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## Stand Up Eight: Adversity, Resilience, and Career Adaptability

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STAND UP EIGHT: ADVERSITY, RESILIENCE, AND CAREER ADAPTABILITY

by

Samantha Schams

A Dissertation Submitted in  
Partial Fulfillment of the  
Requirements for the Degree of

Doctor of Philosophy  
in Educational Psychology

at

The University of Wisconsin-Milwaukee

August 2022

## ABSTRACT

### STAND UP EIGHT: ADVERSITY, RESILIENCE, AND CAREER ADAPTABILITY

by

Samantha Schams

The University of Wisconsin-Milwaukee, 2022  
Under the Supervision of Professor Dr. Nadya Fouad

This study aims to fill a gap in the literature by examining the relationship between adversity and career adaptability. The objectives of this study are: 1) to better understand the relationship between adversity and career adaptability. 2) to examine whether race, gender, socioeconomic status, or resilience moderate this relationship. 3) to compare career adaptability and resilience. These objectives were addressed in a quantitative analysis of survey results gathered of adults living in the United States who speak English. To test for a curvilinear relationship between adversity and career adaptability, we completed a regression analysis of the data using adversity, squared adversity to predict career adaptability. Individual hierarchical multiple regression analyses were conducted for each of the four proposed moderators- gender, race, socioeconomic status, and resilience to test whether these factors moderate the relationship between adversity and career adaptability. A simple linear regression was completed to analyze the relationship between career adaptability and resilience. This study found that the relationship between adversity and career adaptability is curvilinear with higher levels of career adaptability occurring at moderate levels of adversity and lower levels of career adaptability occurring with the lowest and highest levels of adversity. The suggested moderation of this relationship by gender, socioeconomic status, and resilience was not statistically significant. Race was the only proposed moderator which accounted for a

significant proportion of the variance in the relationship. Resilience statistically significantly predicted career adaptability. This study is a quantification of the strength some individuals develop through the experience of overcoming adverse circumstances. The study supports initiatives that look to cultivate a growth mindset following adversity and foster generalized resilience and adaptability within career contexts.

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To  
Dr. David Van Doren

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## Chapter One

The misinformation on the role of adversity in vocational functioning is widespread. The message that adversity will interfere with the ability to work cultivates a helpless mindset in vulnerable people who may feel that their adverse past is a life sentence rather than a starting point. Perception of adversity as an inescapable barrier is detrimental to society, especially considering the high occurrence of trauma in the general population (Centers for Disease Control and Prevention, 2016; Felitti, Anda, Nordenberg, Williamson, Spitz, Edwards, et al., 1998; O'Connor, Finkbiner, Watson, & Wisconsin, 2012). Several studies show that the majority of people (about 64%) have experienced at least one significant adverse experience (Centers for Disease Control and Prevention, 2016; Cronholm, et. al, 2015; Felitti, et. al, 1998; O'Connor, et. al, 2012). Many scholars highlight the detrimental effects of adverse experiences and urge intervention before the adverse experiences occur (Centers for Disease Control and Prevention, 2019; Felitti, et al., 1998; Shonkoff, Garner, Siegel, Dobbins, Earls, McGuinn, 2012; Wilkins, Tsao, Hertz, Davis, & Klevens, 2014). This focus on preventing the experience of adversity seems to be relatively futile as adversity is impossible to fully eradicate. Rather than a sole focus on prevention, exploring how to promote optimal adaptable responses will be more influential for developing effective applications for adversity research.

The majority of psychological research on adversity has focused on the negative ramifications of adversity without acknowledgement of the positive results of surviving adversity (Krans, Näring, Becker, & Holmes, 2009; Ogle, Rubin, & Siegler, 2013; Shannon, Douse, McCusker, Feeney, Barrett, & Mulholland, 2011). This deficit perspective on adversity is primarily due to psychologists' historical focus on the medical model. This model emphasizes

the treatment of disease or pathology, which is very helpful- for healing those who are sick (Deacon, 2013). However, the medical model looks at the ways in which individuals are sick and how to cure them. In many ways, the medical model helps to better understand disease, but the medical model is a poor perspective from which to view health or positive outcomes.

Studies of adversity have generally examined the symptoms that occur after trauma and have conflated those symptoms as inevitable conclusions to traumatic events (Hodgdon, Suvak, Zinoviev, Liebman, Briggs, & Spinazzola, 2019; Shonkoff, et. al, 2012). This has led to a significant misunderstanding in the field of psychology about the true outcomes of adversity. Vocational psychology has not been immune to this deficit perspective flaw.

Many studies in vocational psychology have emphasized the correlation between adversity and poor vocational outcomes, such as unemployment, underemployment, lower educational achievement, and poverty (Bilgiç, & Yılmaz, 2013; Cronholm, et. al, 2015; Felitti, et al., 1998; O'Connor, et. al, 2012). These same studies note the high prevalence of trauma in the general population. However, there are several indications that there are not significant limitations in employee functioning in the United States. The majority of individuals are at least minimally satisfied with their work (Pew Research Center, 2016). Almost 90% of workers report having job security (Pew Research Center, 2016). Worker productivity has been steadily increasing since 1950 reaching an all time high in the fourth quarter of 2019 (Bureau of Labor Statistics, 2020). This relatively high level of vocational functioning coupled with the high incident of adversity in the general population (Centers for Disease Control and Prevention,

2016; Felitti, et. al, 1998; O'Connor, et. al, 2012) points toward a need to better understand the role adversity plays in vocational factors, such as career adaptability.

Past research highlights a negative correlation between the amount of adversity and vocational outcomes which has spurred inaccurate extrapolations (Bilgiç, & Yılmaz, 2013; Cronholm, et. al, 2015; Felitti, et al., 1998; O'Connor, et. al, 2012). The fact that many individuals who struggle to be employed to their satisfaction also have experienced trauma does not mean that trauma causes unemployment or dissatisfaction. Studies that emphasize deficit fail to account for the individuals who are thriving despite adversity. Perseverance through adversity is a common theme in literature and media going all the way back to Odysseus (Pranger, 2010). We seem to know that this phenomenon exists yet much of the research does not highlight this narrative.

In order to better understand what leads to ideal outcomes, we need to look at phenomena from a positive psychology or strengths-based perspective. This lens allows us to better understand how to cultivate well-being. Well-being is not necessarily the opposite of illness or the lack of illness. Well-being is often an accumulation of positive elements that contribute to a satisfying and fulfilling life (Deacon, 2013). Well-being following trauma is conceptualized as resilience. Resilience is a relatively young field of study- 1970s- birthed on the awareness that not all people of disadvantaged backgrounds have the same outcomes (Werner, Bierman, & French, 1971). In studying these children over several decades, researchers noticed

certain differences in dispositional approaches to life, support systems, and perseverance (Werner, 1989; Werner & Smith, 1992).

The need for resilience and adaptable response is most clearly demonstrated within our current vocational climate. The structure of work itself continues to evolve as employers and companies move to higher levels of technology and more remote work positions (Van den Broeck, Vansteenkiste, Lens, & De Witte, 2010). The job market continues to move towards a model of promotion through changing companies rather than advancing through the hierarchy of a single employer (Akkermans, Schaufeli, Brenninkmeijer, & Blonk, 2013; Sherk, 2008). Young adults who are now entering the work world will have many job transitions as they advance throughout their career compared to individuals of previous generations. Therefore, adaptability becomes a more important factor as individuals are required to move to new and different environments.

### **Study Aims**

This study aims to fill a gap in the literature by examining the relationship between adversity and career adaptability. Several studies have shown that individuals who experience adversity develop a cognitive flexibility that allows them to be successful despite subsequent stressors (Bonanno, 2013; Mittal, Griskevicius, Simpson, Sung, & Young, 2015). This study proposes that this will be seen in the vocational realm as career adaptability. Career adaptability is a construct anchored in career construction theory. This theory highlights the multiple roles an individual must play throughout their career development. Career adaptability

is projected to develop due to past experience teaching perseverance and flexibility through a previous difficulty or hardship.

Research has shown that there are gender differences in vocational factors, such as career salience, experience of vocational barriers, career attainment goals and preferences, and career adaptability (Coetzee & Harry, 2015; Fort & Murariu, 2018; Gadassi & Gati, 2009; Hou, Leung, Li, Li, & Xu, 2012; Kao, Rogers, Spitzmueller, Lin, & Lin, 2014; Ngo, Foley, Ji, & Loi, 2014; O'Shaughnessy & Burnes, 2016). There are also gender differences in adversity factors such as trauma, post-traumatic growth, coping styles, and Post-Traumatic Stress Disorder symptoms (Hitter, Adams, & Cahill, 2017; Jin, Xu, & Liu, 2014; Norr, Albanese, Boffa, Short, & Schmidt, 2016).

There are racial disparities in career factors, such as coping with job stress, stereotype threat at work, experience of microaggressions on the job, development of vocational identity, educational goals, decent work, career aspirations, career adaptability, work values, and job satisfaction (Arndt & Davis, 2011; Block, Koch, Liberman, Merriweather, & Roberson, 2011; Bonifacio, Gushue, & Mejia-Smith, 2018; Chen & Fouad, 2013; Douglass, Autin, Buyukgoze-Kavas, & Gensmer, 2019; Flores, Spanierman, & Obasi, 2003; Gregor, Ganginis Del Pino, Gonzalez, Soto, & Dunn, 2019; Guan, Liu, Guo, Li, Wu, Chen, ... & Tian, 2018; Hartung, Fouad, Leong, & Hardin, 2010; Koh, Shen, & Lee, 2016; Owens, Flores, Kopperson, & Allan, 2019).

There are also racial differences in adverse experiences, such as traumatic stress, racially motivated violence, types of trauma, psychological and emotional injury, protective factors, and cumulative adversity (Bryant-Davis, 2007; Bryant-Davis & Ocampo, 2005a; Bryant-Davis &

Ocampo, 2005b; Carter, 2007; Constantine & Sue, 2006; Myers, Wyatt, Ullman, Loeb, Chin, Prause, ... & Liu, 2015).

