaptive and develop skills that help them maneuver within organizations. Survivors figured out what to do, how to do it and leveraged this knowledge to develop networks (Ferris, Zinko, Brouer, Buckley, & Harvey, 2007). These skills are incredibly important to develop as they help reduce strain (Perrewe et al., 2004) and lead to greater work success (Ferris et al., 2008).

Traumas are an unusual mechanism for promoting *political skill* development. Political skills are most often shaped through drama-based training, mentoring and coaching (Ferris, Davidson, & Perrewe, 2005a). Drama-based training is highly effective as people resolve realistic problems through role-play (ibid). Yet, it is intriguing to consider how much more effective the training would be if companies could use the actual event of the trauma as an intervention, instead of role-plays, when developing these crucial skills. Including political skills in the WPTGI will help researchers examine a new context in which to explore the development of *political skill*. It may also help explore new coping strategies that predict *political skill* and its impact on career success.

Life- oriented Growth

The final two growth outcomes in the WPTGI pertain to a greater *appreciation of life* and a *spiritual change*. These dimensions were adapted from the last two PTGI dimensions. Their definitions were clarified and the dimensions were enhanced with items from other scales and from the interviews. In Chapter VI, I laid out three reasons why I included these life-oriented dimensions in the inventory. Briefly, I included them because they were mentioned in the interviews, they had aspects that related to the workplace and I wanted to determine if there was a difference between these outcomes and the more work-oriented outcomes. Unfortunately, I was unable to test this last aspect due to the small sample size. However I was able to investigate the relationship between these two life-oriented dimensions in the CFA, which showed these constructs to be separate and distinct dimensions.

Appreciation of life. *Appreciation of life* is the sixteenth dimension in the WPTGI and the fourth of the PTGI dimensions. In the PTGI, it refers to a greater appreciation for life in general as well as the smaller aspects of it. Additionally, it denotes a reordering of priorities. These themes were mentioned in the interviews and more specifically in terms of a greater appreciation for work-life balance. Also, people who had lost their jobs spoke of their new appreciation for work itself and for their jobs. These work-specific related items were dropped from the scale in the EFA because they did not load well. The items that remained reflected greater general appreciation and a reprioritization of values. It is conceivable that the job appreciation items could have been a separate factor onto itself. However these items cross-loaded with items from other dimensions and did not form a separate dimension. Therefore, what remained was an overall appreciation of life.

The results of this research show that workplace traumas produce greater appreciation. This effect may be especially true with workers who are injured (Maitlis, 2009) or who witness violence and death in their jobs (Pietrzak, et al., 2010). Traumas often drive people to reflect on their daily routines and evaluate whether they are living happy and fulfilling lives. Often times, people realize that they devote too many personal resources to their workplace and neglect things that bring them joy, such as family and hobbies. These types of contemplations may encourage people to leave organizations and look for roles or organizations that are more aligned with their values. This type of reaction may even prompt people to seek out jobs in not-for-profit organizations or companies that offer more work-life balance. This type of turnover is healthy for organizations as well, as it creates space for new talent to enter and rise within the organization.

Spiritual change. *Spiritual change* is the seventeenth and last dimension in the WPTGI and the fifth and final dimension of the PTGI. In the PTGI it refers to a greater change in spirituality, a closer connection to God and an increased understanding of existential issues. This definition was slightly simplified in the WPTGI to enhance coherence. Though not as prevalent as the other themes, spiritual changes were mentioned in the interviews. For instance, one participant mentioned that upon coming back from a business trip to Mexico, where there was a bomb threat on his plant and gang-shootings, he started attending church and praying more frequently with his family.

The management literature has begun to identify spirituality as a coping strategy that helps employees deal with traumas. Karakas (2010) acknowledges how times of uncertainty and trauma compel employees to reach out to their communities for support

to help manage the event. Powley and Cameron (2006) found faith to be a healing agent for employees after a school shooting. Probst and Strand (2010) explored the role that spirituality played in preventing and alleviating job insecurity. Findings from the interviews in this paper identify *spiritual change* not only as a coping mechanism but, more importantly, as a growth outcome. These results support suppositions made by Driver (2007) that suffering at work can lead to spiritual and existential meaning making. Driver maintains that these changes may result in higher or more meaningful states of being, which can lead to greater creativity, flow, mindfulness, integrity and interconnection with others. These secondary outcomes were present in the dimensions of *acceptance, meaningful relationships* and *integrity*. As research on spirituality in the workplace grows, the dimension of *spiritual change* will undoubtedly help researchers explore instances that promote spirituality in the workplace. While much of the current research looks at how spirituality occurs at work, the *spiritual change* dimension offers new ways to explore how organizational events boost spiritual levels.

In summary, the Workplace Posttraumatic Growth Inventory provides the field with an expansive, multi-faceted way to measure growth at work. The growth outcomes encompassed in the inventory contribute to current research in a number of ways. Many of the dimensions, such as *confidence, technical competence* and *political skill*, enhance well-documented areas of research by offering a new context in which to study these outcomes. This context offers a host of predictive, moderating and mediating variables, such as the type of trauma, the severity of the trauma, coping mechanisms and social support. By investigating these related factors, scholars can ascertain under what conditions workplace traumas lead to workplace posttraumatic growth. Dimensions such

as *meaningful relationships*, *compassion*, *identity shift* and *spiritual change*, expand growing research in positive organizational scholarship on topics such as high-quality connections (Dutton, 2003), organizational compassion (Rynes, et al., 2012), positive identity construction (Dutton, et al., 2010) and spirituality in the workplace (Liu & Robertson, 2011). Yet the most exciting benefit of the WPTGI is the offering of seemingly new constructs. The dimensions of *professionalism* and *advocating* will undoubtedly advance the management literature by offering new streams of research in which to explore effective behaviors at work

The Absence of Second-Order Factors

Another contribution of this paper is the investigation of the dimensionality of workplace posttraumatic growth and the structural elements of the inventory. The dimensionality of posttraumatic growth, more generally, has been analyzed and debated at great length for more than a decade (Armeli, et al., 2001; Joseph & Linley, 2008b; Osei-Bonsu, Weaver, Eisen, & Vander Wal, 2012; Taku, Cann, Calhoun, & Tedeschi, 2008), yet there seems to be no agreement on the best factor structure. Building on the most established posttraumatic growth inventory, the PTGI, I improved the structure by breaking confounded dimensions into discreet sub-dimensions. I did this in two particular instances. In the first, I broke the PTGI dimension of *personal strength* into *self-reliance, confidence* and *acceptance*. In the second, I broke the PTGI dimension of *relating to others* into *meaningful relationships* and *compassion*.

In analyzing the structure of the WPTGI I first focused on the sub-dimensions of *personal strength*. The sub-dimension of *confidence* was not upheld by data in the EFA, but the sub-dimensions of *self-reliance* and *acceptance* were supported. When tested in

the CFA, the data indicated that the *personal strength* sub-dimensions of *self-reliance* and *acceptance* were best suited as separate factors without a second-order structure. These results appear to negate the existence of a higher-order *personal strength* dimension.

Second, I conducted an additional test to examine the possibility that *technical competence* could have been part of a *personal strength* second-order factor, since it could be viewed as a characteristic of feeling stronger. Even while the conceptual distinction was clear, I tested *technical competence* along with the two other *personal strength* dimensions of *self-reliance* and *acceptance*, in order to support the claim that it was a separate dimension. The results of the CFA upheld this view of distinction by showing a best fitting structure of three separate factors (*self-reliance, acceptance* and *technical competence*). These results attest to the fact that the second-order dimension of *personal strength* is not upheld by the data and that *self-reliance, acceptance* and *technical competence* are three first-order constructs.

The absence of a second-order structure was again upheld with the higher-order dimension of *relating to others*. I followed the same format as above and tested the structure of the sub-dimensions of *meaningful relationships* and *compassion*. Here too, the best fitting structure indicated that the sub-dimensions of *meaningful relationships* and *compassion* were separate factors. These results echo findings by Osei-Bonsu, et al. (2012), showing that *compassion* is distinct from the higher-order factor of *relating to others*. Overall these results reveal that *self-reliance*, *acceptance*, *technical competence*, *meaningful relationships* and *compassion* are all dimensions in their own right and should not be considered sub-dimensions of PTGI higher-order factors.

Second-order structures were also tested separately for the four *political skill* dimensions, professionalism with 3 of the political skill dimensions and the life-oriented dimensions of *appreciation of life* and *spiritual change*. In all three of these tests, the second-order structures were not upheld by the data. These results indicate that the dimensions of the WPTGI are first-order factors and should remain as 17 individual factors. However, without the sample size to test all of these different models, it is premature to categorically draw any conclusions about the final factor structure. However, the results provide some evidence which helps to resolve issues in the posttraumatic growth literature around measurement. By eliminating the second-order structures, the dimensions are more specific which leads to more accurate measurement. Since the *self-reliance* and *acceptance* dimensions were formerly considered subdimensions of *personal strength*, they did not have their own definitions. Similarly, since meaningful relationships and compassion were previously regarded as sub-dimensions of relating to others, they too did not have their own definitions. Given these results, it will be important to reconsider the definitions of these dimensions in the WPTGI (see Table 2) and clarify the definitions for *self-reliance*, acceptance, meaningful relationships and *compassion*. This process will also allow a chance to revisit and refine the *confidence* scale, which was previously under the higher-order definition of *personal strength*. Additionally, the change in stem for the life-oriented dimensions needs to be investigated in order to ascertain whether *appreciation of life* and *spiritual change* should be considered as part of the final WPTGI or if they should be separate scales. Such actions will only help to further strengthen the WPTGI.

Workplace Posttraumatic Growth Inventory as Compared to Other Measures

I proposed that a new scale be created that could appropriately assess growth changes in employees as a result of workplace traumas. Through the interviews, literature review and item generation process, I constructed 17 unique dimensions that met this objective. While constructs such as *self-reliance, acceptance, meaningful relationships* and *compassion* were present in other posttraumatic growth scales, the items did not include workplace targets. For instance the item "a feeling of self-reliance," taken from the PTGI, could not measure the same change as the item "feeling more self-reliant at work." Altering these dimensions to specifically target work-related changes was necessary to capture the nuances of how people changed at work.

Qualitative methods, such as interviewing, have a rare ability to reveal the unknown. By conducting interviews I discovered entirely new ways that people changed at work. These dimensions reflect changes with identity shifts with regard to one's work identity, *organizational awareness, professionalism, advocating*, greater *technical competence*, *social astuteness interpersonal influence, networking* and *integrity*. Previous PTG measures, *Posttraumatic Growth Inventory* (Tedeschi & Calhoun, 1996), the *Stress-Related Growth Scale* (Park, et al., 1996), the *Benefit Finding Scale* (Tomich & Helgeson, 2004), the *Changes in Outlook Questionnaire* (Joseph, et al., 1993) and the organizational measure of the *Career Adapt-Abilities Scale* (Savickas & Porfeli, 2012) do not contain items with which to measure these changes at work. Therefore, using these scales to measure workplace posttraumatic growth would not capture the full range of growth outcomes.

Giving a Name to Workplace Traumas

In support of the final contribution of this paper, the research findings herein corroborate the notion that highly disturbing events at work should be considered and labeled as workplace traumas. The impact of event scores imply that participants in both samples felt posttraumatic symptoms (see Tables 5 and 6). If the workplace events were not considered traumatic, participants would have reported an average of posttraumatic symptoms closer to zero, indicating that they had no posttraumatic symptoms. Furthermore, of the 27 students who chose to participate in the qualitative part of the study, 25 of them had workplace traumas they wanted to disclose. The high proportion of events per sample speaks to the pervasiveness of workplace traumas. Additionally, the richness of the stories that were shared relayed the impact that the events had on employees. The most frequent workplace traumas in both samples were related to layoffs (see Table 3). Unfortunately, downsizings have become so commonplace that we often dismiss the destructive effect they have on people. Moreover, lay-offs are often accompanied by other traumatic events, such as sabotage from colleagues (Cascio, 2010), perceptions of unfair treatment (Brockner et al., 1994) and even violent and aggressive retaliations (de Vries & Balazs, 1997). These events undoubtedly add to the suffering that employees feel from fear of losing their jobs (Cheng & Chan, 2008; Sverke, et al., 2002) or being laid-off (Latack, et al., 1995). The participants in this research offered a number of nerve-racking stories that highlighted the dread and panic that often come with job insecurity and downsizing. One participant told a story of a CEO who was embroiled in a lawsuit regarding profit-sharing. When the CEO lost the lawsuit, he resorted to throwing chairs at walls, breaking furniture and valuable art, slamming doors, screaming at his

attorneys and subsequently firing them. The following day the CEO brought in a consultant to fire the majority of the staff, without providing reasons for the lay-off. As one of the few survivors of the lay-off, the participant who shared this story recalled feeling frightened.

Another participant recollected a time when the business president instructed the participant to lie to auditors and hide important information from them. Not condoning this unethical action, the participant elevated this information to the head of human resources. The participant's boss then informed the president of this escalation but did not name the whistleblower. The president responded by calling a meeting and announcing that he would find out who the whistleblower was and make his or her life miserable. The president proceeded to have one-on-one interrogation meetings with all of the staff. The participant yet again tried to take just actions by alerting human resources to the meetings. However, these warnings were ignored. This story speaks to the compounded circumstances that arise with workplace traumas. This story was categorized, by the participant, as job insecurity. Yet the threat of being fired was accompanied by other disgraceful acts. The participant was enticed into unethical dealing, betrayed by senior management, threatened, and then ignored by the very people who were employed to help in such situations.

In other cases, the pain from workplace events are exacerbated because of life issues that are external to the workplace. In one story, a woman spoke about getting laid-off one month after her husband passed away. She discussed grappling with trying to understand how two terrible events could happen at the same time. These stories speak to the

complicated nature of these events. It is likely that it is not a sole event, but the amalgamation of many stressful events, that create a traumatic effect.

Employees in high-risk occupations are a group of workers who experience a higher share of traumatic events at work than do other types of workers. One firefighter told a story about being called to fish out a child from a pond. The child was floating face down. After securing the child from the pond, he performed CPR but the child had already died. The firefighter knew the grandfather of the boy, who showed up at the scene soon after. In recounting the story, the firefighter recalled that he had gone out on similar calls, but this one bothered him more and stuck with him years later. It is possible that knowing the family of the victim exacerbated his distress and feelings of despair. A nurse spoke of a parallel incident, where a small child was brought into the emergency room and died a few hours later. The child's injuries and subsequent death came from parental abuse. The nurse remembered feeling distressed for months. She too, commented on the fact that she comes across a number of traumatic instances working in an emergency room, but that this event stood out. Working in these high-risk occupations, outsiders might assume that these employees become numb to such events. It is possible that they learn to handle death and illness more effectively than those in less risky occupations. However, from the stories here, it appears that these workers do not become jaded. They too are greatly impacted by traumas at work.