There are also career differences related to socioeconomic status, such as meaning making, work volition, career adaptability, family influence on career decisions, job satisfaction, self-efficacy, work outcomes, vocational locus of control, financial stress, outcome expectations, disability status, and vocational interests (Allan, Autin, & Duffy, 2014; Autin & Allan, 2019; Autin, Douglass, Duffy, England, & Allan, 2017; Brown, 2004; Diemer & Rasheed Ali, 2009; Flores, Navarro, & Ali, 2017; Halonen, Kivimäki, Vahtera, Pentti, Virtanen, Ervasti, ... & Lallukka, 2017; Hu, Kaplan, & Dalal, 2010; Luo, Permezadian, Fan, & Meng, 2019; Reimers & Stabb, 2015; Shin & Lee, 2018; Thompson & Subich, 2011; Thompson, Nitzarim, Her, Sampe, & Diestelmann, 2017; Turner, Joeng, Sims, Dade, & Reid, 2019). Socioeconomic differences are also seen in adversity factors, such as cumulative trauma, risk factors, comorbid health and mental health factors, and types of trauma exposure (Amir, Jordan, & Rand, 2018; Brattström, Eriksson, Larsson, & Oldner, 2015; Font & Maguire-Jack, 2016; Halonen, Kivimäki, Vahtera, Pentti, Virtanen, Ervasti, ... & Lallukka, 2017; Myers, et. al, 2015).

The well established effects of gender, race, and social class on vocation and adversity factors speaks to the necessity of factoring these variables into the scope of this study. These studies do not clearly point to a direction for the moderation of the relationship between adversity and career adaptability as much of the research is conflicted. The numerous subfactors related to gender, race, and socioeconomic status variables also serve as a caution in interpreting the relationship between adversity and career adaptability as each of these extraneous factors may be a moderator or mediator to the relationship between these identity

factors (gender, race, and social class), adversity, career adaptability, and resilience. The complexity of the intersectionality of these identity factors- gender, race, and social class- will also influence the relationship between adversity and career adaptability or resilience.

The importance of intersectionality of identity also precludes assumptions of the direction of the moderations related to gender, race, and social class. The dearth of research that considers all three variables is not expansive; the research that examines intersectionality is even less comprehensive (Grzanka, Santos, & Moradi, 2017). Proposing directions of identity moderators would be premature. This study will measure whether these identity factors (gender, race, and social class) and their interactions will influence the relationship between adversity and career adaptability. Whatever the outcome, awareness of the complexity of each factor and the intersectionality between them will be important.

The purpose of this study is to examine the relationship between exposure to adversity and career adaptability from a more nuanced perspective. Most research on adversity uses broad measures with little possible variability (Cronholm, et. al, 2015; Felitti, et. al, 1998; O'Connor, et. al, 2012). A more refined view of adversity will provide useful information on its relationship with work functioning. This can then inform more effective interventions in vocational functioning as well as a balanced view of the layperson's perspective on adversity.

## **Theory**

Sampson et. al (2014) posit that all research must be firmly grounded within a theory to inform practice. They note the interconnection of theory, research, and practice. They reflect that in order for all aspects of the field to advance, research must be grounded in theory, especially well supported theories, to provide the highest degree of advancement to the field

(Sampson, et. al, 2014). In an effort to further two branches of psychological inquiry, this study is grounded in both resilience theory and career construction theory. The application of resilience theory informs the prediction of human behavior in general while career construction theory grounds the study's factors in a developmental career lens.

### ***Resilience Theory***

Resilience theory is grounded in positive psychology's strengths-based perspective which purports that it is more efficacious to maximize the capabilities of people- rather than minimize their deficiencies- to achieve well-being (Zimmerman, 2013). Resilience theory states that exposure to past adverse experiences may lead to several outcomes, including resilient reintegration- an improvement in future performance (Yates & Masten, 2004). Resilience theory is a biopsychosocial model that looks at the aspects of life that are demanding and the aspects of life that are supportive and attempts to explain the difference and multi varied response each individual has to adversity or trauma. The factors thought to influence a resilient response are physiological, relational, spiritual, internal versus external locus of control, general ability, and emotional predispositions (Wright, Masten, & Narayan, 2013). This theory supports the underlying lens through which the hypotheses of the current study were founded. In order for resilience to be developed, adverse experiences are required.

Resilience was first studied in the 1970s to understand why different people responded differently to diseases (Garmezy, 1985). The precursor to the Adverse Childhood Experiences study was completed by Emmy Werner with disadvantaged children in Hawaii (Werner, Bierman, & French, 1971). Werner identified that there was a significant subset of this disadvantaged population who were resistant to the negative influences of the surroundings of

their upbringing. Much of the resilience research has focused on the role of “protective factors” that allow for the resilient response to develop (Cicchetti & Rogosch, 1997; Fredrickson, Tugade, Waugh, & Larkin, 2003; Luthar, 1999). However, these factors may be better defined as “supportive factors” as they scaffold the development of resilience.

### ***Career Construction Theory***

Career construction theory developed from Super’s life-span, life-space theory of career development. Savickas took this developmental perspective with Holland’s trait perspective and integrated an understanding of the transitory nature of the current world of work (Savickas, 2013). The lens of Career Construction Theory is individualistic, existential, and subjective. This theory sees career as created, defined, and actualized by each individual (Savickas, 2013). Career Construction Theory is structured around three roles that each person plays in their own career development: actor, author, and agent. The role of actor is based on the behaviors of an individual in relation to the environment and structures they are exposed to. The role of author requires the formation of a cohesive career identity narrative from what is otherwise a messy amalgamation of details and scenes (Savickas, 2013). In this study, the focus is on the role of agent- adapting to transition or difficulties by making choices that are guided by the individual’s goals. This study connects the concept of adaptability within an individual's career and suggests contributing factors from past adversity.

Career adaptability is broken down into four dimensions: 1) Concern is the representation of future orientation and investment. 2) Control is the degree to which a person identifies their career outcomes to be dependent on internal or external factors- locus of control. 3) Curiosity is the level of creativity an individual applies in crafting their career

behaviors, including all options for consideration. 4) Confidence is the degree of self-efficacy an individual has in their ability to achieve the necessary behaviors and outcomes for career success.

### ***Rationale for Integration***

The decision to integrate both resilience theory and a career construction theory lay in the similarities between career adaptability and the construct of resilience. The relationship between these constructs lies in the developmental and buildable nature of these variables. The combination of these theories also related to the developmental nature of their underlying assumptions. The emphasis on growth through experience is inherent to both theories. The motivation for integration also related to finding a bridge to study a more nuanced view of how adversity influences vocational functioning. The first construct of interest was adversity and positive adaptation thereafter. When looking at adversity through a positive psychology lens, resilience is a prominent variable. When scouring the vocational psychology literature to find a theory from which to frame this study, career adaptability stood out as a construct and in further examination career construction theory provided the best vehicle for incorporating all three factors. One could say that the development of combining these two theories was in itself developmental- in the best sense. The theme that these two theories share is “growth over time and experience”- the element of a hopeful future.

### **Objectives and Hypotheses**

The objectives of this study are: 1) to better understand the relationship between adversity and career adaptability. 2) to examine whether race, gender, socioeconomic status, or

resilience moderate this relationship- individually or in combination. 3) to compare career adaptability and resilience.

The hypotheses of this study are: 1) Career adaptability will be highest for those who have experienced a moderate level of adversity compared to those who have experienced high amounts or low amounts. 2) Race, gender, socioeconomic status, and resilience will moderate this relationship between adversity and career adaptability. 3) Resilience and career adaptability will have a significant positive relationship.

### **Definitions**

We will start by explicating the precise definitions we will be using to define the variables of concern:

**Adversity** will be defined as the presence of significant and/or chronic stress during an individual's lifespan (Merriam-Webster, 2019). This includes, but is not limited to, trauma, adverse childhood experiences, racism, abuse, chronic illness, drug use, and poverty. Trauma is a more specific type of adversity that harms, or threatens to harm, an individual's health or safety and is specified as having long lasting negative effects on physical and psychological functioning (Griffin & Sallen, 2013). Adverse childhood experiences are seven specific traumas delineated by Felitti, et al. (1998) as well as up to seven further traumas identified by various subsequent studies (Centers for Disease Control & Prevention, 2019; Cronholm, et. al, 2015; Finkelhor, Shattuck, Turner, & Hamby, 2013; Murphy, Steele, Dube, Bate, Bonuck, Meissner, et.

al, 2014). Social-cultural stressors fall under the category of adversity as a chronic form of oppression that increases the difficulty of day-to-day life (Clauss-Ehlers, 2008).

**Career adaptability** is a buildable trait that describes the capability to maintain high job performance and satisfaction despite difficulties or transitions (Savickas, 1997). This construct is defined as a combination of Concern, Control, Curiosity, and Confidence (Hirschi, Herrmann, & Keller, 2015).

**Resilience** is defined as the ability to positively adapt to disruptions in a way that leads to improved future functioning (Richardson, 2002). The concept of resilience is considered a subset of the strengths-based focus of positive psychology research. For further information on resilience see the section on resilience theory above.

**Race** is defined as the inheritance of physical attributes that are used to delineate different cultural groups in modern society (Merriam-Webster, 2020). This factor is acknowledged to be a superficial attribute that, none-the-less, plays a significant role in the way you move within society, especially related to vocational factors.

**Gender** is defined as the expression of identity related to the general spectrum of masculinity and femininity as chosen by that person (Merriam-Webster, 2020). This also influences how that person is interacted with by society.

**Social Class** is defined as an individual's standing within a society, often seen as a combination of wealth, education, and cultural factors (American Psychological Association, 2000). This factor has often been neglected in studies due to the complexity of measuring the concept as your socioeconomic status can change significantly across your lifetime and can also be dependent on cultural and regional contexts. This complexity only highlights the need to

include this construct to better understand what factors influence and define identity. For the goals of this study, the predominant social class of childhood will be measured.

**Intersectionality** is defined as the study of the varying levels of privilege and disadvantage allocated due to an individual's belonging to groups with positioning decided by a hierarchy at the broadest level of society (Grzanka, Santos, & Moradi, 2017).