As evidenced by Table 3, there were a number of incidents that fell outside of the job loss category. Within these categories, participants recalled a number of disturbing events ranging from sexual harassment, to abusive supervision, to wrongful accusations and even terrorist threats. There were corresponding stories from the MTurk and alumni

samples. In these stories, participants recalled having supervisors sexually assault them without proper follow-up from human resources and management. In some cases, management outright ignored the claims, thus placing victims in greater danger. Other people recalled being framed for illegal actions at work. One participant even spoke of working in a federal building that had a bomb threat.

It is clear from these examples that employees do experience traumas at work. The descriptions that people gave, regarding feeling depressed, trapped and afraid, seem to be more severe than more minor stressors, such as role ambiguity and role overload. While it appears that there is a difference between workplace traumas and stressors, it is difficult to determine where this line lies. Further work on this distinction could provide scholars with an opportunity to advance research on workplace stress and traumas in order to identify diverse predictors and outcomes of the different types of ordeals. Lastly, while it is possible that employees may benefit from more minor stressors as well (Macik-Frey, et al., 2007; Meurs & Perrewe, 2011), these changes would likely be minor in comparison to the types of growth resulting from workplace traumas

Another contribution of raising the awareness of workplace traumas is to help employees give a name to their experiences. Throughout the studies, many participants sent me emails to check if their story could be considered a workplace trauma. In almost all of the cases, the stories recalled a terrible time in the person's work-life that impacted them greatly. In one case, an interview participant said that he did not think his event could be considered "traumatic." He was charged with leading the knowledge transfer for a manufacturing plant that had been shut down. He met with over 100 workers in a plant, where the electricity had already been turned off, in order to gather all of their knowledge

about job procedures. The workers had been laid-off the day before and were told they had to go back to the plant to provide this participant with information. If they refused, they would lose their severance pay. This participant remarked on the great amount of distress this event caused him and said that he thinks about it every day, even two and a half years later. After recounting the story aloud, the participant realized that it was quite traumatic, even though he initially did not think it was. This pattern came up throughout the interviews and surveys. Looking back at the low response rate of the surveys, it is highly likely that people had traumatic experiences but did have the language or awareness to name their stories as traumas⁹. Additionally, it is possible that people had stories that were so terrible they did not want to recall the memories and disclose them in a survey. These possibilities underscore the necessity of giving a name to workplace traumas and examining them more in the management literature.

To summarize, the research in this paper offers a number of contributions to the field of management and posttraumatic growth scholarship. By applying the lens of posttraumatic growth, I was able to find instances of growth from traumas in the workplace. This evidence prompted me to create a scale that helped clarify issues of measurement in the posttraumatic growth literature. However, more importantly, the scale development yielded a comprehensive set of 17 growth dimensions. The identification of these dimensions will surely advance existing and future research in the management literature. Finally, I expounded on the importance of endorsing the term workplace traumas and distinguishing it from being encompassed in workplace stressors, which includes more minor stressors.

⁹ This was less of a problem with the interviews because I recruited the participants during a class where I could provide a broader overview of workplace traumas. I was also able to field questions the participants had about workplace trauma criteria.

Practical Implications

The qualitative and quantitative data from this research offer significant implications for researchers, employees and organizations. There are three main implications for researchers. First, the overarching implication of the development of the WPTGI is that scholars can now empirically measure workplace posttraumatic growth. In Chapter II, I described the mediating and moderating factors that have been studied with regard to posttraumatic growth. These factors include coping strategies, social support, and personality variables. With the advent of the WPTGI, organizational scholars now have the opportunity to study how these factors relate to workplace posttraumatic growth. The consequences of such studies would have major implications for organizations regarding employee selection and training resources.

The second implication for researchers is that they can investigate the extent of growth levels that occur within people after workplace traumas. During the interviews, there were a few participants who displayed very little posttraumatic growth. In fact, one or two people appeared to still be filled with fear and anxiety, even years after the trauma. The organismic valuing theory explains why, theoretically, these employees experienced less growth (e.g., they did not fully cognitively accommodate the event). Scholars can use the inventory to assess conditions that promote more or less growth after workplace traumas. Additionally, researchers can use the instrument to compare growth levels across people experiencing the same workplace trauma. For instance, researchers could measure WPTG among survivors of a downsizing and compare the higher and lower

growth levels of survivors. In this case, it would be important to determine the moderators that could help to explain the different growth levels.

The final implication for researchers is that WPTG can be studied across a host of organizational contexts. In addition to examining levels of growth, the scale can be used to determine which occupations and situations promote different types of growth. For example, it is common to hear people say that getting laid-off was a blessing in disguise. In downsizing research, the WPTGI can assess career transitions and the impact that layoffs have on employees over time. Additionally, it can be used to determine whether there is more variance between or within specific types of occupations or workplace traumas (e.g., whether people in various occupations have experienced similar growth). Ultimately, many of the research implications center on this new tool to measure workplace posttraumatic growth.

There are three main organizational implications. The first involves shifting the perspective on workplace traumas. The results of this study illuminate the fact that traumas are not always a bad thing. By being open to exploring the positive effects of traumas, organizations can begin to help facilitate such employee growth. Posttraumatic growth centered training can be geared toward helping employees make sense of their traumas and equipping them with more effective coping strategies. In the interviews, participants who reported developing greater WPTG appeared to employ approach-style coping strategies. These types of coping strategies have been noted as more effective in promoting growth (Helgeson, et al., 2006; Prati & Pietrantoni, 2009). Training sessions

can encourage approach-style coping strategies by teaching employees how to seek out social support, positively reappraise situations and actively resolve problems.

The second organizational implication is that, while coping strategies can be taught, organizations would be wise to select employees who already have a predisposition toward growth. For instance, people who are more optimistic in nature have a higher propensity to develop growth (Linley & Joseph, 2004; Prati & Pietrantoni, 2009). Also, people who are more likely to employ positive reappraisal coping strategies show a greater inclination toward growth (Helgeson, et al., 2006). Selecting employees with these characteristics may be particularly important in occupations that have greater exposure to traumas, such as with military personnel and emergency healthcare workers. Building a workforce of employees with approach-style coping strategies and optimistic personalities will help organizations increase the likelihood that their employees grow and develop from traumatic work experiences rather than be defeated by them.

The last implication for organizations is born out of the methods utilized in the study. By providing interviewees with a space to reflect and discuss their experiences, many remarked that they developed new realizations. These sentiments were echoed by participants who completed the online survey. Many participants commented that the mere act of taking the survey helped them grow through reflection. Organizations can learn from this process and provide employees with space and resources to reflect. For instance, organizations can send out anonymous confidential surveys to help employees take time to reflect. Additionally, they can encourage employees to journal about events or provide counselors with whom to debrief. This type of self-exploration can be

extremely effective as it deepens learning and builds resilience after workplace difficulties (Jackson, Firtko, & Edenborough, 2007). Finally, organizations can encourage employees to make sense of their experiences through posttraumatic growth centered training workshops.

For employees, there are two main implications. The first is the knowledge that traumatic events can result in positive employee growth and development. Just having this knowledge may make experiencing such events easier for employees. The second implication is the importance of social support in encouraging such growth. Based on the interview accounts, it appears that employees who reached out for social support developed in one or more of the following WPTGI dimensions: *self-reliance, new career* possibilities, meaningful relationships, compassion, identity shift, technical competence, organizational awareness and networking. By reaching out to others for help, the interviewees were able to gain better perspectives of themselves and their work environments. They were also better able to strategize about new actions to take that helped them resolve problems associated with the trauma. Furthermore, they developed greater relationships and skills. Employees can benefit from these findings by reaching out for social support during difficult situations. While it may be intimidating to ask for help during crises, especially in a work environment where people may manage impressions more, it appears to pay off. The data from this study showcase the crucial role social support plays in surviving and thriving.

Limitations

There are four major limitations in this research. These are (1) whether the WPTGI predicts real change due to retrospective self-reporting; (2) the possibility that social desirability impacted the interview findings and validity of the EFA and CFA results; (3) the prospect of common method bias in the EFA and CFA; and (4) the generalizability of all three samples and reliability of the measure in other populations.

The first limitation is whether the WPTGI accurately measures change. In designing the scale, I used a similar format to prior growth scales. I asked participants to reflect on the event and assess how the event changed them. Across the three samples, the average number of years since the trauma was 5 years. Retrospectively recalling how one was previously (i.e., 5 years ago) compared to now could result in inaccurate types and levels of growth. Critics of posttraumatic growth scales maintain that this retrospective format does not actually measure growth, but rather the perception of growth (Coyne & Tennen, 2010; Frazier & Kaler, 2006; Yanez, Stanton, Hoyt, Tennen, & Lechner, 2011). Selfreported growth is said to depart from actual growth due to participants' inabilities to accurately make retrospective judgments, their desire to positively represent themselves, and their likelihood to report illusions about themselves (Frazier & Kaler, 2006). These claims have been corroborated in two prospective studies, using students, which measured current versions of the PTGI before and after stressful situations (Frazier et al., 2009; Yanez, et al., 2011). However, these studies have, themselves, received criticism such that: 1) the growth process takes longer than the time accounted for in the studies; 2) participants were asked to respond to the growth measures irrespective of whether they experienced traumatic events; and 3) while being split in time, these measures, too, were

self-reports and therefore subject to false perceptions (Aspinwall & Tedeschi, 2010; Cho & Park, 2013). The debate around perceived and actual growth will undoubtedly gain more traction as research on posttraumatic growth becomes more popular. In an effort to avoid measurement errors, the WPTGI would be best used in conjunction with other-ratings. This would help resolve issues related to the use of self-report data.

The second limitation is that there is the possibility of a positive response bias in the interviews and in the surveys. In the interviews, participants may have wanted to provide me with socially desirable answers. To prepare for this possibility, I told the participants that I generally wanted to know how they managed the event. I did not include leading questions nor tell them that I was looking for positive changes. In fact, many participants thought I was looking for negative changes. They remarked that they felt badly they did not have enough negative consequences to share. Still others may have exaggerated their growth in order to provide socially desirable answers. This issue is briefly mentioned above, in that it leads to false accounts when measuring perceived growth. One way to correct for such a limitation is to use a more robust social desirability scale that could account for the bias.¹⁰ For instance, Paulhus' (1991) social desirability scale has reported good reliability and has been used in research with workplace trauma contexts, such as abusive supervision (Mitchell & Ambrose, 2007) and revenge (Tripp, Bies, & Aquino, 2002).

Third, related to the issue of social desirability, it appears that there may be an issue of common method bias, as evidenced by the high positive correlations among the

¹⁰ I included a measure of social desirability to account for this prospect. However, it was not highly correlated with both samples and it yielded a low reliability score (alpha = .59).

political skill dimensions (see Tables 5 & 6). This type of error could threaten the validity of the scale and specifically the *political skill* relationships. This is a common problem across behavioral research with self-report surveys taken at one point in time (Podsakoff, Lee, & Podsakoff, 2003). One way to test for this effect would be to conduct a Comprehensive CFA Marker Technique (Williams, Hartman, & Cavazotte, 2010). Future studies could address this limitation by including other-ratings of growth behavior alongside self-reports or by having participants take the measures at two separate points in time.

Finally, the fourth limitation is that generalizability to some populations is problematic based on the interview and survey sample demographics. The interviews were conducted in the United States. Since the WPTGI dimensions were generated from these interviews, it is possible that there are more, fewer or different dimensions that exist for demographically-different populations (e.g., for people working outside of the United States, greater cross-cultural tolerance). The MTurk sample was restricted to workers living in the United States and the majority of the alumni sample lived in the United States. Since the development of the scale was tested on a largely United States sample, it would be inappropriate to generalize the findings to an international workforce. A similar limitation is that the sample is primarily White. Since the majority of the participants in the interviews (85%), MTurk (81%) and alumni (84%) samples were White, more research is needed with more diverse samples. This limitation could impact the specific types of traumas or the types of growth that were identified. For instance, there was one interviewee that talked about being racially discriminated against by a work supervisor. Additionally, the average age of interview participants was 32. As with race, older

employees may experience more discrimination or other types of workplace traumas that are particular to that group. Along these lines, the majority of the interviewees were highly-educated and worked in white-collar industries. Because of this, it is difficult to estimate if the specific growth outcomes in this research represent other populations (e.g., less educated blue-collar workers). To further develop the scale, researchers could consider examining the dimensions within international and more demographically diverse samples.

Future Research

The creation of the WPTGI opens the door to a number of exciting research opportunities. While there are a variety of avenues future research can take, there is still much work that needs to be done to strengthen the instrument. Therefore I first suggest future research to help confirm and further validate the WPTGI. Then I suggest future research that investigates factors related to workplace traumas and workplace posttraumatic growth. These include diverse contexts in which researchers can study WPTG, such as in high-risk occupations or in the midst of downsizing and layoffs; the role of time in the growth process; factors that may mediate, moderate or predict WPTG and may be outcomes of WPTG; and, finally, the creation of a typology of types of workplace traumas.

In terms of the actual WPTG instrument, there are three main avenues of future research to further strengthen the inventory. First, the Q-sort revealed that the inventory had moderate agreement indicating that the scale could be improved. Specifically, more definitional work is needed on the constructs of *self-reliance*, *confidence*, *acceptance*, meaningful relationships and compassion. All of these constructs were sub-dimensions of higher-order dimensions (*personal strength* and *relating to others*) and thus did not have specific definitions. The results of this study indicated that these dimensions should be treated as stand-alone dimensions and not sub-dimensions. Therefore a next step, based on the interviews and previous literature, would be to craft independent definitions for each dimension. The items of the scales would need to be reviewed to ensure that they reflect the new definitions. In the case of the *confidence* dimension, which was not supported by the data, it will be important to edit the items to make sure they align with the new definition. It will also be important to modify items to be even more distinct from the items in the *self-reliance* and *acceptance* scales. Last, the items in the *integrity* dimension may need to be modified to include the words "at work." The dimension was adapted from the Political Skill Inventory (Ferris, et al., 2005b) and the behavioral integrity scale (Simons, 2002). Since both of these scales were designed to be used in the workplace and have shown strong validity and reliability, I tried to make minimal changes to the items. However, in retrospect it is apparent that these items are not specifically worded to the workplace. This could cause problems when conducting a CFA on the entire inventory. By crafting more specific definitions for *self-reliance*, confidence, acceptance, meaningful relationships and compassion and possibly enhancing the items of these dimensions along with the *integrity* items, scholars could enhance the validity and reliability of the WPTGI.

Second, a critical step in the further validation and confirmation of the WPTGI is to conduct a study with a much larger sample. In order to confirm the factor structure of

the entire WPTGI, a sample of at least 1,290 participants is needed. With this size sample, researchers could test different models and assess whether the 17 factor model is the best fitting model as opposed to a uni-dimensional structure or even a latent-variable model with second-order factors. Similarly, it may be that a 15-dimension structure fits best with the two more holistic dimensions, *appreciation of life* and *spiritual change*, belonging in a separate scale. In sum, more work on the underlying factor structure of the inventory is warranted.

Along these lines, a third area of investigation is on the dimensions of appreciation of life and spiritual change. In this study, I chose to use a different stem from the other dimensions such that participants were instructed to rate the extent to which they experienced a change in themselves in "life generally," as opposed to "at work." This decision was based on the notion that workplace traumas could result in other changes in peoples' lives, beyond changes at work. Additionally, these dimensions were part of the PTGI. Whereas the other PTGI dimensions were more easily adaptable, it was difficult to modify *appreciation of life* and *spiritual change* to fit the workplace. However, since these dimensions have a different stem, it seems they are qualitatively different from the other dimensions and, technically, may not be part of the same inventory. Conducting empirical studies comparing the use of the different stems would yield more insight as to whether these life-oriented dimensions should be considered separate or part of the WPTGI. In sum, more conceptual and empirical work regarding the definitions and workplace-related adaptations of these items are needed. It may be prudent to look at the literature on spirituality in the workplace and appreciation and gratitude at work in revisiting these dimensions.

Fifth, it is important to consider the intended use of the WPTGI. Here, there are two major points to consider. One, it may be premature to establish a cut-off point or a ratio of dimensions score that would signify average expected growth based on the available data. Calhoun and Tedeschi (2006a) suggest that while it may be helpful to have an average score to help understand aggregate data, such scores would likely obfuscate the importance and quality of the changes that people experience. Even while Calhoun and Tedeschi seem to dissuade the use of cut-off scores for the PTGI, for the WPTGI there would need to be far more research conducted to even consider whether a cut-off score (and what that score would be) is appropriate. If scholars determine that average scores would be useful, the inventory may eventually be used as an assessment tool for clinicians, executive coaches and for use in training sessions. It may be that a comparison, in terms of relativity to others' growth, may be more useful for participants.

Two, the sheer number of dimensions may be an impediment in the use of the WPTGI. Whereas researchers may be tempted to collapse the dimensions into categories, the absence of second-order factors supports the idea of measuring 17 separate dimensions. With more research, it may be possible to determine which dimensions are most important for specific types of workplace traumas. For example, it may be that being laid-off results in *new career possibilities, meaningful relationships, compassion, identity shifts, organizational awareness, interpersonal influence, networking* and *appreciation of life.* This would reduce the number of growth dimensions from 17 to 8 for research on post-layoff growth. So too, other groupings of WPTG dimensions may surface for other types of workplace traumas. Developing a typology, discussed further below, may guide the development of this research.

Finally, a larger sample is necessary to test the construct validity through a nomological network (Cronbach & Meehl, 1955). Discriminating the dimensions of the WPTGI from other similar scales is the next critical step. This could be done through studies that collect measures of the WPTGI alongside the CAAS (Savickas & Porfeli, 2012), resilience scale (Wagnild & Young, 1993) and thriving scale (Porath, Spreitzer, Gibson, & Garnett, 2012). The CAAS has been theoretically differentiated in this paper, however it is important to see if these claims are supported by empirics. Wagnild and Young's (1993) resilience scale, while overlapping conceptually, has not been shown to significantly relate to the PTGI (Schuettler & Boals, 2011) but it is important to replicate these results in the work context as well. The thriving scale measures states of vitality and learning at work. It is possible that some would consider WPTG to be another version of thriving, since there is a learning component to growth. In order further establish validity, it will be important to distinguish these constructs as separate in a confirmatory model.

With regard to broader research directions on workplace posttraumatic growth, I discuss five main themes. First, the context of WPTG should be explored in terms of types of occupations. Studying the growth levels of nurses, physicians and paramedics in hospitals could yield fascinating results. Earlier, I mentioned that these types of workers may become numb to horrific events because of their high exposure to death and injury. It would be interesting to see the extent to which these workers are affected by traumatic events and what factors impact such workers more or less. From the two accounts mentioned earlier in this chapter, it appears that caring for children in danger may increase workers' distress. Given this, it would be particularly interesting to see how nurses and physicians in pediatric and neo-natal intensive care units deal with traumas

and if they result in growth. Similarly, researchers could assess WPTG in the military and other high-risk occupations. This research could build on findings that have already established evidence of PTG with soldiers and police-workers (Dekel, et al., 2011; Larick & Graf, 2012; Lev-Wiesel, et al., 2009; Paton, 2005; Pietrzak, et al., 2010) by identifying work-specific (or occupation-specific) growth outcomes.

A second research theme is the use of the WPTGI to assess the trajectory of people's careers with pre and post-trauma measures. Downsizings and restructuring provide unique opportunities to obtain pre and post-trauma measures. For instance, scholars with access to an organization could obtain data prior to a restructuring. In such a case, researchers would leave out the stem that asked participants about change and instead ask participants generally how they evaluate themselves on the 17 dimensions. Following organizational changes (e.g., layoffs), data could be collected measuring stress, coping mechanisms and post-measures of WPTG. Researchers could then follow this sample for a few years to assess any long-term changes. A major study, such as this, would shed light not only on shorter-term negative outcomes but also on longer-term positive growth outcomes. In a similar vein, scholars who study bullying, abusive supervision and harassment could use the WPTGI to evaluate whether victims and thirdparties experience growth after toxic members have been removed or after victims and third-parties leave destructive environments. It may be the case that the remaining employees develop into better leaders and managers. Finally, research on medical errors could include the WPTGI, in addition to other learning outcome measures, to assess possible dimensions of WTPG.

A third area of study is the role that time plays in predicting growth. The samples used in this paper were limited to people who had a traumatic event more than one year ago. However, in the survey results, there was a sizeable population who had a trauma less than one year ago ¹¹. I filtered these people out of the sample and only ran analyses on people with a trauma over one year ago, postulating they would be more likely to experience growth if the trauma was more distant. In post-hoc analyses, I ran ANOVAS on the differences between people who had a trauma over one year ago and less than one year ago. The results for both samples showed no significant difference. Additionally, time since the event was hardly correlated with any of the growth dimensions in the correlation results (Tables 5 & 6). While the data in this study do not support time as a factor of growth, it is plausible to consider that another variable (e.g., age or experience) is masking the relationship. Furthermore, others (Prati & Pietrantoni, 2009) have suggested that contradictory evidence as to whether time since an event predicts levels of growth (Helgeson, et al., 2006; Prati & Pietrantoni, 2009; Tomich & Helgeson, 2012) may be due to a curvilinear relationship. Future research that examines growth from a nonlinear perspective is warranted. It may also be that the type of trauma or other mediating and moderating factors affect the relationship between time and levels of WPTG.

A fourth area of research is the identification of important variables that predict, mediate or moderate WPTG. These may include contextual factors such as coping

¹¹ To be eligible to take the survey participants needed to answer yes to the following question, "In order to be eligible to take this survey you will need to have experienced a traumatic or highly stressful event at work, over one year ago." Some MTurk workers may have answered yes on purpose to be able to take the survey. Other participants in both samples may have read the question too quickly and skipped over the "one year ago" clause. Later in the survey I had a question that asked them how long ago the event occurred. I omitted all of the people who answered less than 6 months or 6 months to 1 year for this question.

strategies, types of social support, or specific personality variables. In the posttraumatic growth literature, approach-style coping strategies have been cited as predicting higher growth outcomes (Helgeson, et al., 2006; Prati & Pietrantoni, 2009). It is likely that these coping strategies would follow a similar pattern with workplace traumas and workplace posttraumatic growth, since approach-style coping strategies have been related to better outcomes for downsizing survivors (Armstrong-Stassen, 1994), such as better indications of health (Armstrong-Stassen, 2004). However, it is likely that many specific coping strategies act as mediators between the severity of distress and workplace growth outcomes. For instance, it is possible that employees who engage in problem solving coping, as a result of making a major mistake, may develop greater *technical competence*. Without the mediating coping strategy, the trauma from the mistake may not result in greater *technical competence*. Given the variety of coping strategies (Skinner, et al., 2003) and the lengthy list of workplace posttraumatic growth outcomes, the opportunities for research in this area are abundant. Furthermore, this type of research could have important implications for researchers, organizations and employees, as coping strategies may be the key to developing greater amounts of growth.

Social support is a resource that has been identified as a strong facilitator of growth (Linley & Joseph, 2004; Prati & Pietrantoni, 2009). In the interviews, participants who recalled receiving support from their managers, colleagues and their organizations, appeared to report more growth outcomes. These examples open up avenues for studying perceived supervisory, peer and organizational support variables. It is possible that survivors who suffer the most, but also receive the most help, develop the highest levels and broadest range of growth outcomes. Based on the literature, the assumption is that the

trauma needs to be severe enough to change worldviews, attitudes and behaviors. Thus there may be interactions between the severity of the trauma and the extent of social support received. In order to assess types of social support, measures of leader-member exchange (Graen, Novak, & Sommerkamp, 1982), colleague support (Caplan, Cobb, French, Harrison, & Pinneau, 1980) and perceived organizational support (Rhoades, Eisenberger, & Armeli, 2001) could be used.

With regard to personality variables, optimism is an important trait for investigation. This particular trait has been mentioned as promoting more growth because people with this disposition are more prone to see silver linings (Helgeson, et al., 2006; Prati & Pietrantoni, 2009). In the management literature, optimism has most recently been studied as part of the psychological capital construct (Luthans, Avolio, Avey, & Norman, 2007) and has been related to important job outcomes, such as job satisfaction, performance and organizational commitment (Kluemper, Little, & DeGroot, 2009; Youssef & Luthans, 2007). Since people with optimism already appear to be more effective in the workplace, it is likely that these people will be more capable of growing after workplace traumas. If optimism is found to be predictive of WPTG, it would be important to control for this variable when evaluating the effectiveness of coping strategies. Examining coping strategies, social support and personality is just a start to understanding the many factors that likely influence WPTG.

It is also important to consider the possible outcomes of workplace posttraumatic growth, such as organizational and career-related consequences. For instance, it would be interesting to see if WPTG leads to higher levels of personal accomplishment. People who develop in *self-reliance, confidence, new career possibilities, compassion, identity*

shift, organizational awareness, professionalism, advocating and *technical competence* may, over time, attain a higher level of well-being. Since accomplishment has been identified as a key element of lasting well-being (Seligman, 2012), it would be interesting to see if those who experience WPTG go on to use these new skills, knowledge and attitudes to create greater enterprises or make other significant contributions to the world.

Another type of outcome is organizational commitment and subsequent turnover rates. If employees appreciate the organizational resources that helped them overcome the workplace trauma, they may have higher commitment and be less likely to leave the organization. For instance, an interviewee who made a major error said that he would never leave the organization because he received full support from senior management during the event. His gratitude resulted in greater loyalty to the company. Increased commitment and reduced turnover may be especially important in cases of workplace violence, where victims generally report reduced affective commitment (Barling, et al., 2001; LeBlanc & Kelloway, 2002) and increased turnover intentions (LeBlanc & Kelloway, 2002; Rogers & Kelloway, 1997). Studies that measure these outcomes could be enhanced by looking at important moderators, such as perceived organizational support and manager support.

A final research stream is the development of a typology. Because of the variations in workplace traumas, it is likely that these various types of traumas can be categorized into a typology and that these categories may have differing effects on growth levels. From the interviews, it appears that traumas involving some type of victimization (i.e., sabotage, bullying, abusive supervision and sexual harassment) lead to more *political skill*. It seems that these events prompt people to be, as a survival strategy,

more watchful of others' behaviors. In order to protect themselves from further harm, victims begin to pay closer attention to their attackers' motivations and actions. This attentiveness results in greater observation of human behavior which may result in *social astuteness* and greater *interpersonal influence*. Other traumas that involve loss, such as lay-offs and injuries, seem to be linked to greater *identity shift* and *new career possibilities*. In these cases, people may recognize the loss and fill the space with new ideas and opportunities. Finally, others that involve mistakes appear to be related to greater *self-reliance, confidence* and *technical competence*. Here, people may cope by investigating the errors. This exploration could result in greater knowledge and more technical skills that result in more growth. Developing a typology would create a structure and classification system resulting in a more systematic way to study workplace traumas and their associated growth outcomes. It would also aid in the reduction of the WPTGI dimensions, such that certain types of trauma would be related to some, but not all, of the WPTGI dimensions.

Concluding Remarks

Recent headlines from the U.S. news included anniversary memories of the Sandy Hook Newtown school shooting, political in-fighting in Washington, issues with the HealthCare roll-out and new unemployment rates. While these national level headlines seem distant to many, each of these events affect people's professional lives in a negative manner. Dangerous environments, toxic colleagues, high-profile mistakes and lay-offs are, unfortunately, common struggles that employees deal with throughout their working lives. Until recently, researchers focused on the negative outcomes of such events.

However, in this research I propose that the academic community examine how traumatic events at work can positively impact employees' attitudes and behaviors. Using organismic valuing theory as a framework to explain how employees could experience growth after suffering from workplace traumas, I conducted qualitative interviews to confirm existing PTG outcomes and help uncover new types of workplace posttraumatic growth. Taking these new dimensions, I generated items and created a scale to ascertain workplace posttraumatic growth. I then began the validation process of exploring and confirming the measure. Although more work is needed, the creation of the WPTGI now opens the doors for an entirely new stream of scholarship that can explore the silver linings across a number of traumatic situations in the workplace.

APPENDICES

APPENDIX A1 CAREER ADAPT-ABILITIES SCALE

(Savickas & Porfeli, 2012)

Instructions: Please rate how strongly you have developed each of the following abilities using the scale below.

5 = Strongest; 4 = Very strong; 3 = Strong; 2 = Somewhat strong; 1 = Not strong

- 1. Thinking about what my future will be like.
- 2. Realizing that today's choices shape my future.
- 3. Preparing for the future.
- 4. Becoming aware of the educational and vocational choices that I must make.
- 5. Planning how to achieve my goals.
- 6. Concerned about my career.
- 7. Keeping upbeat.
- 8. Making decisions by myself.
- 9. Taking responsibility for my actions.
- 10. Sticking up for my beliefs.
- 11. Counting on myself.
- 12. Doing what's right for me.
- 13. Exploring my surroundings.
- 14. Looking for opportunities to grow as a person.
- 15. Investigating options before making a choice.
- 16. Observing different ways of doing things.
- 17. Probing deeply into questions I have.
- 18. Becoming curious about new opportunities.
- 19. Performing tasks efficiently.
- 20. Taking care to do things well.
- 21. Learning new skills.
- 22. Working up to my ability.
- 23. Overcoming obstacles.
- 24. Solving problems.

Factors: Concern (1-6); Control (7-12); Curiosity (13-18); Confidence (19-24).

APPENDIX A2 POSTTRAUMATIC GROWTH INVENTORY (PTGI)

(Tedeschi & Calhoun, 1996)

Instructions: Indicate for each of the statements below the degree to which this change occurred in your life as a result of your crisis, using the following scale.