## Chapter Two

This chapter will provide an overview of: 1) adversity (including trauma, Adverse Childhood Experiences {ACE} as well as the Philadelphia- Adverse Childhood Experiences {PHL-ACE}), 2) career adaptability, 3) Resilience (including post-traumatic growth, psychological capital, and cognitive flexibility), 4) identity factors related to adversity and career, focusing on gender, race, and socioeconomic status. The purpose of this chapter is to provide empirical support to the relationships between the factors of this study as well as demonstrating the gap this study aims to fill. This study aims to answer: 1) What is the relationship between adversity and career adaptability? 2) Do demographic variables (such as gender, ethnicity, social class) or resilience moderate the relationship between adversity and career adaptability? 3) How similar are resilience and career adaptability?

### **Theoretical Perspective**

The theory of a study is akin to the philosophical language. It colors every aspect of the study from obvious things- like the variables, research questions, and hypotheses- down to the subtler influences of word choice, implications of human nature, and unspoken values.

Sampson et. al emphasized the need to commit to a theoretical perspective as a collective effort toward the ideal of building a comprehensive understanding of human behavior (2014). While this ideal seems grandiose, this aim provides direction to the sometimes seemingly

aimless efforts of research. Collaborative effort toward building understanding is what makes research valuable; theory is the mechanism by which this happens.

### ***Resilience Theory***

As noted earlier resilience theory grew out of the positive psychology strengths-based perspective which emphasizes strengths rather than focusing on deficits (Linley, 2012).

Resilience theory seeks to explain the phenomenon of people who thrive despite the fact that they shouldn't. The goal of resilience theory is to ascertain what factors contribute to resilient response to adversity (Fletcher & Sakar, 2013). There are several elements that have been identified as correlated and possibly contributing to the development of resilience: locus of control, social support, positive thinking, and emotion regulation (Masten, Monn, Supkoff, Southwick, Litz, Charney, & Friedman, 2011; Wright, Masten, & Narayan, 2013). Current research in resilience prefers the term perfect protective factors to identify the year correlates with resilient outcomes. I would argue that these factors are not protective so much as supportive- as a brace supports an ankle's ability to heal while you continue to use the ankle. It doesn't prevent the damage from being done but allows the healing and strength to develop.

It's hard to accurately pinpoint the origin of resilience theory as it grew on multiple fronts through multiple schools of thought (Masten, 2018). You could say that resilience goes back as far as the creation of the literary construct of the hero's journey (Smith, 2020). The hero's journey speaks to the need to pass through adversity in order to develop abilities. The first explicit studies on resilience were related to children of unwed mothers in an island of Hawaii and a longitudinal study to explain their divergent lifetime outcomes (Werner, Bierman,

& French, 1971). This study started the explicit naming of resilience within the health and social science fields and resilience has gained popularity and support ever since.

With the numerous researchers on resilience has come numerous operationalizations of resilience (Fletcher & Sakar, 2013). As many researchers can claim expert status on resilience they each conceptualize it differently. Three types of resilience have emerged in the literature with different ideas of what it is (Hu, Zhang, & Wang, 2015). Some conceptualize resilience as a trait, others see it as a domain specific process, still others see resilience as an outcome. It seems that there is no conclusion in the literature as to which concept is most accurate. Developmental trait theories built off of Richardson's original model (2002) have the most published research- partially due to the implications for effective intervention that can grow out of them.

Richardson's model of resilient outcomes following adversity (2002) leaves a lot to be desired in terms of comprehensiveness. My conceptualization of the model would be a long-term representation of the development of resilience over the lifespan. I would also suggest generalizations of resilience across different domains of functioning regardless of whether the



developments after Super's passing and integrated this developmental perspective with Holland's trait perspective to form a more comprehensive theory (Savickas, 2013). This lens has been described as individual focused with an emphasis on meaning-making and with subjectivity in the desired outcomes. The theory itself is structured around three roles that each person plays in their own created development (Savickas, 2013). These roles are not necessarily cyclical or step wise but are interchangeable depending on situation and context. These roles describe aspects of our being that must be attended to to be successful within a career. The role of actor is behavior-based and is related to the environment and structures within the realm of those behaviors. The role of author is comparable to the perspective of narrative therapy- which allows us to craft a meaning through the story people tell themselves- about their career. The role of agent is focused on the ultimate career goals a person holds and facilitates reaction to barriers along the path to those goals (Savickas, 2013). The role of agent is the primary focus of this study as effective reaction to barriers and difficulties is the primary focus of resilience and career adaptability.

Career adaptability grew out of Super's concept of career maturity (Savickas 1997). Savickas highlights the developmental elements of career adaptability, indicating that there are different stages with different tasks that are necessary in order to be successful (1997). Savickas highlights the role of functionalism in developing the life span, life space theory of career development- highlighting the what and why of people's behavior (1997). He notes that we have well established the "what people do" side of functionalism; however, researchers are still attempting to elicit and understand the "Why". Savickas (1997) study looks at career adaptability outcomes and attempts to develop understanding of the precursors- to understand

the mechanisms behind what comes next. Savickas highlights the importance of switching the focus from career maturity to adaptability by showing the need for adaptability behaviors at all developmental stages. Maturity is something that is seen as a more linear construct that you gain with time whereas adaptability is based on individual factors, context, and motivation. Savickas also highlights the role of planning and concern for the future in adaptability believing that to be adaptable one must be motivated to plan for the future (Savickas, 1997).

Career construction theory has received some valid criticism for its lack of accounting for contextual factors (Garcia, Restubog, Ocampo, Wang, & Tang, 2019; Urbanaviciute, Udayar, & Rossier, 2019) as well as questioning its applicability across diverse groups (Wehrle, Kira, & Klehe, 2019), especially considering the individualistic orientation. Career construction theory's developmental perspective has been supported in subsequent studies (Fasbender, Wöhrmann, Wang, & Klehe, 2019; Šverko & Babarović, 2019). Intervention studies based on career construction theory have shown promising results (Santilli, Nota, & Hartung, 2019). In all career construction theory represents an effective amalgamation of existing and past theories to inform vocational psychology, and there continues to be several areas of concern to be addressed (Rudolph, Zacher, & Hirschi, 2019).

### ***Integration of Theories***

As mentioned in chapter one, the integration of these two theories was a thoughtful combination of the understanding of adversity's effect on vocational psychology from the lens of positive psychology, which necessitated the incorporation of resilience theory as an underlying assumption. This integration of career construction theory with resilience theory is well demonstrated by Bimrose and Hearne's examination of four qualitative studies (2012).

Bimrose and Hearne explored the relationship between personal resilience and career adaptability in four qualitative studies that tracked career difficulties (2012). Their conclusion was that resilient people are more able to develop career adaptability behaviors while encountering a career difficulty. They note the positive, strengths based orientation that resilience theory provides is an optimal lens through which to understand career adaptability (Bimrose & Hearne, 2012).

When searching for a vocational psychology structure for the analysis of resilience and adversity in a vocational psychology realm, career adaptability quickly rose to prominence in the research. Due to initial confusion at the complexity of career construction theory with the ambitious integration of developmental perspective, trait theory, and role formulation, I resisted the use of career construction theory. However as I examined and discarded each of the other vocational psychology theories, I kept returning again and again to career construction theory. With multiple returns, I developed a more comprehensive understanding of this complex and highly nuanced theory. As I understood it better, I saw that it was the only theory that would fit my constructs, as well as allowing for the integration of resilience theory. I hope that this integration of theories may allow for further crossing between positive psychology and vocational psychology. These theories have much symbiotic understanding to provide each other and facilitate effective interventions in the field.

### **Adversity**

With the saturation of trauma research focusing on the negative outcomes of adversity, the view of trauma within the field of psychology provides a poor prognosis of long term well-being. Adversity was inaccurately presented as inescapably damaging to well-being in all

dimensions in the literature until the introduction of resilience and subsequent post-traumatic growth starting in the 1970s (Werner, Bierman, & French, 1971) . It continues to be inaccurately represented in the misleading conflation with the post-traumatic stress disorder literature. This misrepresentation seems to have been motivated by a sincere desire to intervene to prevent unnecessary adversity exposure and limit psychological damage being done to vulnerable populations, military, racial minorities, children, refugees, etc. However, the lack of specificity in adversity measurement and excessive focus on clinical populations has painted an unreasonably dire picture of outcomes of adverse experiences. This has caused a bias that skews the data towards the deleterious effects of adversity on functioning rather than representing the entire spectrum of functioning following adversity. Some literature on adversity reads as a sentence to a chronic, debilitating illness. For some people in certain circumstances, this is their reality. However, for those who survive adversity, it is not as bleak as the literature suggests.

### ***Definitions of Adversity***

Adversity is a broad concept that includes trauma, adverse childhood experiences, racism, abuse, chronic illness, drug use, poverty, and other other forms of significant stress as defined by each person. Much of the research related to adversity focuses on trauma which is a more specific type of adversity. Trauma is an event or series of events that harms, or threatens to harm, an individual's health or safety and is specified as having long lasting negative effects on physical and psychological functioning (Griffin & Sallen, 2013). There is an expansive group of studies that examine a further specified list of traumas- the Adverse Childhood Experiences (ACE) (Centers for Disease Control and Prevention, 2016). Adverse childhood experiences were

initially seven specific traumas delineated by Felitti, et al. (1998) which developed to include up to seven further traumas identified by various subsequent studies (Centers for Disease Control & Prevention, 2019; Cronholm, et. al, 2015; Finkelhor, et. al, 2013; Murphy, et. al, 2014). As adversity lacks trauma's requirement of the fear of loss of health or safety, it includes less severe but undeniably interfering experiences such as racism, sexism, classism, and any other forms of oppression. Sociocultural stressors fall under the category of adversity as a chronic form of oppression that increases the difficulty of day-to-day life (Clauss-Ehlers, 2008).

### ***Deficit-Focused Research***

Johnson and Thompson reviewed forty-eight studies and provided compelling evidence to support the development of psychological dysfunction following trauma exposure (2008). Their review of the literature demonstrates that for some individuals the amount of trauma highly correlates with the amount of subsequent psychological dysfunction prevalent in the general population. However, their review focused almost exclusively on the development of post traumatic stress disorder following exposure to trauma. Unfortunately, some statements they made may lead some readers to conflate the concept of the development of post traumatic stress order as a ubiquitous result of trauma. For example, they noted "There appears to be consistent evidence of a dose-effect relationship between cumulative trauma and the development and maintenance of PTSD." (Johnson & Thompson, 2008, page 44).

This dose-effect relationship may indeed be accurate for some types of trauma and/or populations; however, I would argue that the wording and description of this dose-effect relationship implies a linear relationship that the research they cite does not bear out. The research they cite primarily describes specific populations exposed to high or extreme levels of

trauma, e.g. refugees, war-exposed civilians, torture survivors, etc. (Moisander & Edston, 2003; Mollica, McInnes, Pham, Fawzi, Murphy, & Lin, 1998; Priebe & Esmaili, 1997; Wenzel, Griengl, Stompe, Mirzaei, & Kieffer, 2000). These studies also almost exclusively focused on the likely development of PTSD which is known to cause dysfunction in daily living.

The dose-response relationship of trauma and the development of psychological dysfunction which was first proposed by Meichenbaum (1994) has contributed significantly to the lack of nuance in understanding the spectrum of human development following trauma. The studies that the dose-effect relationship is based on predominantly study the development of PTSD symptoms following an experience in war or other severe violent situations (Driessen, Schroeder, Widmann, von Schönfeld, & Schneider, 2006; Kolassa, Ertl, Eckart, Glöckner, Kolassa, Papassotiropoulos, ... & Elbert, 2010). These populations used to represent the amount of trauma exposure are highly overrepresented in the higher ranges of trauma. Also, the focus of these studies is on the development of dysfunctional psychological behaviors and cognitions. Many studies on trauma look at populations where the dysfunction has already developed and researchers are retroactively measuring the trauma exposure following the negative symptoms. The emphasis on this dose-response relationship precludes an awareness of individuals who had a resilient response to their trauma. The populations sampled in Johnson and Thompson's review were often not random samples (2008). Refugees, war-exposed civilians, and torture survivors cannot be generalized to the greater population (Briesch, Swaminathan, Welsh, & Chafouleas, 2014). Most studies used a dichotomous measure of trauma which precluded any knowledge of differing outcomes relating to differing levels of adversity (Johnson & Thomson, 2008). Johnson and Thompson do acknowledge the possibility of resilient individuals in their

surprise at the lower numbers of PTSD diagnosis subsequent to trauma (2008). They note that there may be some factors that this study would call resilience factors that limit certain individual's likelihood to develop PTSD following trauma. Some of these individual factors are social support and mental preparedness for trauma (Johnson & Thompson, 2008).

No review of adversity would be complete without a review of the original adverse childhood experiences (ACE) study by Felitti, Anda, Nordenberg, Williamson, Spitz, Edwards, et al. in 1998. The study was completed with 9,500 adult HMO members in Southern California. The study quantified trauma by asking participants if they had experienced physical, emotional, and/or sexual abuse, neglect, witnessed violence against mother, household member alcohol/drug abuse, mental health disorder, and/or imprisonment. The outcome ranged from 0-7 for this Adverse Childhood Experiences (ACE) measure. They then compared this Adverse Childhood Experience (ACE) outcome to the adults health outcomes and current behaviors. They found two major trends: 1) Over half the participants had experienced at least one Adverse Childhood Experience. 2) The higher the Adverse Childhood Experience (ACE) outcome, the greater likelihood of negative health and well-being outcomes (Felitti, et al., 1998).

This study has been replicated many times with similar results. However, there are several limitations to the conclusions. The outcome range of 0-7 for this Adverse Childhood Experiences (ACE) measure- later measures ranged 0-10 or 12 (Cronholm et. al, 2015)- did not allow for a comprehensive understanding of adversity as a full spectrum. This measure also skews toward the more universally significant traumatic experiences, many of which correlate to other stressors not accounted for, such as food insecurity (Sun, Knowles, Patel, Frank, Heeren, & Chilton, 2016), insecure attachment (Murphy, Steele, Dube, Bate, Bonuck, Meissner,

... & Steele, 2014), and social disadvantages (Nurius, Logan-Greene, & Green, 2012). The highlighted outcome is the strong correlation of Adverse Childhood Experiences (ACE) and negative health and well-being outcomes. There are many possible unaccounted for moderators of this relationship. The conclusions are strongly worded for a correlational study. The emphasis on future research to prevent adversity is premature and poorly thought out.

Adverse childhood experiences have been shown to correlate with many negative adult outcomes, such as higher rates of disease, drug use, suicidality, and mental health concerns, even earlier death (Centers for Disease Control and Prevention, 2016; Felitti, et al., 1998; Finkelhor, Shattuck, Turner, & Hamby, 2013; Lee, Pang, Lee, J. A. L., & Melby, 2017; Nurius, Green, Logan-Greene, & Borja, 2015; Steen, 2017). Research on trauma has shown negative effects on IQ (Kira, Lewandowski, Somers, Yoon, & Chiodo, 2012), self-esteem (Reiland & Lauterbach, 2008), and well as intergenerational consequences (Kaitz, Levy, Ebstein, Faraone, & Mankuta, 2009; Scharf, 2007). Felitti et. al. also found a high prevalence of Adverse Childhood Experiences across the general population with 52% endorsing at least one of the qualifiers (1998).

Many previous studies have placed the focus only on a small spectrum of adversity as defined by the original Adverse Childhood experiences (Felitti, et al., 1998). Some authors argue for a more inclusive view of adversity. Cronholm et. al (2015) explored the understanding of adversity by looking critically at what the traditional Adverse Childhood Experiences survey missed related to adversity factors that shape a person's adult life. They examined the use of the Extended versus Conventional ACE questions. This study provided a more thorough understanding of the prevalence of Adverse Childhood Experience (ACE)- Conventional and

Philadelphia - Adverse Childhood Experience (PHL-ACE)- Expanded scores among racially and economically diverse populations. Cronholm et. al (2015) found that non-white, males from socially disadvantaged backgrounds were at the highest risk for Adverse Childhood Experiences (ACEs) with each factor also individually increasing the likelihood of a higher level of Adverse Childhood Experiences (ACEs).

Expanded ACEs established the prevalence of experiencing racism, witnessing violence, living in an unsafe neighborhood, experiencing bullying, and a history of foster care. These items were created to assess community-level factors of adversity. This survey was included in a greater effort to better understand the population's health status and behaviors in a southern region of Pennsylvania. They found that a significant majority of participants had at least one trauma from the original ACE study (73%), a significant majority had at least one of the Expanded ACE traumas (63%), and almost fifty percent had experienced both (49%). A small but significant proportion of their participants (14%) experienced only Expanded ACE, meaning their experience would not be reflected if only the original ACEs were studied (Cronholm et. al, 2015). This demonstrates the need for a more nuanced understanding of adversity.

Cronholm et. al (2015) supported the previous finding that minority identified populations have higher prevalence and severity of ACE endorsements. This study found that demographic factors of gender, race, and economic status were correlated with a higher prevalence of Expanded ACEs but not Conventional ACEs. The authors assert that the Conventional ACEs were developed within the context of middle-class European American populations which explains why there is a need for Expanded ACEs to describe the experiences of disadvantaged individuals. The authors call for further integration of Trauma Informed Care

across the health profession. They also call for a more nuanced and discrete measure of adversity to better ascertain the needs of different populations. These populations have also generally been exposed to multilayered complex historical trauma through mechanisms of societal oppression, including the detrimental effects of transgenerational trauma.

Finkelhor, Shattuck, Turner, and Hamby (2013) proposed that peer victimization, property victimization, parents always arguing, having no good friends, having someone close with a bad illness or accident, SES, and exposure to community violence are childhood predictors of negative mental health outcomes that are missing from the original ACE study. The philosophy behind the study of adverse childhood experiences is to account for the contributors to the psychological burden that interferes with functioning. The adverse experiences were measured as yes/no experiences. They also administered a distress index to determine which items loaded most strongly to the level of distress. They also propose that the goal of the adversity measures should be more thoroughly agreed upon.

The negative results of adverse childhood experiences have been extensively studied. When analyzing their data, Felitti et. al. compared physical and mental health outcomes of individuals with four or more Adverse Childhood Experiences to those with zero Adverse Childhood Experiences (1998). This seems to leave a significant section of the population (those with 1-3 Adverse Childhood Experiences) unexamined. Although there are many studies that link adverse childhood experiences with negative outcomes of functioning in later life (Nurius,

Green, Logan-Greene, & Borja, 2015), it may be that the research has been oversimplifying their data by focusing on dichotomous or limited measures of adversity.