- 0 = I did not experience this change as a result of my crisis
- 1 =to a very small degree
- 2 = a small degree
- 3 = a moderate degree
- 4 = a great degree
- 5 = I experienced this change to a very great degree as a result of my crisis
- 1. A feeling of self-reliance.
- 2. Knowing I can handle difficulties.
- 3. Being able to accept the way things work out.
- 4. I discovered that I'm stronger than I thought I was.
- 5. I developed new interests.
- 6. I established a new path for my life.
- 7. I'm able to do better things with my life.
- 8. New opportunities are available which wouldn't have been otherwise.
- 9. I'm more likely to try to change things which need changing.
- 10. Knowing that I can count on people in times of trouble.
- 11. A sense of closeness with others.
- 12. A willingness to express my emotions.
- 13. Having compassion for others.
- 14. Putting effort into my relationships.
- 15. I learned a great deal about how wonderful people are.
- 16. I accept needing others.
- 17. My priorities about what is important in life.
- 18. An appreciation for the value of my own life.
- 19. Appreciating each day
- 20. A better understanding of spiritual matters.
- 21. I have a stronger religious faith.

Factors: Personal Strength (1-4), New Possibilities (5-9), Relating to Others (items 10-16), Appreciation of Life (17-19), Spiritual Change (20-21)

APPENDIX A3 STRESS-RELATED GROWTH SCALE (SRGS)

(Park, Cohen & Murch, 1996)

Instructions: Rate how much you experienced each item below as a result of this past year's most stressful event. For each item, put an A, B, or C in the blank next to the statement.

A = Not at all; B = Somewhat; C = A great deal

- 1. I developed new relationships with supportive others.
- 2. I gained new knowledge about the world
- 3. I learned that I was stronger than I thought I was.
- 4. I became more accepting of others.
- 5. I realized I have a lot to offer other people.
- 6. I learned to respect others' feelings and beliefs.
- 7. I learned to be nicer to others.
- 8. I rethought how I want to live my life.
- 9. I learned that I want to accomplish more in life.
- 10. My life now has more meaning and satisfaction.
- 11. I learned to look at things in a more positive way.
- 12. I learned better ways to express my feelings.
- 13. I learned that there is a reason for everything.
- 14. I developed/increased my faith in God.
- 15. I learned not to let hassles bother me the way they used to.
- 16. I learned to take more responsibility for what I do.
- 17. I learned to live for today, because you never know what will happen tomorrow.
- 18. I don't take most things for granted anymore.
- 19. I developed/increased my trust in God.
- 20. I feel freer to make my own decisions.
- 21. I learned that I have something of value to teach others about life.
- 22. I understand better how God allows things to happen.
- 23. I learned to appreciate the strength of others who have had a difficult life.
- 24. I learned not to freak out when a bad thing happens.
- 25. I learned to think more about the consequences of my actions.
- 26. I learned to get less angry about things.
- 27. I learned to be a more optimistic person.
- 28. I learned to approach life more calmly.
- 29. I learned to be myself and not try to be what others want me to be.
- 30. I learned to accept myself as less than perfect.
- 31. I learned to take life more seriously.
- 32. I learned to work through problems and not just give up.
- 33. I learned to find more meaning in life.
- 34. I changed my life goals for the better.
- 35. I learned how to reach out and help others.

36. I learned to be a more confident person.

37. I learned not take my physical health for granted.

38. I learned to listen more carefully when others talk to me.

39. I learned to be open to new information and ideas.

40. I now better understand why, years ago, my parents said/did certain things.

41. I learned to communicate more honestly with others.

42. I learned to deal better with uncertainty.

43. I learned that I want to have some impact on the world.

44. I learned that it's OK to ask others for help.

45. I learned that most of what used to upset me were little things that aren't worth getting upset about.

46. I learned to stand up for my personal rights.

47. A prior relationship with another person became more meaningful.

48. I became better able to view my parents as people, and not just as "parents."

49. I learned that there are more people who care about me than I thought.

50. I developed a stronger sense of "community," of "belonging"--that I am part of a larger "group."

APPENDIX A4 BENEFIT FINDING SCALE

(Tomich & Helgeson, 2004)

Instructions: Please rate the extent to which your attitudes and behaviors have changed as a result of having breast cancer on scales ranging from 1 (not at all) to 4 (very much).

- 1. has showed me that all people need to be loved.
- 2. has made me more sensitive to family issues.
- 3. has led me to be more accepting of things.
- 4. has taught me that everyone has a purpose in life.
- 5. has made us more in charge of ourselves as a family.
- 6. has made me more aware and concerned for the future of humankind.
- 7. has taught me how to adjust to things I cannot change.
- 8. has given my family a sense of continuity, a sense of history.
- 9. has made me a more responsible person.
- 10. has made me realize the importance of planning for my family's future.
- 11. has given my life better structure.
- 12. has brought my family closer together.
- 13. has made me more productive.
- 14. has helped me take things as they come.
- 15. has helped me to budget my time better.
- 16. has made me more grateful for each day.
- 17. has taught me to be patient.
- 18. has taught me to control my temper.
- 19. has renewed my interest in participating in different activities.
- 20. has led me to cope better with stress and problems.

Additional items not included in the published scale:

Job items

- 1. has made me more realistic about my job.
- 2. has given me a new perspective on my job.
- 3. has inspired me to improve my job skills.
- 4. has been an advantage to my career.

Religion items

- 1. has confirmed my faith in God.
- 2. has encouraged me to attend religious services more frequently.

Social contact

1. has expanded my social contact with other women who have had breast cancer.

- 2. has led me to have a larger circle of friends.
- 3. has led me to meet people who have become some of my best friends.
- 4. has put me on common ground with other women who have had breast cancer.

APPENDIX A5

Changes in Outlook Questionnaire (CiOQ)

(Joseph, Williams & Yule, 1993; Joseph, Linley, Andrews, Harris, Howle, Woodward & Shevlin, 2005)

Instructions: Please rate the extent to which you agree that the event changed your outlook on life for the better, or for the worse.

1 = Strongly disagree; 6 = Strongly agree

- 1. I don't look forward to the future anymore.
- 2. My life has no meaning anymore.
- 3. I no longer feel able to cope with things.
- 4. I don't take life for granted anymore.
- 5. I value my relationships much more now.
- 6. I feel more experienced about life now.
- 7. I don't worry about death at all anymore.
- 8. I live every day to the full now.
- 9. I fear death very much now.
- 10. I look upon each day as a bonus.
- 11. I feel as if something bad is just waiting around the corner to happen.
- 12. I'm a more understanding and tolerant person now.
- 13. I have a greater faith in human nature now.
- 14. I no longer take people or things for granted.
- 15. I desperately wish I could turn the clock back to before it happened.
- 16. I sometimes think it's not worth being a good person.
- 17. I have very little trust in other people now.
- 18. I feel very much as if I'm in limbo.
- 19. I have very little trust in myself now.
- 20. I feel harder toward other people.
- 21. I am less tolerant of others now.
- 22. I am much less able to communicate with other people now.
- 23. I value other people more now.
- 24. I am more determined to succeed in life now.
- 25. Nothing makes me happy anymore.
- 26. I feel as if I'm dead from the neck downward.

Factors: Positive Change (4, 5, 6, 7, 8, 10, 12, 13, 14, 23, and 24); Negative Change (1, 2, 3, 9, 11, 15, 16, 17, 18, 19, 20, 21, 22, 25, and 26)

APPENDIX B RECRUITMENT SCRIPT

Description of the informed consent process

In the class session, the CI (Emily Amdurer) will explain the research (details below) and answer any questions the students may have. The instructor (Diane Bergeron) will then leave the room and the CI, who is not affiliated with the course, will hand out the informed consent document and answer any additional questions the students may have. There will be an additional copy of the informed consent document that participants can keep (labeled "COPY"). A manila envelope will be passed around the room so that the students can anonymously and confidentially submit their signed or unsigned letters of consent. Once all questions have been fully answered, the CI will have the instructor return to the classroom. The CI will stay in or near the classroom for 15 minutes after the class concludes, in case anyone has remaining questions.

CI script

Hi everyone thanks for taking the time to talk with me this morning. My name is Emily Amdurer and I am doing my dissertation research with Diane Bergeron on how people manage traumas at work. I would like to invite you to participate in a research study that is aimed at understanding how people manage traumatic experiences or similar highly stressful events at work. I will be conducted interviews, in which I will ask people how they dealt with workplace traumas and how they felt they changed as a result of dealing with the trauma. In exchange for participating in this research you will receive 2 extra credit points added to your final grade.

How can you participate? Let me explain that now. In order to be eligible to be interviewed for the study someone must be currently working over 20 hours per week, live in the United States and have experienced a workplace trauma over a year ago. I will describe workplace traumas in a minute, but first I want to explain the different options for participation. If you would like to participate in the study, but have not experienced a workplace trauma or want to be interviewed, you can still participate by providing me with three names of people that meet the criteria and consent to participate in the research. These names will need to be vetted and will need to email me their consent, some demographical information and categorization of their trauma, by Tuesday, April 2nd. I am also looking for people that work in the east coast or west coast, but this part is not essential for their participation. While you have until April 2nd, I would appreciate if you can get the names to me as soon as possible. Once I receive their names I will diversify the sample and set up interviews for the months of April and May. The interviews will be an hour long and will be audio recorded. I will ask questions about the traumatic event and how people managed it and changed because of it. I will create a key to deidentify the names in the study. Each name will have a coded number and the key will be kept on a locked computer. The interviews will be transcribed and the audio recordings will be erased within a year. Each transcription will be identified with the coded number. Participants will have the option to be contacted within one year of the study for follow up questions. The contact information will be kept in a separate file from the additional information and will be destroyed after one year. This information will remain on a secured and locked computer. You can participate in the study without agreeing to be contacted in the future. Participating in this research is not a mandatory part of this class and you have the option to say no without it having any impact whatsoever on your final course grade. However if you choose to participate, two points of extra credit will be granted to those of you who meet the criteria, consent and complete a one hour interview by Tuesday, May 7th or those of you who send me three names who meet the criteria and consent to be in the study by Tuesday, April 2nd.

Here are the criteria:

- The person must be working 20 hours per week or more.
- The person must have experienced a workplace trauma over 1 year ago.
- The person must live in the United States.

So you are probably wondering what a workplace trauma is?

A workplace trauma is an event that caused you a great deal of stress. The distress from the event should have lasted for at least a few weeks or more. Some other characteristics include an event that was unexpected, you had little control over it or during it, it was out of the ordinary and it may have been irreversible.

Here are some examples of workplace traumas (participants will receive a handout with these examples in addition to the consent form).

(Below is a list of some traumatic experiences that take place at work or are related to the workplace.)

- 1) You were afraid of losing your job.
- 2) You were laid-off.
- 3) You received unfair treatment.
- 4) You were verbally harassed by an immediate supervisor.
- 5) You were verbally harassed by a superior.
- 6) You were verbally harassed by a colleague.
- 7) You were verbally harassed by a client.
- 8) You made a major error that threatened the success of your work or business.
- 9) You saw a colleague make a major error that threatened the success of your work or business.
- 10) You were wrongfully accused of making a major error that threatened the success of your work or business.
- 11) You were the victim of sabotage.
- 12) You witnessed a crime or unethical behavior at work.
- 13) You were involved with a crime or unethical behavior at work.
- 14) You were sexually harassed by a superior or colleague.
- 15) You were physically assaulted by a superior or colleague.
- 16) You witnessed an act of violence at work.

17) You were physically harmed.

- 18) Your colleague was physically harmed.
- 19) You witnessed a severe accident at work.
- 20) You were affected by unsafe equipment at work.
- 21) Your experienced a natural disaster at work.
- 22) Your colleague's life was threatened.
- 23) Your colleague or supervisor passed away unexpectedly (suicide, heart-attack, stroke, etc.)
- 24) Your life was threatened.

One important aspect is the amount of stress that these events caused you. For instance two people may experience a job threat very differently. For one person it could cause a great deal of stress, where it is difficult for them to function, but for someone else it might not bother them at all. They may even be positively excited about the prospect of looking for a new job. So the level of stress is important to take into account when considering it a workplace trauma.

Are there any questions on this part?

Finally, if you would like to earn extra credit but do not want to take part in the study, you can complete a PAA (PAA is a "Personal Application Assignment" such as those they completed for the course) on one of the three course topics that you have not yet written about for the course . This assignment must be handed in by April 29th the last day of class to your TA. This assignment will be graded, so you can earn up to 2 points, but the 2 points are not guaranteed. I will add the two points of extra credit on to the final grades and Professor Diane Bergeron will not know who consented to join the study.

Are there any final questions?

I will now pass around the consent forms out. Please read the letter of consent carefully. If you wish to consent, please check off whether you would like to consent for the interview and fill out the demographics. If you would like to invite others to participate in the study please consent to that section and place your contact information on the consent form. I will send out an email confirmation to all of you who consent and I will send out materials to those of you would like to invite others. These materials will include a description of what we are looking for and a consent form. If you would like to take some time to think about participating you can keep both copies and drop off a signed consent form in the cubicle numbered 320 WS 13 on the 3rd floor. If you choose this option, please email me to let me know you have decided to consent. You have the option of deciding whether you would like to participate until April 2nd. You can of course opt out of participating at any point throughout the study. If you do not wish to participate, but would like to do the PAA, please check off that you are not consenting but would like to do the PAA. Please take a copy for your own safe keeping.

Thank you for your time, I will be around class for 15 minutes after class if anyone has more questions.

APPENDIX C1 INFORMED CONSENT DOCUMENT

(FOR STUDENTS)

You are invited to participate in a research study aimed at understanding how people manage traumatic experiences or similar highly stressful events at work. Specifically, we are interested in how you dealt with a work-related trauma and how you feel you have changed as a result of dealing with the trauma. You will be asked to describe a workrelated traumatic event that you experienced. Examples of such events include an abusive supervisor, fear of losing your job or being placed in a threatening or dangerous situation. This study will help us to better understand how people are affected by stressful experiences and serious challenges at work. Furthermore, it will provide insight on we can better support employees in the workplace.

Participating in this research is completely voluntary and will in no way influence your standing in the MBA program or your standing or grades this course in any way. If you agree to be in this study, we are asking you to volunteer 1 hour of your time for an inperson or phone interview prior to May 7th. No preparation is necessary. Please note that the interview will be audio recorded, and erased within one year of your interview date. If you refuse to be recorded, the interviewer will take notes. Transcripts will be created from the interviews. Your name will not be connected to the transcripts or any of the data you provide. A master list will be created providing your name with a code. The master list of names, codes and interview files/papers will be kept in separate, secured computers until the study is complete – and then they will be destroyed. The duration of the study is five years. If you decide you no longer want to be in the study, you may exit at any time. There is an option to be contacted within one year of the study. After a year, your contact information will be destroyed. You can participate in the study without agreeing to be contacted in the future. The study has no known or foreseeable risks. In exchange for participating you will benefit by receiving 2 points of extra credit added to your final grade. Indirect benefits to you include an opportunity to contribute to important research (described above) and you may find the act of recalling your management of the trauma to be a cathartic experience. If you do not want to participate in the study you have the alternative of doing a graded PAA assignment, which will allow you to earn up to 2 points of extra credit to your final grade.