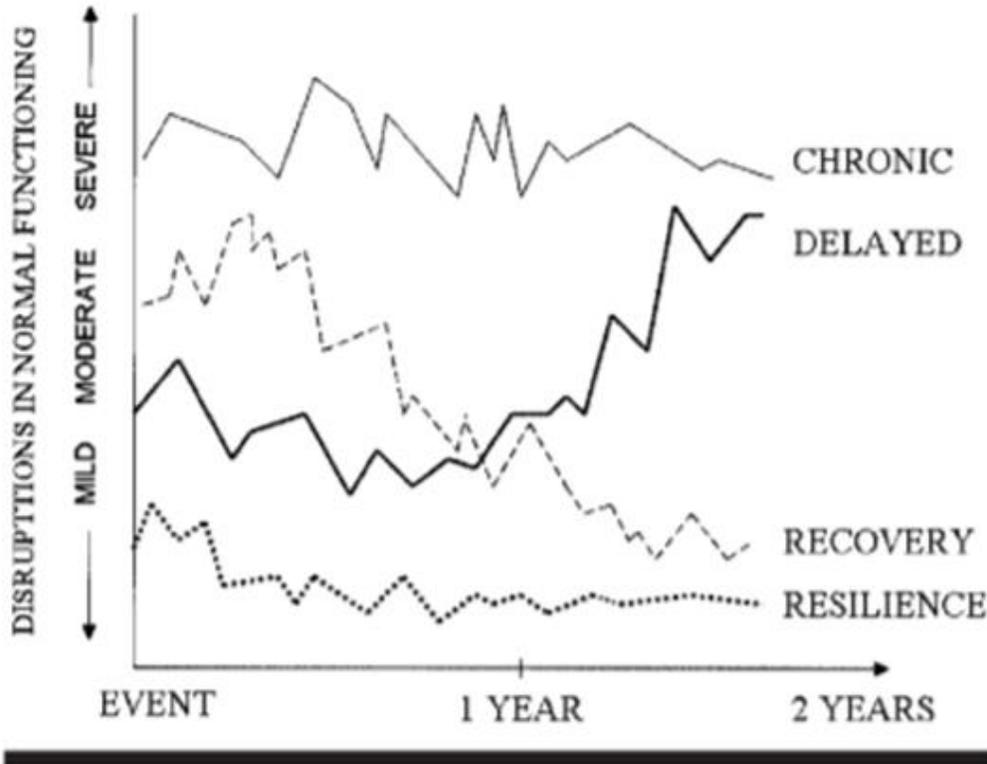
### ***Strengths-Focused Research***

Research within positive psychology tends toward a more strengths-based view of adversity, such as the study of posttraumatic growth and resilience. Bonanno's work especially highlights the high level of resilience with the prevalence of trauma (2004). Bonanno posits that the focus on the prevalence of trauma and adversity in clinical populations misses the ubiquity of trauma and resultant resilience in the general, or nonclinical, population (2004). Bonanno and Kaltman (2001) support this primarily in their review of studies on grief and subsequent grief responses. They highlight that in their review only 10-15% of individuals go on to experience prolonged, chronic, ongoing psychological disturbance, such as depression. Another group of individuals included in their review had a relatively time limited interruption in psychological functioning, several months up to two years. The group of individuals who

experienced little to no interruption in function comprised the majority of participants in the studies they reviewed, over 50% of the total participants (Bonanno & Kaltman, 2001).

Figure 2

***Prototypical Patterns of Disruption in Normal Functioning Across Time Following Interpersonal Loss or Potentially Traumatic Events***



Note. From Bonanno, 2004

Bonanno's (2004) article is a seminal example of the relatively recent shift in trauma research from a deficit perspective to a strengths based perspective. This article reviews the trajectory of trauma research and highlights themes that have contributed to the development of other strengths based perspectives on adversity and adaptability (Bonanno, 2004). In later work, Bonanno (2013) grounds the variables of adversity and flexibility (or adaptability) in a phenomenological framework. Bonanno provides an integration of the previous studies on adversity and provides a further connection to the adaptability construct

we hope to better understand (2013). This also strengthens the argument for the use of narrative therapy in the way individuals make meaning from their experiences of adversity. Cohen's article (2009) covers the role of adversity in meaning-making by examining themes in Dr. George Anis Awad's life, a human rights theorist. This continues the integration of adversity and adaptability as interrelated concepts. It also hints at the role of meaning making as the mechanism by which adversity can lead to adaptability, especially in an individual's life work and overarching career (Cohen, 2009).

Some researchers have established that more nuanced measures of adversity demonstrate the strengths-based response to adversity. Seery, Holman, and Silver (2010) showed a more nuanced understanding of adversity's relationship with adaptability and resilience. They utilized a more discrete quantitative measure of adversity and found that the linear relationship that has been assumed between adversity and functionality does not exist. They found that the interaction between adversity and functioning is U-shaped and curvilinear. This means that high and low extremes of adversity impair functioning but moderate amounts lead to higher levels of functioning. In another study, Seery et. al (2013) show the role of resilience more specifically in testing individuals response to stressors in a controlled environment. This study is especially pertinent as it highlights the generality of the resilience cultivated by adversity. They examined both passive and active endurance and found the data maintained the quadratic relationship of adversity and resilience. They also controlled for

moderating factors by exposing all participants to an identical stressor to avoid confounds (Seery, Leo, Lupien, Kondrak, & Almonte, 2013).

### ***Summary of Adversity Critiques***

There is a marked lack of nuance in many adversity measures. Most deficit studies use dichotomous, “yes/no” measures of adversity. The studies that use non-dichotomous measures have a possible range of 0-14 at their highest. Deficit studies also group trauma into high/low groups without acknowledging a moderate range. This poor measurement practice has led to a focus on adversity prevention advocacy rather than the resilience cultivation that would be more pragmatic. Studies with comprehensive and nuanced measures of adversity are needed to understand the full spectrum of adversity within people’s lives.

There is a significant conflation with post traumatic stress disorder literature. This conflation leads to confusion in the field of research with the implication that trauma- a type of adversity- inevitably leads to post traumatic stress disorder and significant interference in functioning. Many studies of post traumatic stress disorder make claims about the outcomes of trauma which are most certainly true for a subset of trauma survivors; however, these studies often examine clinical populations, military personnel, and refugees, limiting their representation of the general population. Studies of adversity- and trauma- that examine the general population are needed to correct this sampling bias in the literature.

There is a lack of literature in vocational psychology that looks at the role of cumulative adversity in vocational functioning. Much of the research in vocational functioning that includes adversity is skewed toward the deficit perspective in correlations of adversity and negative vocational outcomes, such as joblessness, under-employment, and poor vocational functioning.

There is a clear need to explore how the full spectrum of adversity interacts with vocational functioning.

## **Resilience**

The concept of resilience had always seemed self-evident to me. Pain is as ubiquitous as pleasure- and a better teacher. We remember pain all the way down to our nerve endings for longer than we would like (von Baeyer, Marche, Rocha, & Salmon, 2004). Effectively adapting to painful experiences (and making meaning from the experience) just makes sense- which may explain its relationship with emotional intelligence (Armstrong, Galligan, & Critchley, 2011). My childhood environment emphasized the importance of what happens after the pain. “Rub some dirt in it” was a common reaction to scrapes and bruises. The focus was on continuing forward- not on the damage.

Resilience seems to be the goal of all endeavors in counseling psychology. Understanding ways to allow people to adapt- to their environment, stressors, and life circumstances- is the focus of many psychotherapeutic interventions. As a psychotherapist, resilience often feels like the Holy Grail. Searching for resilience within my clients who have wildly different backgrounds and wildly different experiences with adversity has been a surprising and enlightening journey. When I started to study trauma in my undergraduate years, I read study after study of the damaging effects of trauma. However, I had met so many people who had experienced adversity that was shown by several studies to be almost universally debilitating, or at least a very risky and uncertain prognosis for future happiness.

This then led me to find studies on resilience- Why did some people experience bad things and become better for it?

The counterpoint to my hypothesis is not only that moderate adversity is helpful, but also that the eradication of adversity is damaging. I have encountered the phenomena of people who struggle to identify barriers or adversity that would interfere with their functioning; yet, they seem to be functioning at a level lower than would be expected of someone with their abilities, protective factors, resources, and background. This awareness drew me to my hypothesis of the necessity of adversity for the development of resilience and adaptable response.

### ***Definitions of Resilience***

Resilience as a concept is hard to define. Within the umbrella of positive psychology, the concept of resilience is considered an aspect of strengths-based focused research. Fletcher and Sakar's review of the definitions of resilience extracted adversity and positive adaptation as the necessary elements of resilience (2013). In broad terms, resilience encompasses persevering despite barriers and difficulties. In specific terms, it is the increased ability to function following an interfering stressor. Though resilience is often conflated with posttraumatic growth, they are conceptually distinct. Posttraumatic growth is also considered an aspect of positive psychology's strengths-based literature. Though resilience and posttraumatic growth share the broad concept of improvement following trauma, the rates and reasons for improvement are distinct. Posttraumatic growth studies significant positive change following a specific stress. Posttraumatic growth is often attributed to a sudden shift in perspective. Resilience studies a subtler phenomenon of resisting the expected regression and eventual improvement following

adversity. Resilient improvement is often attributed to the development of internal, psychological strength- somewhat akin to muscle growth.

There has been much debate about what resilience is and how to cultivate it. Three types of resilience have different ideas of what it is (Hu, Zhang, & Wang, 2015). Trait resilience equates resilience with a personality trait that is born to the individual and transforms adversity into adaptability. Process-oriented resilience focuses on the situational factors in which people show resilient responses. Outcome-oriented resilience focuses on cumulative resilience as a buildable developmental skill (Hu, Zhang, & Wang, 2015). The current study will use all three. People may have a certain epigenetic predisposition towards exhibiting resilience. It may also be something that can be built upon related to the environmental exposures of adversity. It is also likely to be context or situation specific in which there are areas in which we are more or less adaptable depending on our sense of confidence or self efficacy related to that area of our lives. Trying to separate resilience into these three piles diminishes our understanding. As this study looks at resilience in one period of time, a better qualifier may be “state” resilience which would be a snapshot of the accumulation of all three types of resilience.

### ***Overview of Resilience Research***

Hu, Zhang, and Wang conducted a particularly strong meta-analysis that included both positive and negative mental health outcomes in an attempt to form a more nuanced understanding of resilience (2015). The authors found that resilience was lower in individuals with negative mental health outcomes, such as depression, anxiety, and negative affect, and

higher for people with positive mental health outcomes, such as life satisfaction and positive affect.

Though the study design was well structured with the examination of positive and negative mental health outcomes, Hu, Zhang, and Wang's rationale and explanation of the gender differences in the relationship between resilience and mental health was disturbingly ill-founded (2015). As the relationship between resilience and mental health was more significant for women than men, Hu, Zhang, and Wang seemed to attribute this to women's overall inferiority in functioning citing individual studies (over 20 years old at the time of publication) for support. Despite their skewed description of the moderating effects of gender, the findings that gender plays a role in the relationship between resilience and mental health is important to note.

The authors found support for the moderating effects of adversity on the relationship between resilience and mental health (Hu, Zhang, & Wang, 2015). They note that the presence of adversity correlates with increases in resilience. This supports the more integrated definition of resilience that this study is operating on. The authors concede that their findings point toward an integration of trait and developmental resilience. Unfortunately this meta-analysis coded adversity as a dichotomous, "yes-no" variable which minimizes the information to be gleaned from their findings. This further highlights the importance of the current study's attempts to view adversity comprehensively and precisely.