To be eligible to participate in this study, you must have experienced a work-related trauma over a year ago, live in the United States and currently work over 20 hours per week. Alternatively you can refer a friend or family member that meets the above criteria and is willing to participate.

Your responses will remain **confidential**, but not anonymous. No one aside from Emily Amdurer will know that you participated or how you responded. The contact person for this research is Emily Amdurer. If you have any questions, please contact Emily Amdurer at (917) 623-5214 or <u>emily.amdurer@case.edu</u>. Additionally if you would like to talk about thoughts or feelings that came up during the survey you can call the Case Western Reserve University Counseling Service at (216) 368-5872 or the National Alliance on Mental Illness (NAMI) hotline (1800- 950-NAMI). If you would like to talk to someone other than the researchers about: (1) concerns regarding this study, (2) research participant rights, (3) research-related injuries, or (4) other human subjects issues, please contact Case Western Reserve University's Institutional Review Board at (216) 368-6925 or write: Case Western Reserve University; Institutional Review Board; 10900 Euclid Ave.; Cleveland, OH 44106-7230.

Thank you in advance for contributing to Weatherhead research!

You will be given a copy of this form to keep for your records. <u>Please continue on to the back of the page \rightarrow </u>

Statement of Consent:

I have read the above information. I have received answers to the questions I have asked. I consent to participate in the study.

□ YES, I consent to being interviewed and audio recorded.

□ YES, I consent to being interviewed, but NOT audio recorded.

□ YES, I consent to being interviewed and contacted in the future within one year.

 \Box YES, I consent to providing you with three names of people that consent to being interviewed, recorded and meet the criterion of the study.

 \Box NO, I do not want to participate in the study but I would like to complete a PAA.

PRINT YOUR NAME: _____

Signature of Participant: _____ Date: _____

Signature of Person Obtaining Consent: _____ Date: ____

Please provide the additional information

Email address: _____Phone number: _____

***Please provide the additional information if you would like to be interviewed:

Categorization of trauma:

How long ago did the trauma occur?

Please turn to the next page and answer a few remaining questions \rightarrow

Please rate the degree to which the event was stressful at the time it occurred on the 7 point scale, by circling the corresponding number.

A little stressf stressful	ul	Some	what stre	essful	Extren	nely
1	2	3	4	5	6	7
Age:	Gen	der:		Ethnicity:		
Job at the time of trauma:			Current job:			
Industry at the time of trauma:			Current industry:			
Years of work experience:						

Please list the general times you would be available for an interview (i.e. nights, weekends etc.):

Thank you!

APPENDIX C2 INFORMED CONSENT DOCUMENT

(FOR SNOWBALL PARTICIPANTS)

You are invited to participate in a research study aimed at understanding how people manage traumatic experiences or similar highly stressful events at work. Specifically, we are interested in how you dealt with a work-related trauma and how you feel you have changed as a result of dealing with the trauma. You will be asked to describe a workrelated traumatic event that you experienced. Examples of such events include an abusive supervisor, fear of losing your job or being placed in a threatening or dangerous situation. This study will help us to better understand how people are affected by stressful experiences and serious challenges at work. Furthermore, it will provide insight on we can better support employees in the workplace.

If you agree to be in this study, we are asking you to volunteer 1 hour of your time for an in-person or phone interview. No preparation is necessary. Please note that the interview will be audio recorded, and erased within one year of your interview date. If you refuse to be recorded, the interviewer will take notes. Transcripts will be created from the interviews. Your name will not be connected to the transcripts or any of the data you provide. A master list will be created providing your name with a code. The master list of names, codes and interview files/papers will be kept in separate, secured computers until the study is complete – and then they will be destroyed. The duration of the study is five years. If you decide you no longer want to be in the study, you may exit at any time. There is an option to be contacted within one year of the study. After a year, your contact information will be destroyed. You can participate in the study without agreeing to be contacted in the future. The study has no known or foreseeable risks or direct benefits. Indirect benefits to you include an opportunity to contribute to important research (described above) and you may find the act of recalling your management of the trauma to be a cathartic experience.

To be eligible to participate in this study, you must have experienced a work-related trauma over a year ago, live in the United States and currently work over 20 hours per week. Alternatively you can refer a friend or family member that meets the above criteria and is willing to participate.

Your responses will remain **confidential**, but not anonymous. No one aside from Emily Amdurer will know that you participated or how you responded. The contact person for this research is Emily Amdurer. If you have any questions, please contact Emily Amdurer at (917) 623-5214 or <u>emily.amdurer@case.edu</u>. Additionally if you would like to talk about thoughts or feelings that came up during the survey you can call the National Alliance on Mental Illness (NAMI) hotline (1800- 950-NAMI). If you would like to talk to someone other than the researchers about: (1) concerns regarding this study, (2) research participant rights, (3) research-related injuries, or (4) other human subjects issues, please contact Case Western Reserve University's Institutional Review Board at (216) 368-6925 or write: Case Western Reserve University; Institutional Review Board; 10900 Euclid Ave.; Cleveland, OH 44106-7230.

Thank you in advance for contributing to important research!

Please keep a copy of this form for your records. <u>Please continue on to the next page \rightarrow </u>

Statement of Consent:

I have read the above information. I consent to participate in the study.

YES, I consent to being interviewed and audio recorded.

□ YES, I consent to being interviewed, but NOT audio recorded.

PRINT YOUR NAME:		Date:	
Person Obtaining Consent:		Date:	
Person who recruited you for this s	study:		
Please provide the additional inform	mation		
 Looking at the list of the workpy your trauma? 			
2) How long ago did the trauma o	occur:		
 Please rate the degree to which point scale, by circling the corr 		at the time it o	ccurred on the 7
A little stressful stressful	Somewhat stressful		Extremely
1 2 3 7	4	5	6
 4) Job at the time of trauma: 5) Current job: 6) Industry at the time of trauma: 			

7) Current industry: _____

- 8) The number of years of work experience you have: _____
- 9) Current state or city:

10) Age: _____

- 11) Gender: _____
- 12) Ethnicity: _____

Email address: _____Phone number:

Please list the general times you would be available for an interview (i.e. nights, weekends etc.):

APPENDIX D EMAIL MATERIALS FOR THE SNOWBALL

[Name],

Thank you so much for participating in the study and for helping move this important research along! Here is some information you can forward to people about the study as well as the consent form. Please have them fill out the consent form and email it back to me by April 2nd. I would prefer names of people that live on the east coast or the west coast of the United States. However, if you do not have contacts there, you can refer me to people who are regional.

Study Information

I would like to invite you to participate in a research study that is aimed at understanding how people manage traumatic experiences or similar highly stressful events at work. I will be conducting interviews, in which I will ask people how they dealt with traumas and how they felt the events impacted them. I am looking for people who are currently working over 20 hours per week, live in the United States and have experienced a workplace trauma over a year ago.

A workplace trauma is an event that caused you a great deal of stress. The distress from the event should have lasted for at least a few weeks or more. Some other characteristics include an event that was unexpected, you had little control over or during, it was out of the ordinary and it may have been irreversible.

Below is a list of some traumatic experiences that take place at work or are related to the workplace.

- 1) You were afraid of losing your job.
- 2) You were laid-off.
- 3) You received unfair treatment.
- 4) You were verbally harassed by an immediate supervisor.
- 5) You were verbally harassed by a superior.
- 6) You were verbally harassed by a colleague.
- 7) You were verbally harassed by a client.
- 8) You made a major error that threatened the success of your work or business.
- 9) You saw a colleague make a major error that threatened the success of your work or business.
- 10) You were wrongfully accused of making a major error that threatened the success of your work or business.
- 11) You were the victim of sabotage.
- 12) You witnessed a crime or unethical behavior at work.
- 13) You were involved with a crime or unethical behavior at work.
- 14) You were sexually harassed by a superior or colleague.
- 15) You were physically assaulted by a superior or colleague.
- 16) You witnessed an act of violence at work.
- 17) You were physically harmed.

- 18) Your colleague was physically harmed.
- 19) You witnessed a severe accident at work.
- 20) You were affected by unsafe equipment at work.
- 21) Your experienced a natural disaster at work.
- 22) Your colleague's life was threatened.
- 23) Your colleague or supervisor passed away unexpectedly (suicide, heart-attack, stroke, etc.)
- 24) Your life was threatened.

The interview will take place over the phone and will be recorded. The audio recordings and transcripts will be confidential and kept on a locked and secure computer. The attached letter of consent explains more information around the procedures and intent of the study.

This research is highly important in helping us gain a deeper understanding of how we can better support people at work. Thank you for considering participating in this study.

If you agree to participate in this study, please fill out the consent form and attach and send the completed form in an email to Emily Amdurer at <u>Emily.amdurer@case.edu</u> and cc me on the email.

Thank you!

APPENDIX E **INTERVIEW SCRIPT**

Explain research questions and interview process. Ensure confidentiality. Obtain consent and permission to audio record and how audio recording will be used.

Opening

Thank you for coming and speaking with me today. As I mentioned in the consent form I am interested in learning about how people manage traumatic experiences or similar highly stressful events at work. To learn about this I would like to hear your story and how you dealt with one of these events at work. First we'll talk about the facts of the event, then about your experience of the event and its impact on you while it was occurring. Then we'll talk about how you managed the event, both in the short-term and the longer-term. Lastly, we'll talk about the long-term impact the event had on you and your feelings about work.

You can decline to answer any question and we can stop the interview at any time you would like. I will be recording this interview so that I can easily transcribe it. Do you consent to participate in this interview and to be recorded?

Before we begin with your story I would like to ask you for some demographic information.

Demographic Information

- 1. What year were you born? _____
- 2. What is your gender?
- 3. What is your ethnicity?
- 4. How long ago did the traumatic event occur?
- 5. Are you in the same organization as you were during the event? Y/N
- 6. What job were you doing when you experienced the event?
- 7. What industry were you working in at the time of the event?
- 8. Are you in the same job and industry as you were during the event? Y/N a. If "No":

 - i. What is your current job? ______ii. What is your current industry? ______

Traumatic Event

1. Please begin by telling me your story about a traumatic event you experienced at work or one that was related to your work.

- a. What effects, if any, did the event have on you as a person?
 - i. Prompt: What emotions did you feel?
 - ii. Prompt: Did you notice any symptoms? If so, what where they? (i.e., lack of sleep)
- b. About how long did it take before you felt "back to normal?"
- 2. People cope with traumas in a variety of different ways. I am interested to hear some of the ways you coped with the event (i.e., actions you took).
 - a. Prompt: What were some of the ways you coped during the event or in the days immediately following?
 - b. Prompt: What were some of the ways you coped over the weeks and even months after?

Differences from the Event

- 3. Thank you for sharing your story. I know that may have been difficult for you to talk about. Now, I would like to shift our conversation to the weeks, months and even years that have followed. Reflecting on the event, can you please share, what impact, if any, the event has had on you?
 - a. Prompt: What impact, if any, has the event had on you at work?
 - b. Prompt: How, if at all, has the event impacted how you do your job?
 - c. Prompt: Have you noticed if you act differently at work, because of the event? And if so, how?
 - i. For instance are there any activities that you stopped doing or started doing as a result of the event? What were they?
 - d. Prompt: How, if at all, has the event impacted your relationships at work?
 - e. Prompt: How, if at all, has the event impacted your career?
 - f. Prompt: How, if at all, has the event impacted your life outside of work?
- 4. Is there anything else about the experience that you would like to share? If so, please share it now.

<u>Closing</u>

Would you like to participate in categorizing the themes that came out of the interviews? Yes/No

If so, it will be done through a brief email exchange.

Would you like to invite others to participate in this study? If so, I can send you the snowball materials and you can forward them to your contacts.

Thank them for their time. Reiterate confidentiality clause. Offer information about follow-up.

APPENDIX F
GUIDE FOR ITEM GENERATION

		Adapted to Create WPTGI
Dimension	Existing scales	items
Personal Strength	 PTGI (Tedeschi & Calhoun, 1996) 1. A feeling of self-reliance. 2. Knowing I can handle difficulties. 3. Being able to accept the way things work out. 4. I discovered that I'm stronger than I thought I was. 	 Feeling self-reliant at work. (SR) Knowing I can handle difficulties at work. (Cf) Accepting the way things work out at work. (ESC) Discovering that in my work environment, I'm much stronger independently than I
	 Inter-dependence Scale (Joplin, Nelson, & Quick, 1999) Difficult situations can be overcome. I feel secure in my ability to meet life's challenges. On some tasks I can work effectively without other people. I can perform high quality work with little support from others. I am successful at what I do. The actions I take are usually right. 	 thought I was. (SR) 5. Believing I can overcome difficult situations at work. (Cf) 6. Feeling secure in my ability to meet challenges at work. (Cf) 7. Feeling that I can work effectively in an independent manner, on some tasks at work. (SR) 8. Believing that I can perform high quality
	 Benefit-Fining Scale (Tomich & Helgeson, 2004) (handpicked from larger scale) 1. Has taught me to be patient. 2. Has taught me to control my temper. 	 york independently. (SR) 9. Feeling successful in my independent contributions at work. (SR) 10. Feeling successful at what I do at work. (Cf) 11. Knowing that I am capable of taking the correct actions at work. (Cf) 12. Knowing that the

	SRGS (Park, et al., 1996) (handpicked from larger scale) 1. Not letting things upset me at work.	actions I take at work are usually right. (Cf) 13. Remaining patient during stressful situations at work. (ESC) 14. Appropriately managing my emotions at work. (ESC)
		 Not letting things upset me at work. (ESC)
		The remaining items were generated from the interviews:
		 Feeling confident to express my ideas at work. (Cf) Managing my frustration at work. (ESC) Being okay with how things happen at work. (ESC) Letting go of decisions that are outside of my control. (ESC) Disengaging from stressful situations at work. (ESC)
New Career Possibilities	 PTGI (Tedeschi & Calhoun, 1996) 1. I developed new interests. * 2. I established a new path for my life. 3. I'm able to do better things with my life. * 4. New opportunities are available which wouldn't have been otherwise. 5. I'm more likely to try to change things which need changing. 	 Establishing a new path for my career that is a better match for me. Accessing new career opportunities that align with me. Changing things in my career to fit me better.