Richardson's meta-analysis of resilience found that adaptability and tolerance are significant factors in resilience (2002). In his review of resilience, he found that overwhelmingly children who experienced adversity did not go on to become dysfunctional

adults as they had developed resiliency. Richardson highlighted the role of ecological surroundings in spurring someone toward growth, oftentimes through the necessity to survive difficult circumstances (2002). Richardson used support from quantum physics theory of energy, eastern medicine, and the ubiquitous concept of spirituality to support the ecological influence on the development of resilience (2002). Richardson also purports that every person is born with the capacity for resilience (2002). This capacity is described as a psychical force that is demonstrated by the immune boosting effects of hope and positive thinking.

Richardson describes several theories of the development of resiliency (Flach, 1988; Richardson, Neiger, Jensen, & Kumpfer, 1990) which all agree that the disruption of homeostasis, which is inevitably a stressor or some form of adversity, is a necessary aspect of the development of resiliency (2002). Following this logic, there needs to be some form of adverse experiences to develop resilience. Resilience has been found to correlate with increased flexibility in new situations. These conclusions are effectively demonstrated by Werner and Smith's longitudinal studies of children from a community in Hawaii from 1955-1985 (Werner, 1989; Werner, & Smith, 1992). The purpose of Werner and Smith's study was to understand the risk factors and protective factors associated with undesirable and desirable life outcomes (1989; 1992).

From a psychology of personality perspective, Maddi posits that resilience is due predominantly to static and inheritable personality factors (2005). However, Kalisch, Müller, and Tüscher propose a paradigm shift to the study of resilience from a neurobiological framework (2015). Their theory is grounded in clinical neuropsychology and seeks to tease out the different mechanisms by which resilience responses manifest. The theory they propose

emphasizes the mechanism of positive appraisal styles through appropriate classification, flexible reevaluations, and management of unproductive stress responses. They propose that resilience is an amalgamation of several factors that lead to an ability to adapt or recover from stressors. Kalisch, Müller, and Tüscher posit that resilience is a neurobiological fine-tuning of the individual's response to stressors or changes which results in optimal outcomes (2015).

Schutter, Wischnewski, and Bekkering (2015) developed a pathway to explain Kalisch, Müller, and Tüscher's (2015) theory of resilience. They agree with the theory, highlighting the role that homeostatic plasticity (or cognitive flexibility to change from the norm) plays in the development of mechanisms of resilience (Schutter, Wischnewski, & Bekkering, 2015). They review relevant noninvasive brain studies that highlight the role of effective excitatory and inhibitory neurochemical responses in participants with resilience. Schutter, Wischnewski, and Bekkering interpret this as support for cognitive flexibility (or homeostatic plasticity) as the higher level mechanism by which positive appraisal styles lead to resilience (2015).

Koole, Schwager, and Rothermund agree with this paradigm shift and support the theory by positing that psychological or cognitive flexibility is a key ingredient in resilience (2015). They emphasize the role of effective emotion regulation rather than a blanket positivity bias as being the optimal cognitive orientation of resilience individuals. Noticing the positive aspects of negative situations allows for stress management in difficult times. Awareness of negative aspects of positive circumstances allows for preparedness for effective reactivity when necessary (Koole, Schwager, & Rothermund, 2015).

The medical world refers to resilience as allostasis- the body's ability to restabilize after change (McEwen, 1998). We do this at a physiological level as well as a psychological level.

Medicine understands accumulated adversity as the allostatic load, which refers to the effects of the demands placed on our internal regulatory mechanisms. Research has shown that negative coping skills exacerbate this depletion of resources whereas positive coping, such as regular moderate exercise, lessens the toll. McEwen (1998) asserts that the only factors that significantly account for differences in allostatic load is perception of the stressor and the overall health of one's body.

Four aspects of allostatic load determine the body's response: chronicity of stressors, lack of adaptation to stressors, difficulty in regulating stressors once they have been introduced- poor regulation, and the under performance of one physiological system causing other systems to over compensate (McEwen, 1998). Post traumatic stress disorder increases allostatic load. Adaptive coping skills and self-control elements contribute to the alleviation of allostatic load. McEwen also found that hippocampal atrophy occurs with chronic stress which may interfere with memory and other brain function (1998). Isolation and lack of control in work environments contribute to increases in allostatic load (McEwen, 1998).

### ***Posttraumatic Growth***

As mentioned earlier, posttraumatic growth is related to resilience as aspects of positive psychology's strengths-based literature. However, posttraumatic growth is different from resilience in significant ways. Posttraumatic growth is the study of a significant increase in functioning following a single, identifiable event. In comparison, resilience is an innate and buildable trait that grows in relation to cumulative adversity. While these concepts are

demonstrably related, posttraumatic growth is not a focus of this study due to its focus on a single, identifiable event. This study focuses on cumulative adversity of the lifespan.

Studies of posttraumatic growth have shown an increase in positive behavior and mental health change when an individual has experienced an extraordinary stressor when compared to matched individuals of the same demographics who have not experienced an extraordinary stressor (Cadell, Regehr, & Hemsworth, 2003). Cadell, Regehr, and Hemsworth developed a structural equation model that established several factors as necessary components for the experience of posttraumatic growth (2003). In their research, they found that spirituality (in the form of the belief of something greater than our individual selves), social support, stressors (in the form of the trauma experienced, subsequent consequences of the trauma, or both) and growth (or significant improvement compared pre-trauma functioning) are the necessary factors to create posttraumatic growth (2003). The necessary factor of the trauma itself is an interesting point related to our current study. Cadell, Regehr, and Hemsworth (2003) support our supposition that trauma or adversity is a necessary factor in an improvement of functioning past pre-trauma levels.

According to Jayawickreme and Blackie (2014), there are five prominent beliefs about posttraumatic growth: it leads to more positive relationships, an appreciation of new possibilities, an increased awareness of and understanding of one's personal strengths, increase in spiritual development, and a heightened appreciation of the gift of life. Westphal and Bonanno argue that posttraumatic growth and resilience are highly related and tackle positive reactions to trauma from different perspectives (2007). They argue that resilience is a lack of

interference in functioning and posttraumatic growth is a disturbance in functioning followed by an improvement of pre-trauma functioning.

### ***Moderation Effects of Resilience***

Resilience has been found to moderate the outcomes of stressors across multiple areas of research. Meng, Wu, and Han examined resilience as a moderator to post traumatic stress disorder and posttraumatic growth in survivors of an earthquake (2018). They sampled individuals who had been living within the regions most highly affected by the earthquake and measured their level of post traumatic stress disorder symptoms and post traumatic growth and resilience. They found that resilience and post traumatic growth were highly correlated whereas resilience and post traumatic stress disorder were negatively correlated. They propose that future research should focus on fostering resilience following traumatic events (Meng, Wu, & Han, 2018). It's rare to find a study that measures post traumatic growth and resilience as the two concepts are highly correlated and difficult to disentangle. While posttraumatic growth is seen as a dramatic improvement in functioning following a specific dramatic event, resilience is an internal resource that is innate and buildable. I appreciate the contribution to furthering the understanding of the relationship between posttraumatic growth and resilience. It seems that they purport that having resilience increases the likelihood of posttraumatic growth following a traumatic event. My primary criticism of this study would be that they did not also take into account cumulative adversity as a moderator of the post traumatic stress disorder and posttraumatic growth. The amount of

previous adversity would inform the survivors vulnerability or resilience to a traumatic event (Meng, Wu, & Han, 2018).

García-Izquierdo, Meseguer de Pedro, Ríos-Risquez, and Sánchez analyzed the role of resilience as a moderator between psychological health and chronic burnout in hospital nurses (2018). Their analysis discovered that there was a subset of nurses who experienced high levels of burnout without the expected decrease in professional efficacy. These researchers also suggest future research focus on enhancing resilience among nursing professionals. While the premise of the research is well-founded, their conclusions are slightly overdrawn in that they are conflating psychological health to the lack of interference with professional efficacy. While professional efficacy is a very positive outcome, I would not conflate it as an indicator of psychological health; it would be relegated to a behavioral example of psychological functioning (García-Izquierdo, et. al, 2018).

Navarro, Yubero, and Larrañaga completed a qualitative analysis to examine the moderating role of resilience between fatalism and cyberbullying victimization (2018). They found that resilience decreased the effects of cyberbullying victimization towards causing a fatalistic view of the world and the future. They purport that resilience is a factor requiring more research in how to cultivate this internal resource. While their premise was sound, their delineation of concepts was poorly drawn. The projection to fatalism from lack of internal locus of control and lack of positive future orientation seems to be an assumption of underlying philosophical beliefs rather than an obvious jump to fatalism. Further support for the

assumption of fatalism would have strengthened their conclusions (Navarro, Yubero, & Larrañaga, 2018).

The premise of another study was that resilience will moderate the effects of work stressors on job outcomes among nurses (Lanz & Bruk-Lee, 2017). Their primary finding was that lacking resilience correlated with decreased job outcomes related to interpersonal conflicts. High levels of resilience decreased the effects of high conflict work environments on nurse's job outcomes. Again these researchers call for interventions to increase resilience in the nursing profession (Lanz & Bruk-Lee, 2017). The major contribution of this article lies within the integration of the emotion centered model of occupational stress from the industrial organizational psychology literature. It explains the role of resilience within an interpersonal workspace framework. While the research is sound the outcome measure of “injuries in the workplace” seems out of place to someone not within the nursing profession. More elaboration on the significance of this outcome would be helpful (Lanz & Bruk-Lee, 2017).

### ***Vocational Studies of Resilience***

Bimrose and Hearne shine a much-needed spotlight on the concept of resilience as it relates to workers' ability to adapt to shifting careers (2012). In their review of qualitative research, they found significant support for the importance of resilience as a factor which promotes psychologically healthy work outcomes despite high degrees of work related stress. Bimrose and Hearne focused more specifically on career resilience related to overcoming perceived and actual barriers in individuals' careers (2012). This would imply that individuals who have developed resilience due to moving through adverse experiences may be more

adaptive when approaching career difficulties. This moves us toward our exploration of career adaptability.

### ***Summary of Resilience Critiques***

The most difficult aspect of the study of resilience is the lack of consensus of how it develops- is it innate, learned, buildable, a combination of all? The research has not bore out a convincing answer. However, it justifies this study's choice to integrate all conceptualizations. This study views resilience as affected by nature and nurture- somewhat akin to intelligence. People are born with a certain capacity to develop resilience. Whether that capacity for resilience is met relates to the environments they are exposed to throughout their lifespan. The study of resilience is complex and saturation of research is far from complete.

Resilience as conceptualized in positive psychology is very understudied in vocational psychology. This may be related to vocational psychology's tendency to prefer career specific factors rather than mixing with general psychology's concepts. This study purports that career adaptability and resilience will be highly related. It may be that vocational psychology has been studying resilience all along without realizing it. If that's the case, resilience may be one of many bridges to be built between vocational psychology and positive psychology concepts.

### **Career Adaptability**

My father said that there are only two truly important decisions a person makes in their life: their partner and their career (D. Schams, personal communication, May, 2006). The average American adult spends a significant portion (approximately 20%) of their life at work (Bureau of Labor Statistics, 2019). The significant and far reaching effects of work on multiple

factors of well-being and life satisfaction are well documented (Litchfield, Cooper, Hancock, & Watt, 2016). Work seems to have this pivotal influence in people's lives- it can be a fulfilling, meaningful mission (Duffy, Allan, Autin, & Douglass, 2014) or it can harm your relationships, health, and psychological well-being (Debrot, Siegler, Klumb, & Schoebi, 2018). Understanding how vocational functioning interacts with adversity is necessary and important.

### ***Adversity and Career Factors***

Paul and Moser completed a meta analysis of unemployment and mental health (2009). They questioned the general implications of causation between unemployment and poor mental health, asserting that this was a correlation with no established direction. They found strong support for the relationship between poor mental health and unemployment. They support the directional theory that mental health may lead to unemployment which then lowers mental health in a circle of entropy. They proposed that post-traumatic growth may be an element in the increased well-being seen in individuals after they have regained employment, demonstrating a resilient response (Paul & Moser, 2009). A study based in Europe asserts that the amount of childhood adversities decreases employment for adolescents noting that there are differences in effect by type of adversity as well as amount of adversity cumulated (Lund, Hviid Andersen, Hansen, Nøhr Winding, Biering, & Labriola, 2013). This echoes the dose-effect relationship espoused by Meichenbaum (1994). The adversity measure used in this study lacked nuance to ascertain at what “dose” the adversity becomes problematic (Lund, et. al, 2013).

The results of a study by Strauser, Lustig, Cogdal, and Uruk, (2006) suggest that increased levels of trauma symptoms may negatively affect the three major aspects of the

career development process- developmental work personality, vocational identity, and career thoughts. However, their study only separated groups into “low” and “high” trauma groups rather than reviewing participants on a spectrum (Strauser, et. al, 2006). This demonstrates the predominant methodological flaw of trauma research that precludes recognition of resilience response. Strauser, Lustig, Cogdal, and Uruk, (2006) also failed to ground their study in any specific theory though they identified their lens as generally developmental. This neglect of theory weakens the underlying reasoning of their findings as well as lessens the contribution of these findings to the field (Sampson, et. al, 2014).

The findings of Coursol, Lewis, and Garrity’s article (2001) on the career development of trauma survivors provide mixed outcomes. The results indicated that trauma survivors were more motivated and open to counseling than nonsurvivors, but expected their counselors to be less empathic. No significant differences were noted on career maturity (Coursol, Lewis, & Garrity, 2001). Another study found that an increase in career and life stress was associated with an increase in negative career thinking and that an increase in such thoughts was associated with a lower level of decidedness and satisfaction with career choice (Bullock-Yowell, Peterson, Reardon, Leierer, & Reed, 2011). However, when the variation associated with negative career thoughts was partitioned in the mediated causal model, career and life stress became associated with less career indecision and dissatisfaction with career choice. The results suggest that counselors attend to negative career thoughts when individuals encounter career and life stress (Bullock-Yowell, et. al, 2011).

The Industrial & Organizational Psychology literature has examined a variable they call career resilience and its effects on well-being (Lew & De Bruin, 2002; Rochat, Masdonati, &

Dauwalder, 2017; Van Vuuren & Fourie, 2000) . Research connects career resilience to personality factors, self-efficacy, and career satisfaction (Lyons, Schweitzer, & Ng, 2015). However, Lyons, Schweitzer, and Ng provide a poor definition of what constitutes career resilience. Van Vuuren and Fourie define career resilience as adaptive behaviors, positivity and comfort with work changes, self-confidence and willingness to take chances vocationally (2000). There are a lot of similarities between career resilience and career adaptability (Savickas, 1997). This crossover provides evidence of the need for psychologists to explore outside of their silos.

Malo, Tremblay, and Brunet examine “cognitive adaptability” as a factor in psychological health at work (2016). Though they pull their framework from the Conservation of Resources theory, there are useful concepts that relate to this study. Malo, Tremblay and Brunet found that individuals with high levels of cognitive adjustment functioned more effectively on several levels of their working environment (2016). Cognitive adjustment seems to be akin to the adaptability put forth by Savikas (1997) as it relates to effective cognitive adjustments akin to the confidence sub-variable. .

Research has been attempting to ascertain what factors contribute to employee performance (Anitha, 2014; Hameed, & Waheed, 2011). Adaptivity, or adaptive readiness, is the psychological trait of willingness to meet the unfamiliar, complex, and ill-defined problems presented by vocational development tasks, occupational transitions, and work traumas with fitting responses, often operationalized as proactivity or flexibility (Hirschi, Herrmann, & Keller, 2015). Adaptability resources refers to the psychosocial strengths that condition self regulation in coping with the tasks, transitions, and traumas. Adapting, or adapting responses, denotes

performing adaptive behaviors that address changing conditions (Savickas 1997). This leads us to the construct of career adaptability.

**Overview of Career Adaptability**

As noted in chapter one, career adaptability was Savickas’s reimagining of Super’s concept of career maturity (Savickas 1997). Savickas places the focus on career adaptability as a developmental construct that facilitates meeting vocational demands throughout a person’s career (1997). Savickas completed a comprehensive analysis of career adaptability which specified four dimensions: 1) Concern is personal investment in future vocational outcomes. 2) Control is the level to which a person feels empowered to enact positive, self-directed change in their career. 3) Curiosity is the extent that a person explores all available options without engaging in career foreclosure. 4) Confidence is the belief in the possibility of positive outcomes that depend on the person’s abilities within their career (Savickas 2013).

**Table 1**

***The Four Dimensions of Career Adaptability***

Adaptability Dimension	Attitudes and Beliefs	Competence	Behaviors	‘Problem’
Concern	Planful	Planning	Aware Involved Preparing	Indifference or Lack of Ownership
Control	Decisive	Decision Making	Assertive Disciplined Willful	Indecision or Lack of Ownership
Curiosity	Inquisitive	Exploring	Experimenting Risk-taking Inquiring	Unrealistic Goals or Limited Thinking
Confidence	Efficacious	Problem-solving	Persistent Striving Industrious	Inhibition or Poor Self-confidence

Note. Adapted from Savickas, 2013, p. 158

There has been much debate as to whether career adaptability is a developmental trait or a personality state and whether it is career specific or general. Johnston's review of career adaptability highlights the lack of specificity with which career adaptability has been used semantically (2018). She highlights the definition of career adaptability as a buildable, internal resource that enables positive career behaviors and outcomes. Johnston describes the measurement difficulties that have arisen as a result of this lack of nuanced understanding of the construct, such as inconsistencies of focus on behaviors, beliefs, and outcomes. Some career adaptability measures focus on eliciting behaviors that demonstrate the presence of the internal resource of career adaptability, others elicit attitudes and perspectives that would reflect the internal resources of career adaptability. While all these measures may demonstrate the existence of career adaptability, a unified approach would allow for a stronger understanding of the construct of career adaptability (Johnston, 2018).

After reviewing the available measures of career adaptability, Johnston proceeds to review the literature on established correlates with career adaptability, including personality, self-concept, future orientation, and vocational outcomes (2018). She also reviews the factors that have been found to be predictors of career adaptability, such as optimism, past experience, emotional intelligence, and locus of control. She reports that satisfaction across all areas of life and vocation, performance ratings, commitment (when satisfied) and employability have been shown to be outcomes of career adaptability. Career adaptability was shown to moderate several relationships within vocational psychology, including personality and

vocational engagement, experiencing a vocational calling, and job strain and well-being (Johnston, 2018).

Rudolph, Lavigne, and Zacher completed a thorough meta-analysis of the construct of career adaptability, looking at the relationship with career construction theory sub factors- adaptivity, adapting, and adaptation (2017). To simplify, they measured personal attitudes that lend themselves to career adaptability, engagement in behaviors that are known to show career adaptability, and outcomes that are thought to be related to career adaptability. They overwhelmingly found support for the importance of the construct of career adaptability and its relationship with multiple positive career attitudes, behaviors, and outcomes. They also found some evidence that measures of career adaptability can predict positive outcomes of career (Rudolph, Lavigne, & Zacher, 2017). Career adaptability has been linked to general psychology factors of cognitive flexibility, pro-activity, personality characteristics, calling orientation, optimism, and positive core self evaluations (Rudolph, Lavigne, & Zacher, 2017).

This review by Rudolph Lavigne, and Zacher highlighted two significant areas of career outcomes that have been associated with career adaptability- vocational identity and satisfaction (2017). Vocational identity is seen as being due to an outcome of finding the best fit for the individual and vocational context. This also involves a sense of meaning for work and meaning making within your career identity. Career adaptability leads to satisfaction in multiple areas of life. This meta-analysis supported the conceptualisation of career adaptability as a buildable competency that develops related to experience accumulated over time, supported by personality factors. According to their analysis, personality factors are related to career

adaptability but distinct from career adaptability; they approximate that 50 to 60% of the variance in career adaptability is due to personality traits (Rudolph, Lavigne, & Zacher, 2017).