	 Perceived Person-Organization Fit (Cable & Judge, 1996) 1. To what degree do you feel your values "match" or fit this organization and the current employees in this organization? 2. My values match those of the current employees in this organization.* 3. Do you think the value and personality of this organization reflect your own values and personality? 	 Working in a new role that suits me more. The remaining items were generated from the interviews and in the spirit of the Cable & Judge scale: Finding a role that I enjoy more. Working in a new capacity that is more than I ever believed was possible.
Relating to Others	 PTGI (Tedeschi & Calhoun, 1996) 1. Knowing that I can count on people in times of trouble. 2. A sense of closeness with others. 3. A willingness to express my emotions. 4. Having compassion for others. 5. Putting effort into my relationships. 6. I learned a great deal about how wonderful people are. 7. I accept needing others. Belonging Scale (Godard, 2001) 1. You are well-accepted by your co-workers. 2. When at work, you really feel like you belong. 3. You feel like you just don't fit in where you work.* 4. You feel quite isolated from others where you work.* Compassion Trait Scale (Shiota, Keltner, & John, 2006) 1. I am a very compassionate person.* 2. I often notice people who 	 Knowing who I can count on at work, in times of trouble. (MR) Feeling a sense of closeness with others at work. (MR) Expressing my emotions at work willingly. (MR) Having compassion for others at work. (Compass) Putting effort into my relationships at work. (MR) Recognizing how wonderful some people are at work. (MR) Realizing that I need others at work. (MR) Feeling accepted by my co- workers. (MR) Feeling a sense of belonging at work. (MR) Feeling a sense of belonging at work. (MR) Setting a sense of belonging at work. (MR) Feeling a sense of belonging at work. (MR)
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	 need help. 3. When I see someone hurt or in need, I feel a powerful urge to take care of them. 4. It's important to take care of people who are vulnerable 5. Taking care of others gives me a warm feeling inside. 	 take care of people who are in need at work.(C) 12. Feeling it is important to take care of people who are vulnerable at work. (C) 13. Finding meaning in helping others at work. (C) The remaining items were generated from the interviews: 14. Providing support to others who need help at work. (C) 15. Considering others' feelings when interacting with them. (C) 16. Feeling more sympathetic to people who have had similar experiences to my own. (C)
Spiritual Change	 PTGI (Tedeschi & Calhoun, 1996) 1. Having a better understanding of spiritual matters. 2. Having stronger faith. 	 Having a better understanding of spiritual matters. Having stronger faith.
	 SRGS (Park, et al., 1996) (handpicked from larger scale) 1. Understanding of how God allows things to happen. 2. My understanding that there is a reason for everything. 3. My belief in a supreme being. 4. The meaning in my life. 	 Understanding how a supreme being allows things to happen. Believing that there is a reason for everything. Believing in a supreme being. Feeling a sense of meaning in my life.
Appreciation of Life	PTGI (Tedeschi & Calhoun, 1996)1. My priorities about what is important in life.	 Reprioritizing what is important in my life. Appreciating the value of

	 An appreciation for the value of my own life Appreciating each day. 	my own life. 3. Having gratitude for each day.
	 SRGS (Park, et al., 1996) (handpicked from larger scale) 1. Not taking things for granted. 2. Not taking my physical health for granted. 	 Not taking things for granted. Being thankful for my physical health. The remaining items were generated from the interviews:
		 Valuing my psychological well-being. Being grateful for my job. Appreciating where I work. Placing more value on work-life balance.
Identity Shift	Generated from the interviews and theoretical work by Ibarra (2004) and Haynie and Shepherd (2011)	 Realizing that I am a different person at work now. Having a new conception of who I am at work. Knowing more of what I want at work now. Discovering new strengths at work. Recognizing attributes of personal strengths that I didn't know were there before. Acknowledging attributes of personal weaknesses that I didn't know I had.
Organizational Awareness	Relational Job Learning Scale (Lankau & Scandura, 2002)1. I have gained insight into how another department functions.	 Gaining insight into how other departments function. Increasing my knowledge

	 I have increased my knowledge about the organization as a whole. I have learned about others' perceptions about me or my job.* I have increased my understanding of issues and problems outside my job. I better understand how my job or department affects others.* I have a better sense of organizational politics. 	 about the workplace as a whole. 3. Having a higher level of understanding of issues and problems in my workplace. 4. Having a better sense of my organization's politics. The remaining items were generated from the interviews: 5. Having a broader perspective of my workplace. 6. Understanding how my organization really works. 7. Being aware of how things actually get done at work.
Professionalism	All items were generated from the interviews and made to reflect the definition.	 Representing my ideal image of a professional through my actions. Being thoughtful about how I express my opinions to others in the workplace. Gossiping about others at work (R). Making sure that the way I communicate is appropriate for the workplace. Presenting myself in a professional manner. Treating others with respect, regardless of their behavior. Conducting myself in a manner which reflects a high degree of professionalism.

Advocating	All items were generated from the interviews and made to reflect the definition.	 Attempting to prevent unfair treatment of others at work. Trying to attain more resources for those who need them at work. Trying to find resolutions for work issues that are unfair. Being an advocate for others at work. Making management aware of changes that need to be made to protect others' well-being. Communicating my opinions about work issues to supervisors, regardless of whether they disagree with my views. Giving supervisors additional information that will let them help others. Helping connect others at work to powerful people. Making supervisors aware of specific circumstances of which they are unaware.
Technical Competence	 Competence Scale (Spreitzer, 1995) 1. I am confident about my ability to do my job. 2. I am self-assured about my capabilities to perform my work activities. 3. I have mastered the skills necessary for my job. 	 Feeling more confident about my ability to do my job. Feeling more self-assured about my capabilities to perform my work activities. Feeling a greater sense of mastery over the skills that are necessary for my job. The remaining items were generated from the interviews:

- 4. Having a greater understanding of the key elements that are important for my job.
- 5. Having a higher level of job related skills.
- 6. Having a broader set of job related skills.
- 7. Being able to educate myself about what is needed to do my job well.

Political Skill Inventory Ferris, et al., 2005) (Pertains to the following 4 dimensions)

Social Astuteness	 Social Astuteness (Ferris, et al., 2005b) 1. I understand people well. 2. I am particularly good at sensing the motivations and hidden agendas of others. 3. I have good intuition or savvy about how to present myself to others. 4. I always seem to instinctively know the right things to say or do to influence others. 5. I pay close attention to peoples facial expressions. 	 Understanding people well. Being particularly good at sensing the motivations and hidden agendas of others. Having good intuition or savvy about how to present myself to others. Instinctively knowing the right things to say or do to influence others. Paying close attention to peoples' facial expressions. The following item was generated from the interviews: Having a better understanding of nonverbal communications.
Interpersonal Influence	 Interpersonal Influence (Ferris, et al., 2005b) 1. I am able to make most people feel comfortable and at ease around me. 2. I am able to communicate easily and effectively with others, 3. It is easy for me to develop 	 Being able to make most people feel comfortable and at ease around me. Being able to communicate easily and effectively with others. Developing good rapport with most people.

	 good rapport with most people. 4. Being good at getting people to like me. 4. I am good at getting people to like me.
Networking	 Networking (Ferris, et al., 2005b) I spend a lot of time and effort at work networking with others. I am good at building relationships with influential people in my organization. I have developed a large network of colleagues and associates at work whom I can call on for support when I really need to get things done. At work, I know a lot of important people and am well connected. I spend a lot of time at work developing connections with others. I am good at using my connections and network to make things happen at work.
Integrity	 Apparent Sincerity (Ferris, et al., 2005b) Possessing high levels of integrity, authenticity, sincerity, and genuineness. When communicating with others, I try to be genuine in what I say and do. It is important that people believe I am sincere in what I say and do. I try to show a genuine interest in other people. I try to show a genuine interest in other people.

Behavioral Integrity (Simons, 2002)

- 1. There is a match between my manager's words and actions.
- 2. My manager delivers on promises.
- 3. My manager practices what he/she preaches.
- 4. My manager does what he/she says he/she will do.
- 5. My manager conducts himself/herself by the same values he/she talks about.
- 6. My manager shows the same priorities that he/she describes.
- 7. When my manager promises something, I can be certain that it will happen.
- 8. If my manager says he/she is going to do something, he/she will.

- 5. Matching my words with my actions.
- 6. Delivering on promises.
- 7. Practicing what I preach.
- 8. Doing what I say I will do.
- 9. Conducting myself by the same values.
- 10. Showing the same priorities that I describe.
- 11. Making sure that when I promise something, I make it happen.
- 12. Ensuring that when I say I am going to something, I do it.

Note. WPTGI = Workplace Posttraumatic Growth Inventory; PTGI = Posttraumatic Growth Inventory; SRGS = Stress-Related Growth Scale; SR = Self-reliance; Cf = Confidence; ESC = Emotional Self-control; MR = Meaningful Relationships; C = Compassion

* = Not included in the WPTGI, because it did not fit the definition or it was repetitive of another item

APPENDIX G LINKEDIN.COM SURVEY

Consent Form

WELCOME!

You are being asked to participate in a research study designed to provide information that helps us understand how people manage traumatic experiences or similar highly stressful events at work. Specifically, we are interested in how you dealt with a work-related trauma and how you feel you have changed as a result of dealing with the trauma. You will be asked to describe a work-related traumatic event that you experienced. Examples of such events include an abusive supervisor, fear of losing your job or being placed in a threatening or dangerous situation. You will be asked a series of questions about how you dealt with the trauma or highly stressful situation.

This study is being conducted by researchers at Case Western Reserve University, a leading research university in Cleveland, Ohio. Participation in the study is voluntary and your responses will <u>remain confidential</u>. No personal information from Linkedin.com or Facebook.com will be accessed or used in this study. Your name will not be connected to any of the data you provide. A master list will be created providing your name with a code. The master list of names and codes will be kept in separate, secured computers until the study is complete – and then they will be destroyed. The duration of the study is five years. If you decide you no longer want to be in the study, you may exit at any time. There is an option to be contacted within two years of the study. After two years, your contact information will be destroyed. You can participate in the study without agreeing to be contacted in the future. The study has no known or foreseeable risks. In exchange for participating you can choose to enter your name in <u>a raffle to win an iPad</u>. Indirect benefits to you include an opportunity to contribute to important research (described above) and you may find the act of recalling your management of the trauma to be a cathartic experience.

To be eligible to participate in this study, you must be 18 years of age or older, have experienced a work-related trauma over one year ago, have worked for at least two years and be employed (either full-time or part-time). The survey will take approximately 30 minutes to complete. The decision to participate in this research is completely up to you. If you decide you do not want to be in the study, you may stop taking the survey at any time. We would, however, be extremely grateful for your participation as it will increase our knowledge and provide greater insight as to how to better support employees in the workplace.

Your responses will remain **confidential**, but not anonymous. No one aside from Emily Amdurer will know that you participated or how you responded. The contact person for this research is Emily Amdurer. If you have any questions, please contact Emily Amdurer at (917) 623-5214 or emily.amdurer@case.edu. Additionally if you would like to talk about thoughts or feelings that came up during the survey you can call the National Alliance on Mental Illness (NAMI) hotline (1800- 950-NAMI). If you would like to talk to someone other than the researchers about: (1) concerns regarding this study, (2) research participant rights, (3) research-related injuries, or (4) other human subjects issues, please contact Case Western Reserve University's Institutional Review Board at (216) 368-6925 or write: Case Western Reserve University; Institutional Review Board; 10900 Euclid Ave.; Cleveland, OH 44106-7230.

Thank you in advance for contributing to Weatherhead research!

Statement of Consent

I have read the above information and agree to participate in this study, as indicated by the check mark in the box below.

If you agree, please place a check mark in the box below and click on the "Next" button to begin the survey. If you do not agree to be in this study, simply close the browser window.

Consent 1 have read the above information and consent to participate in this study.

Eligibility

In order to continue with the survey please answer the following eligibility questions.

- 1. What year were you born?
 - Responses range from 1920 1998 (Participants who entered 1995- 1998 were exited out of the survey)
- 2. What is your current employment status?
 - Responses: Employed Full-time (1), Employed Part-time (2), Self-employed (3), Unemployed (0), Other. Please specify (4) (Participants who entered unemployed or Other were exited out of the survey)

3. In order to be eligible to take this survey you will need to have experienced a traumatic or highly stressful event at work, over one year ago. A few examples of workplace traumas include, being laid off, being afraid of losing your job, having an abusive supervisor, making a major error that threatened the success of the business, witnessing violence in the workplace and seeing someone get injured. More examples will be shown in the survey. Have you experienced such an event?

• Responses: Yes/ No (Participants who answered No were exited out of the survey) Congratulations! You are eligible to continue with the survey.

Description of Event

Please take a moment to think of an event at work that you perceived to be somewhat traumatic (something that caused you acute psychological or physical pain). This may be an event which caused you stress that lasted for a few weeks or months. This event could likely be described as having one or more of the following characteristics: it was sudden, chaotic, the outcome was negative or uncertain and you had little or no control over it. Take note: this event is more than just burnout or feeling overworked. While you may have a few different examples, choose the event that had the greatest impact on you. Please describe the event and what happened in a few sentences below:

Description here:

In the remainder of this survey I will ask you to recall "the traumatic event". When responding, please refer back to the example you described above. If you cannot think of an example, please look at the list below to jog your memory. Once you remember an event, please describe it above.

Trauma List

In addition to your description above, we would like you to choose one category that best describes the traumatic event that you experienced at work. Below is a list of some traumatic experiences that take place at work or are related to the workplace. Please check the one category that best describes your traumatic event. If your example is not listed here, please check "Other".

- 1. You were afraid of losing your job. (1)
- 2. You were laid-off. (2)
- 3. You were verbally harassed by an immediate supervisor. (3)
- 4. You were verbally harassed by a superior. (4)
- 5. You were verbally harassed by a colleague. (5)
- 6. You were verbally harassed by a client. (6)
- 7. You made a major error that threatened the success of your work or business. (7)
- 8. You saw a colleague make a major error that threatened the success of your work or business. (8)
- 9. You were wrongfully accused of making a major error that threatened the success of your work or business. (9)
- 10. You were the victim of sabotage. (10)
- 11. You were involved with a crime or unethical behavior at work. (11)
- 12. You witnessed a crime or unethical behavior at work. (12)

- 13. You were sexually harassed by a superior or colleague. (13)
- 14. You were physically assaulted by a superior or colleague. (14)
- 15. You witnessed an act of violence at work. (15)
- 16. You were physically harmed. (16)
- 17. Your colleague was physically harmed. (17)
- 18. You witnessed a severe accident at work. (18)
- 19. You were affected by unsafe equipment at work. (19)
- 20. Your experienced a natural disaster at work. (20)
- 21. Your colleague's life was threatened. (21)
- 22. Your colleague or supervisor passed away unexpectedly (suicide, heart-attack, stroke, etc.) (22)
- 23. Your life was threatened. (23)
- 24. Other (24) _____

Event Details

1. How long ago did the event occur? (Please round up to the nearest year) .5= Less than 6 months, .9= 6 months - 1 year, 1= 1 year, 2= 2 year...10= 10 years, 51=more than 50 years

Severity of stress

Impact of Event Scale – Brief

Below is a list of difficulties people sometimes have after stressful life events. Please read each item, and then indicate how distressing each difficulty was for you with respect to your trauma. How much were you distressed or bothered by these difficulties?

Item Response Anchors: 1= None, 2, 3, 4, 5, 6, 7= Extremely

- 1. Other things kept making me think about it. (I)
- 2. I thought about it when I didn't mean to. (I)
- 3. I tried not to think about it. (A)
- 4. I was aware that I still had a lot of feelings about it, but I didn't deal with them. (A)
- 5. I had trouble concentrating. (H)
- 6. I felt watchful and on-guard. (H)
- 1. Please rate the degree to which the event was stressful at the time it occurred. (1= Not at all stressful, 7= Extremely stressful)
- 2. Please rate the degree to which the event currently causes you stress. (1= Not at all stressful, 7= Extremely stressful)
- 3. How much control did you feel you had over the situation?

(1= None, 7= Total)

Event Details

Please answer the questions below about details surrounding the event.

- 1. What industry did you work in at the time of the trauma? (Blank field)
- 2. What is your current industry? (Blank field)
- 3. What was your job at the time of the trauma? (Blank field)
- 4. What is your current job? (Blank field)
- 5. Are you still at the organization where the event occurred? (Yes= 0, No=1)

Workplace Posttraumatic Growth Inventory

Stem:

Reflecting on the trauma you identified earlier, for each of the statements below please indicate the extent to which **you experienced this change** in yourself at work, as a result of the trauma.

- 1. Not at all
- 7. Maximum amount

1. Personal Strength- Self – reliance

- 7. Feeling self-reliant at work.
- 8. Discovering that in my work environment, I'm much stronger independently than I thought I was.
- 9. Feeling that I can work effectively in an independent manner, on some tasks at work.
- 10. Believing that I can perform high quality work independently.
- 11. Feeling successful in my independent contributions at work.

2. Personal Strength- Confidence

- 1. Knowing I can handle difficulties at work.
- 2. Believing I can overcome difficult situations at work.
- 3. Feeling secure in my ability to meet challenges at work.
- 4. Feeling successful at what I do at work.
- 5. Knowing that I am capable of taking the correct actions at work.
- 6. Knowing that the actions I take at work are usually right.

3. Personal Strength- Emotional Self-control/ Acceptance

- 1. Feeling confident to express my ideas at work.
- 2. Accepting the way things work out at work.

- 3. Not letting things upset me at work.
- 4. Managing my frustration at work.
- 5. Remaining patient during stressful situations at work.
- 6. Appropriately managing my emotions at work.
- 7. Being okay with how things happen at work.
- 8. Letting go of decisions that are outside of my control at work.
- 9. Disengaging from stressful situations at work.

4. New Career Possibilities

- 1. Establishing a new path for my career that is a better match for me.
- 2. Accessing new career opportunities that align with me.
- 3. Changing things in my career to fit me better.
- 4. Working in a new role that suits me more.
- 5. Finding a role that I enjoy more.
- 6. Working in a new capacity that is more than I ever believed was possible.

5. Relating to Others – Meaningful Relationships

- 17. Knowing who I can count on at work, in times of trouble.
- 18. Feeling a sense of closeness with others at work.
- 19. Expressing my emotions at work willingly.
- 20. Putting effort into my relationships at work.
- 21. Recognizing how wonderful some people are at work.
- 22. Realizing that I need others at work.
- 23. Feeling accepted by my co-workers.
- 24. Feeling a sense of belonging at work.

6. Relating to Others – Compassion

- 1. Having compassion for others at work.
- 2. Noticing people who need help at work.
- 3. Feeling a powerful urge to take care of people who are in need at work.
- 4. Feeling it is important to take care of people who are vulnerable at work.
- 5. Finding meaning in helping others at work.
- 6. Providing support to others who need help at work.
- 7. Considering others' feelings when interacting with them.
- 8. Feeling more sympathetic to people who have had similar experiences to my own.

7. Identity Shift

- 1. Realizing that I am a different person at work now.
- 2. Having a new conception of who I am at work.
- 3. Knowing more of what I want at work now.
- 4. Discovering new strengths at work.

- 5. Recognizing attributes of personal strengths that I didn't know were there before.
- 6. Acknowledging attributes of personal weaknesses that I didn't know I had.

8. Organizational Awareness

- 8. Having a broader perspective of my workplace.
- 9. Understanding how my organization *really* works.
- 10. Being aware of how things actually get done at work.
- 11. Gaining insight into how other departments function.
- 12. Increasing my knowledge about the workplace as a whole.
- 13. Having a higher level of understanding of issues and problems in my workplace.
- 14. Having a better sense of my organization's politics.

9. Professionalism

- 8. Representing my ideal image of a professional through my actions.
- 9. Being thoughtful about how I express my opinions to others in the workplace.
- 10. Gossiping about others at work.
- 11. Making sure that the way I communicate is appropriate for the workplace.
- 12. Presenting myself in a professional manner.
- 13. Treating others with respect, regardless of their behavior.
- 14. Conducting myself in a manner which reflects a high degree of professionalism.

10. Advocating

- 1. Attempting to prevent unfair treatment of others at work.
- 2. Trying to attain more resources for those who need them at work.
- 3. Trying to find resolutions for work issues that are unfair.
- 4. Being an advocate for others at work.
- 5. Making management aware of changes that need to be made to protect others' wellbeing.
- 6. Communicating my opinions about work issues to supervisors, regardless of whether they disagree with my views.
- 7. Giving supervisors additional information that will let them help others.
- 8. Helping connect others at work to powerful people.
- 9. Making supervisors aware of specific circumstances of which they are unaware.

11. Technical competence

- 8. Feeling more confident about my ability to do my job.
- 9. Feeling more self-assured about my capabilities to perform my work activities.
- 10. Feeling a greater sense of mastery over the skills that are necessary for my job.
- 11. Having a greater understanding of the key elements that are important for my job.
- 12. Having a higher level of job related skills.
- 13. Having a broader set of job related skills.

14. Being able to educate myself about what is needed to do my job well.

12. Social Astuteness

- 1. Understanding people well.
- 2. Being particularly good at sensing the motivations and hidden agendas of others.
- 3. Having good intuition or savvy about how to present myself to others.
- 4. Instinctively knowing the right things to say or do to influence others.
- 5. Paying close attention to peoples' facial expressions.
- 6. Having a better understanding of nonverbal communications.

13. Interpersonal Influence

- 1. Being able to make most people feel comfortable and at ease around me.
- 2. Being able to communicate easily and effectively with others.
- 3. Developing good rapport with most people.
- 4. Being good at getting people to like me.

14. Networking

- 1. Spending a lot of time and effort at work networking with others.
- 2. Being good at building relationships with influential people in my workplace.
- 3. Developing a large network of colleagues and associates at work whom I can call on for support when I really need to get things done.
- 4. Making sure that at work I know a lot of important people and am well connected.
- 5. Spending a lot of time at work developing connections with others.
- 6. Being good at using my connections and network to make things happen at work.

15. Integrity

- 1. Possessing high levels of integrity, authenticity, sincerity, and genuineness.
- 2. Being genuine in what I say and do, when communicating with others.
- 3. Feeling it is important that people believe I am sincere in what I say and do.
- 4. Trying to show a genuine interest in other people.
- 5. Matching my words with my actions.
- 6. Delivering on promises.
- 7. Practicing what I preach.
- 8. Doing what I say I will do.
- 9. Conducting myself by the same values I talk about.
- 10. Showing the same priorities that I describe.
- 11. Making sure that when I promise something, I make it happen.
- 12. Ensuring that when I say I am going to do something, I do it.

Stem:

Reflecting on the trauma you identified earlier, for each of the statements below please indicate the extent to which **you experienced this change** in **life generally**, as a result of the trauma.

- 1. Not at all
- 7. Maximum amount

16. Definition of Spiritual Change

- 7. Feeling a sense of meaning in my life.
- 8. Believing that there is a reason for everything.
- 9. Having a better understanding of spiritual matters.
- 10. Having stronger faith.
- 11. Understanding how a supreme being allows things to happen.
- 12. Believing in a supreme being.

17. Definition of Appreciation of Life

- 1. Reprioritizing what is important in my life.
- 2. Appreciating the value of my own life.
- 3. Having gratitude for each day.
- 4. Not taking things for granted.
- 5. Being thankful for my physical health.
- 6. Valuing my psychological well-being.
- 7. Being grateful for my job.
- 8. Appreciating where I work.
- 9. Placing more value on work-life balance.

Social Desirability

Listed below are a few statements asking you about your personal attitudes and traits. Please read each item and decide whether the statement is true or false as it pertains to you personally.

- 1. I'm always willing to admit it when I make a mistake. (T)
- 2. I always try to practice what I preach. (T)
- 3. I never resent being asked to return a favor. (T)
- 4. I have never been irked when people expressed ideas very different from my own. (T)

- 5. I have never deliberately said something that hurt someone's feelings. (T)
- 6. I like to gossip at times. (F)
- 7. There have been occasions when I took advantage of someone. (F)
- 8. I sometimes try to get even rather than forgive and forget. (F)
- 9. At times I have really insisted on having things my own way. (F)
- 10. There have been occasions when I felt like smashing things. (F)

Construct Validity

Resilience

Please read the following statements and rate the extent to which you agree or disagree with each statement.

- 1: strongly disagree to 7: strongly agree
- 1. I usually manage one way or another.
- 2. I feel proud that I have accomplished things in life.
- 3. I usually take things in stride.
- 4. I am friends with myself.
- 5. I feel that I can handle many things at a time.
- 6. I am determined.
- 7. I can get through difficult times because I've experienced difficulty before.
- 8. I have self-discipline.
- 9. I keep interested in things.
- 10. I can usually find something to laugh about.
- 11. My belief in myself gets me through hard times.
- 12. In an emergency, I'm someone people can generally rely on.
- 13. My life has meaning.
- 14. When I'm in a difficult situation, I can usually find my way out of it.

Thriving

Please reflect on your experiences at work and indicate the extent to which you agree or disagree with the statements below.

1 = strongly disagree to 7 = strongly agree

- 1) I find myself learning often.
- 2) I continue to learn more as time goes by.
- 3) I see myself continually improving.
- 4) I am not learning.
- 5) I am developing a lot as a person.
- 6) I feel alive and vital.
- 7) I have energy and spirit.

- 8) I do not feel very energetic.
- 9) I feel alert and awake.
- 10) I am looking forward to each new day.

Social Interactions (Travel)

Please read the following statements and rate the extent to which you agree or disagree with each statement.

1 = strongly disagree to 7 = strongly agree

- 1. While vacationing, I would prefer to stay in my home country, rather than visit another country.
- 2. Visiting foreign countries is one of my favorite things.
- 3. I often think about going to different countries and doing some traveling.
- 4. I feel at home in other countries.
- 5. I prefer spending my vacations outside of the country that I live in.
- 6. I have thus far visited two or more other countries.

Demographics

You are almost done! Only a few more questions on the next page.

This is the last page. Just a few more questions about you and you are done!

- 1. How many years of work experience do you have? (0- 40, 40 plus)
- 2. How many jobs have you had in your adult life? (1-10, more than 10)
- 3. In which country do you reside?
- 4. Which of the following most closely describes your race/ethnicity?
 - 1. White (1)
 - 2. Black or African American (2)
 - 3. Hispanic or Latino (3)
 - 4. Asian (including those from India) (4)
 - 5. American Indian or Alaskan Native (5)
 - $6. \quad 2 \text{ or more races (6)}$
 - 7. Other (7) _____
- 5. What is your gender? M=1, F=0

6. Would you like your name to be entered in a raffle for an iPad? Yes= 1, No= 0 In order to be entered in the raffle, please fill out the below contact information.

7. First Name (1)

8. Last Name (2)

9. Email Address (3)

10. We would love to follow up with you in the future to share the results of the study and see if your perspectives have changed. Would you like to be contacted in the future? Yes= 1, No= 0

11. How did you find out about this study?

- 1. Linkedin.com (1)
- 2. Facebook.com (2)
- 3. Other (3) _____

APPENDIX H MTURK SURVEY

Eligibility

In order to continue with the survey please answer the following eligibility questions.

- 1. What year were you born?
 - Responses range from 1920 1998
 (Participants who entered 1995- 1998 were exited out of the survey)
- 2. How many years of work experience do you have?
 - Responses: 0- 40, 40 plus (Participants who entered 1995- 1998 were exited out of the survey)

What is your current employment status?

• Responses: Employed Full-time (1), Employed Part-time (2), Self-employed (3), Unemployed (0), Other. Please specify (4) (Participants who entered unemployed or Other were exited out of the survey)

3. In order to be eligible to take this survey you will need to have experienced a traumatic or highly stressful event at work, over one year ago. A few examples of workplace traumas include, being laid off, being afraid of losing your job, having an abusive supervisor, making a major error that threatened the success of the business, witnessing violence in the workplace and seeing someone get injured. More examples will be shown in the survey. Have you experienced such an event?

 Responses: Yes/ No (Participants who answered No were exited out of the survey)

Consent Form

WELCOME!

You are being asked to participate in a research study designed to provide information that helps us understand how people manage traumatic experiences or similar highly stressful events at work. Specifically, we are interested in how you dealt with a work-related trauma and how you feel you have changed as a result of dealing with the trauma. You will be asked to describe a work-related traumatic event that you experienced. Examples of such events include an abusive supervisor, fear of losing your job or being placed in a threatening or dangerous situation. You will be asked a series of questions about how you dealt with the trauma or highly stressful situation.

This study is being conducted by researchers at Case Western Reserve University, a leading research university in Cleveland, Ohio. Participation in the study is voluntary and your responses will remain <u>anonymous</u> and <u>confidential</u>. We will not collect any personal identifying information. There are no risks associated with this survey. You may benefit indirectly by proving information that will help to better understand how people are affected by their experiences in dealing with serious challenges at work. Additionally, you may find the act of recalling the trauma or stressful event and how you dealt with it to be a cathartic experience. Finally, if you are eligible and complete the survey, you will benefit by receiving a reward through Amazon Mechanical Turk.

To be eligible to participate in this study, you must be 18 years of age or older, have experienced a workplace trauma over one year ago, have worked for at least two years, be employed (either full-time or part-time) and live in the United States. The survey will take approximately 30 minutes to complete. The decision to participate in this research is completely up to you. If you decide you do not want to be in the study, you may stop taking the survey at any time. We would, however, be extremely grateful for your participation as it will increase our knowledge and provide greater insight as to how to better support employees in the workplace.

Your responses will remain anonymous. No one will know that you participated or how you responded. The contact person for this research is Emily Amdurer. If you have any questions, please contact Emily Amdurer at (917) 623-5214 or <u>emily.amdurer@case.edu</u>. Additionally if you would like to talk about thoughts or feelings that came up during the survey you can call the National Alliance on Mental Illness (NAMI) hotline (1800-950-NAMI) or another hotline listed at the following

website: <u>http://www.healthyplace.com/other-info/resources/mental-health-hotline-numbers-and-referral-resources/</u>. If you would like to talk to someone other than the researchers about: (1) concerns regarding this study, (2) research participant rights, (3) research-related injuries, or (4) other human subjects issues, please contact Case Western Reserve University's Institutional Review Board at (216) 368-6925 or write: Case Western Reserve University; Institutional Review Board; 10900 Euclid Ave.; Cleveland, OH 44106-7230.

Statement of Consent

I have read the above information and agree to participate in this study, as indicated by the check mark in the box below.

If you agree, please place a check mark in the box below and click on the "Next" button to begin the survey. If you do not agree to be in this study, simply close the browser window.

Consent

• I have read the above information and consent to participate in this study.

Congratulations! You are eligible to continue with the survey.

Description of Event

Please take a moment to think of an event at work that you perceived to be somewhat traumatic (something that caused you acute psychological or physical pain). This may be an event which caused you stress that lasted for a few weeks or months. This event could likely be described as having one or more of the following characteristics: it was sudden, chaotic, the outcome was negative or uncertain and you had little or no control over it. Take note: this event is more than just burnout or feeling overworked. While you may have a few different examples, choose the event that had the greatest impact on you. Please describe the event and what happened in a few sentences below:

Description here:

In the remainder of this survey I will ask you to recall "the traumatic event". When responding, please refer back to the example you described above. If you cannot think of an example, please look at the list below to jog your memory. Once you remember an event, please describe it above.

Trauma List

In addition to your description above, we would like you to choose one category that best describes the traumatic event that you experienced at work. Below is a list of some traumatic experiences that take place at work or are related to the workplace. Please check the one category that best describes your traumatic event. If your example is not listed here, please check "Other".

- 25. You were afraid of losing your job. (1)
- 26. You were laid-off. (2)
- 27. You were verbally harassed by an immediate supervisor. (3)
- 28. You were verbally harassed by a superior. (4)
- 29. You were verbally harassed by a colleague. (5)
- 30. You were verbally harassed by a client. (6)
- 31. You made a major error that threatened the success of your work or business. (7)
- 32. You saw a colleague make a major error that threatened the success of your work or business. (8)
- 33. You were wrongfully accused of making a major error that threatened the success of your work or business. (9)
- 34. You were the victim of sabotage. (10)
- 35. You were involved with a crime or unethical behavior at work. (11)
- 36. You witnessed a crime or unethical behavior at work. (12)

- 37. You were sexually harassed by a superior or colleague. (13)
- 38. You were physically assaulted by a superior or colleague. (14)
- 39. You witnessed an act of violence at work. (15)
- 40. You were physically harmed. (16)
- 41. Your colleague was physically harmed. (17)
- 42. You witnessed a severe accident at work. (18)
- 43. You were affected by unsafe equipment at work. (19)
- 44. Your experienced a natural disaster at work. (20)
- 45. Your colleague's life was threatened. (21)
- 46. Your colleague or supervisor passed away unexpectedly (suicide, heart-attack, stroke, etc.) (22)
- 47. Your life was threatened. (23)
- 48. Other (24) _____

Event Details

1. How long ago did the event occur? (Please round up to the nearest year) .5= Less than 6 months, .9= 6 months - 1 year, 1= 1 year, 2= 2 year...10= 10 years, 51=more than 50 years

Severity of stress

Impact of Event Scale – Brief

Below is a list of difficulties people sometimes have after stressful life events. Please read each item, and then indicate how distressing each difficulty was for you with respect to your trauma. How much were you distressed or bothered by these difficulties?

Item Response Anchors: 1= None, 2, 3, 4, 5, 6, 7= Extremely

- 7. Other things kept making me think about it. (I)
- 8. I thought about it when I didn't mean to. (I)
- 9. I tried not to think about it. (A)
- 10. I was aware that I still had a lot of feelings about it, but I didn't deal with them. (A)
- 11. I had trouble concentrating. (H)
- 12. I felt watchful and on-guard. (H)
- 4. Please rate the degree to which the event was stressful at the time it occurred. (1= Not at all stressful, 7= Extremely stressful)
- 5. Please rate the degree to which the event currently causes you stress. (1= Not at all stressful, 7= Extremely stressful)
- 6. How much control did you feel you had over the situation?

(1= None, 7= Total)

Event Details

Please answer the questions below about details surrounding the event.

- 6. What industry did you work in at the time of the trauma? (Blank field)
- 7. What is your current industry? (Blank field)
- 8. What was your job at the time of the trauma? (Blank field)
- 9. What is your current job? (Blank field)
- 10. Are you still at the organization where the event occurred? (Yes= 0, No=1)

Workplace Posttraumatic Growth Inventory

Stem:

Reflecting on the trauma you identified earlier, for each of the statements below please indicate the extent to which **you experienced this change** in yourself at work, as a result of the trauma.

- 1. Not at all
- 7. Maximum amount

1. Personal Strength- Self – reliance

- 11. Feeling self-reliant at work.
- 12. Discovering that in my work environment, I'm much stronger independently than I thought I was.
- 13. Feeling that I can work effectively in an independent manner, on some tasks at work.
- 14. Believing that I can perform high quality work independently.
- 15. Feeling successful in my independent contributions at work.

2. Personal Strength- Confidence

- 16. Knowing I can handle difficulties at work.
- 17. Believing I can overcome difficult situations at work.
- 18. Feeling secure in my ability to meet challenges at work.
- 19. Feeling successful at what I do at work.
- 20. Knowing that I am capable of taking the correct actions at work.
- 21. Knowing that the actions I take at work are usually right.

3. Personal Strength- Emotional Self-control/ Acceptance

- 22. Feeling confident to express my ideas at work.
- 23. Accepting the way things work out at work.

- 24. Not letting things upset me at work.
- 25. Managing my frustration at work.
- 26. Remaining patient during stressful situations at work.
- 27. Appropriately managing my emotions at work.
- 28. Being okay with how things happen at work.
- 29. Letting go of decisions that are outside of my control at work.
- 30. Disengaging from stressful situations at work.

4. New Career Possibilities

- 31. Establishing a new path for my career that is a better match for me.
- 32. Accessing new career opportunities that align with me.
- 33. Changing things in my career to fit me better.
- 34. Working in a new role that suits me more.
- 35. Finding a role that I enjoy more.
- 36. Working in a new capacity that is more than I ever believed was possible.

5. Relating to Others – Meaningful Relationships

- 37. Knowing who I can count on at work, in times of trouble.
- 38. Feeling a sense of closeness with others at work.
- 39. Expressing my emotions at work willingly.
- 40. Putting effort into my relationships at work.
- 41. Recognizing how wonderful some people are at work.
- 42. Realizing that I need others at work.
- 43. Feeling accepted by my co-workers.
- 44. Feeling a sense of belonging at work.

Attention Check #1: Eating lots of cupcakes. This is a check, choose answer three.

6. Relating to Others – Compassion

- 45. Having compassion for others at work.
- 46. Noticing people who need help at work.
- 47. Feeling a powerful urge to take care of people who are in need at work.
- 48. Feeling it is important to take care of people who are vulnerable at work.
- 49. Finding meaning in helping others at work.
- 50. Providing support to others who need help at work.
- 51. Considering others' feelings when interacting with them.
- 52. Feeling more sympathetic to people who have had similar experiences to my own.

7. Identity Shift

- 53. Realizing that I am a different person at work now.
- 54. Having a new conception of who I am at work.

- 55. Knowing more of what I want at work now.
- 56. Discovering new strengths at work.
- 57. Recognizing attributes of personal strengths that I didn't know were there before.
- 58. Acknowledging attributes of personal weaknesses that I didn't know I had.

8. Organizational Awareness

- 59. Having a broader perspective of my workplace.
- 60. Understanding how my organization *really* works.
- 61. Being aware of how things actually get done at work.
- 62. Gaining insight into how other departments function.
- 63. Increasing my knowledge about the workplace as a whole.
- 64. Having a higher level of understanding of issues and problems in my workplace.
- 65. Having a better sense of my organization's politics.

9. Professionalism

- 66. Representing my ideal image of a professional through my actions.
- 67. Being thoughtful about how I express my opinions to others in the workplace.
- 68. Gossiping about others at work.
- 69. Making sure that the way I communicate is appropriate for the workplace.

Attention Check #2: Taking my dogs for a walk. This is a check, choose answer one.

- 70. Presenting myself in a professional manner.
- 71. Treating others with respect, regardless of their behavior.
- 72. Conducting myself in a manner which reflects a high degree of professionalism.

10. Advocating

- 73. Attempting to prevent unfair treatment of others at work.
- 74. Trying to attain more resources for those who need them at work.
- 75. Trying to find resolutions for work issues that are unfair.
- 76. Being an advocate for others at work.
- 77. Making management aware of changes that need to be made to protect others' wellbeing.
- 78. Communicating my opinions about work issues to supervisors, regardless of whether they disagree with my views.
- 79. Giving supervisors additional information that will let them help others.
- 80. Helping connect others at work to powerful people.
- 81. Making supervisors aware of specific circumstances of which they are unaware.

11. Technical competence

82. Feeling more confident about my ability to do my job.

- 83. Feeling more self-assured about my capabilities to perform my work activities.
- 84. Feeling a greater sense of mastery over the skills that are necessary for my job.
- 85. Having a greater understanding of the key elements that are important for my job.
- 86. Having a higher level of job related skills.
- 87. Having a broader set of job related skills.
- 88. Being able to educate myself about what is needed to do my job well.

12. Social Astuteness

- 89. Understanding people well.
- 90. Being particularly good at sensing the motivations and hidden agendas of others.
- 91. Having good intuition or savvy about how to present myself to others.
- 92. Instinctively knowing the right things to say or do to influence others.
- 93. Paying close attention to peoples' facial expressions.
- 94. Having a better understanding of nonverbal communications.

13. Interpersonal Influence

- 95. Being able to make most people feel comfortable and at ease around me.
- 96. Being able to communicate easily and effectively with others.
- 97. Developing good rapport with most people.
- 98. Being good at getting people to like me.

14. Networking

- 99. Spending a lot of time and effort at work networking with others.
- 100. Being good at building relationships with influential people in my workplace.
- 101. Developing a large network of colleagues and associates at work whom I can call on for support when I really need to get things done.
- 102. Making sure that at work I know a lot of important people and am well connected.
- 103. Spending a lot of time at work developing connections with others.
- 104. Being good at using my connections and network to make things happen at work.

15. Integrity

- 105. Possessing high levels of integrity, authenticity, sincerity, and genuineness.
- 106. Being genuine in what I say and do, when communicating with others.
- 107. Feeling it is important that people believe I am sincere in what I say and do.
- 108. Trying to show a genuine interest in other people.
- 109. Matching my words with my actions.
- 110. Delivering on promises.
- 111. Practicing what I preach.
- 112. Doing what I say I will do.

- 113. Conducting myself by the same values I talk about.
- 114. Showing the same priorities that I describe.
- 115. Making sure that when I promise something, I make it happen.
- 116. Ensuring that when I say I am going to do something, I do it.

Stem:

Reflecting on the trauma you identified earlier, for each of the statements below please indicate the extent to which <u>you experienced this change</u> in <u>life generally</u>, as a result of the trauma.

- 1. Not at all
- 7. Maximum amount

16. Definition of Spiritual Change

- 105. Feeling a sense of meaning in my life.
- 106. Believing that there is a reason for everything.
- 107. Having a better understanding of spiritual matters.
- 108. Having stronger faith.
- 109. Understanding how a supreme being allows things to happen.
- 110. Believing in a supreme being.

17. Definition of Appreciation of Life

- 111. Reprioritizing what is important in my life.
- 112. Appreciating the value of my own life.
- 113. Having gratitude for each day.
- 114. Not taking things for granted.
- 115. Being thankful for my physical health.
- 116. Valuing my psychological well-being.
- 117. Being grateful for my job.
- 118. Appreciating where I work.
- 119. Placing more value on work-life balance.

Social Desirability

Listed below are a few statements asking you about your personal attitudes and traits. Please read each item and decide whether the statement is true or false as it pertains to you personally.

120. I'm always willing to admit it when I make a mistake. (T)

- 121. I always try to practice what I preach. (T)
- 122. I never resent being asked to return a favor. (T)
- 123. I have never been irked when people expressed ideas very different from my own. (T)
- 124. I have never deliberately said something that hurt someone's feelings. (T)
- 125. I like to gossip at times. (F)
- 126. There have been occasions when I took advantage of someone. (F) Attention Check #3: I have purple shiny wings that help me fly. T/F
- 127. I sometimes try to get even rather than forgive and forget. (F)
- 128. At times I have really insisted on having things my own way. (F)
- 129. There have been occasions when I felt like smashing things. (F)

Construct Validity

Resilience

Please read the following statements and rate the extent to which you agree or disagree with each statement.

1: strongly disagree to 7: strongly agree

- 130. I usually manage one way or another.
- 131. I feel proud that I have accomplished things in life.
- 132. I usually take things in stride.
- 133. I am friends with myself.
- 134. I feel that I can handle many things at a time.
- 135. I am determined.
- 136. I can get through difficult times because I've experienced difficulty before.
- 137. I have self-discipline.
- 138. I keep interested in things.
- 139. I can usually find something to laugh about.
- 140. My belief in myself gets me through hard times.
- 141. In an emergency, I'm someone people can generally rely on.
- 142. My life has meaning.
- 143. When I'm in a difficult situation, I can usually find my way out of it.

Thriving

Please reflect on your experiences at work and indicate the extent to which you agree or disagree with the statements below.

1 = strongly disagree to 7 = strongly agree

- 144. I find myself learning often.
- 145. I continue to learn more as time goes by.

- 146. I see myself continually improving.
- 147. I am not learning.
- 148. I am developing a lot as a person.
- 149. I feel alive and vital.
- 150. I have energy and spirit.
- 151. I do not feel very energetic.
- 152. I feel alert and awake.
- 153. I am looking forward to each new day.

Social Interactions (Travel)

Please read the following statements and rate the extent to which you agree or disagree with each statement.

- 1 = strongly disagree to 7 = strongly agree
- 154. While vacationing, I would prefer to stay in my home country, rather than visit another country.
- 155. Visiting foreign countries is one of my favorite things.
- 156. I often think about going to different countries and doing some traveling.
- 157. I feel at home in other countries.
- 158. I prefer spending my vacations outside of the country that I live in.
- 159. I have thus far visited two or more other countries.

Demographics

You are almost done! Only a few more questions on the next page.

This is the last page. Just a few more questions about you and you are done!

- 1. How many jobs have you had in your adult life? (1-10, more than 10)
- 2. Which of the following most closely describes your race/ethnicity?
 - 8. White (1)
 - 9. Black or African American (2)
 - 10. Hispanic or Latino (3)
 - 11. Asian (including those from India) (4)
 - 12. American Indian or Alaskan Native (5)
 - 13. 2 or more races (6)
 - 14. Other (7) _____
- 5. What is your gender? M=1, F=0
- 6. Is English your first language? Yes= 1, No= 0

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