Rudolph Lavigne, and Zacher were surprised to discover a less than significant relationship between career adaptability and age assuming that age would indicate accumulation of the work experience and therefore opportunities to mourn career adaptability or develop career adaptability (2017). This study might propose that this is due to differences in experience of adversity which is not necessarily correlated with age. Their meta-analysis also did not find a strong correlation with job satisfaction that it initially hypothesized; however, they did find significant relationships between career adaptability and career satisfaction as well as life satisfaction. This may be an indication that satisfaction is more affected by career adaptability when the scope is larger and encompasses more of the individual's identity or life; whereas job satisfaction may be reflecting adaptive behaviors indicating motivation to advance to more successful positions (Rudolph, Lavigne, & Zacher, 2017).

Another interesting outcome of meta-analyses is that career adaptability is not necessarily connected to organizational commitment (Rudolph, Lavigne, Katz, & Zacher, 2017). While aspects of organizational commitment were supported by career adaptability, other forms of more traditional commitment were not found to have as significant of a relationship. This is an interesting outcome that may be more of a sign of the times and the current career climate than a sign of the lack of efficacy of career adaptability within this dimension. Organizational commitment is no longer necessarily an adaptable response for an individual's career. The job climate has changed so that hierarchical advancement is created through

changing companies rather than a stepwise advancement through one company; commitment is not the adaptable outcome it once was (Rudolph, Lavigne, Katz, & Zacher, 2017).

My primary criticism of the meta-analysis by Rudolph, Lavigne, and Zacher is the complete lack of attention paid to race, ethnicity, sexual identity or any other individual identity factors (2017). They mentioned two articles reporting gender differences and proposed to answer this concern. They then neglected to satisfactorily elaborate on this outcome in their discussion. The only demographic factor highlighted was age and it's surprising lack of association with career adaptability levels (Rudolph, Lavigne, & Zacher, 2017). It seems to be too significant of a lapse of attention; I wish they had elaborated on why they did not provide more demographic information. Without further information, I suppose that race, ethnicity, sexual identity and other identities were neglected due to their absence of explicit mention in the career construction model of career adaptability.

Zacher (2014) completed a study setting career adaptability against personality and core self-evaluation as predictors for job satisfaction and performance. He found that career adaptability was a better predictor of job satisfaction and performance compared to personality or core self-evaluation. Zacher highlighted the developmental nature of Savickas and Porfeli's conceptualization of career adaptability (Savickas & Porfeli, 2012). The buildable nature of career adaptability has made it an attractive factor for study due to the intervenable nature and the natural practical implications created.

### ***Sub-Factor Studies of Career Adaptability***

Rudolph, Lavigne, and Zacher also completed a meta-analysis with Katz where they examine the four dimensions of career adaptability- concern, curiosity, confidence, and control-

and their differing relationships with adaptation outcomes (2017). This meta-analysis is highly related to the previous one cited (Rudolph, Lavigne, & Zacher, 2017); however, this one specifically elicits understanding of the four sub-factors of career adaptability and their contribution to adaptation outcomes (Rudolph, Lavigne, Katz, & Zacher, 2017). In their hypotheses, they identified different outcomes to be likely associated with different factors of career adaptability. First they identify the association between concern and future oriented outcomes, such as career satisfaction, commitment, and career identity. For control, they hypothesize that job and life satisfaction, as well as general positive outlook and low levels of job stress will be associated. Curiosity is thought to be related to the outcomes of entrepreneurship and continuance commitment. Confidence is predicted to relate to school satisfaction, employability, promotability, job performance, and work engagement (Rudolph, Lavigne, Katz, & Zacher, 2017).

When disseminating the results of this study they found several of the outcomes to be equally predicted by two to four of the sub-factors rather than an individual factor alone (Rudolph, Lavigne, Katz, & Zacher, 2017). For example, affective organizational commitment was predicted by control, confidence, and concern. They found that general well-being outcomes, such as life satisfaction and positive outlook, were equally predicted by control and concern rather than control alone. They hypothesize that this is due to the aspect of future orientation that is encompassed within concern. Promotability was found to be resultant equally of confidence and concern. Their predictions of curiosity being the primary factor for entrepreneurship and having a negative relationship with organizational commitment were born out (Rudolph, Lavigne, Katz, & Zacher, 2017). This tendency for multiple factors of career

adaptability to predict different outcomes may point more towards a profile of career adaptability wherein one has enhanced levels of some factors and lower levels of other factors which would then lead to the correlated outcomes. This seems to support Hirshi and Valero's belief in different career adaptability profiles (2015). However, as Hirshi and Valero pointed out, the overall amount of career adaptability whatever the balance of factors is the most salient measure of adaptation outcomes (2015).

Hirschi and Valero completed an interesting study on career adaptability profiles with a view of career adaptability from a person centered perspective (2015). Their premise is that, as career adaptability is made up of four factors (concern, control, curiosity, and confidence), different individuals could have a similar level of career adaptability but differing levels of each factor. These differences may then cause the adaptability to present in unique ways that may group into adaptability profiles (Hirschi & Valero, 2015). Their results provided support for the presence of distinct and diverse adaptability profiles within populations of German university students (Hirschi & Valero, 2015). Individuals' profiles determine different ways of adapting behaviors. Though their research supported the existence of distinct adaptability profiles, the authors point out the higher significance of the overall amount of adaptability over the shape of the four factors involved. They found that it's more important to have a high amount of adaptability- in whatever shape- rather than a specific shape profile that is superior to others (Hirschi & Valero, 2015). The authors also elaborate on the importance of understanding the difference between adaptivity and adaptability between and across groups. The authors would have improved their article by elaborating further on their measurement of subsequent adaptability behaviors in order to provide clarity of and support for their results. In their

discussion, the authors state that the different profiles espouse different outcomes of behavior (Hirshi & Valero, 2015). Results from Zacher's study on career success showed the similarity between the control factor of career adaptability and the neuroticism factor of the big five personality characteristics (2014). This study also compared the concept of career adaptability's subfactor- confidence- with career self efficacy (Zacher, 2014).

### ***Career Adaptability and Trauma***

There have been a small number of studies that explore adversity's role in career adaptability. Prescod and Zeligman have recently completed a study examining career adaptability in trauma survivors with an exploration of the role of posttraumatic growth (2018). They highlighted the appropriateness of a wellness perspective within the field of counseling psychology. Their study looked at the presence of past trauma as well as posttraumatic growth in individuals who demonstrate career adaptability. The scale they used to measure trauma was the Impact of Event Scale–Revised (IES-R; Weiss & Marmar, 1996) which measures possible symptoms of PTSD. They also asked clients to self identify whether or not they had experienced a traumatic event. They noted significant co-occurrence of post traumatic growth and PTSD symptoms within their sample (Prescod and Zeligman, 2018). Their findings suggest that the intrusion elements of trauma are most highly correlated with career adaptability. They also found evidence of the role of posttraumatic growth as a moderator between the relationship of trauma and career adaptability. They encourage the integration of trauma work within the field of career counseling (Prescod and Zeligman, 2018).

While I applaud the authors for studying an otherwise under-explored area, there are a few limitations to their study (Prescod and Zeligman, 2018). First, the study of posttraumatic

growth primarily focuses on one significant trauma and a positive growth pattern following that trauma. This is a limitation as traumatic events often accumulate over time. This is why an understanding of adversity and subsequent development of resilience provides a more useful and applicable understanding of these dynamics. Second, their measurement of traumatic experience seemed to consist of a dichotomous yes/no answer and a measure of PTSD symptoms (Prescod and Zeligman, 2018). A dichotomous measure of whether an individual has experienced trauma does not provide room for exploring the nuance of response to adversity. Also, as stated previously, there is a consistent conflating within research on adversity wherein researchers use the development of PTSD symptoms as a trauma measure. This is an element of the unnecessarily negative projected outcomes for individuals with trauma history.

### ***Summary of Career Adaptability Critiques***

Career adaptability has been extensively studied and is well supported as an important construct for career success. However, there is an overrepresentation of correlational studies in the career adaptability literature. While correlational studies are important, there is a need for a better understanding of how career adaptability develops which can then inform effective interventions.

These correlational studies have shown multiple constructs that are highly related to career adaptability, such as personality factors, cognitive flexibility, intelligence, psychological capital. While understanding career adaptability's placement in the greater nomological network, it also demonstrates the repetitive overlap of this field. These studies may be put to better use by adhering to established constructs from previous theories. Maintaining constructs and avoiding overlap would contribute to the cross pollination between

all silos of psychology- counseling, clinical, personality, as well as providing practical implications.

There are few studies within vocational psychology, let alone career adaptability, that integrated adversity. Within those that integrate adversity factors, the majority take the deficit perspective. There is a great need for a vocational psychology understanding of adversity from a strengths-based perspective. Understanding the full-spectrum of cumulative lifetime adversity's effects on vocational functioning will allow vocational psychology to integrate further awareness of effective intervention to facilitate positive outcomes across diverse populations.

## **Identity Factors**

### ***Gender***

As noted in chapter one of this paper, past research has shown gender differences in adversity and vocational factors. The gender facet of identity colors life experiences from our earliest experiences, oftentimes before birth. When searching Google Scholar for “gender meta-analysis”, over three million items are retrieved (on 4/26/2020 at 4:48 pm). Gender differences have been studied since the work of Money and Ehrhardt which began in the 1950s (1972). Since then, gender as an identity construct has permeated the psychological literature.

Gender is correlated with the amount and type of adversity that a person is likely to experience. Chiang, Kress, Sumner, Gleckel, Kawemama, and Gordon completed an international study that demonstrated an extreme gender disparity in the experience of childhood sexual assault with intracountry gender differences ranging from 2- 24% (2016).

Cronholm et. al (2015) found that males were generally at a higher risk for Adverse Childhood Experiences (ACEs).

Johnson and Thompson's review found evidence that women are at higher risk of developing Post Traumatic Stress Disorder following a traumatic event than their male counterparts (2008). Vishnevsky, Cann, Calhoun, Tedeschi, and Demakis completed a metaanalysis of the posttraumatic growth literature that showed that women experience a higher degree of post-traumatic growth than men and that gender difference grows as the participants age (2010). Jin, Xu, and Liu also found that women have higher levels of both Post Traumatic Stress Disorder and Post Traumatic Growth (2014). This may be reflecting a higher degree of emotional awareness reported for females. However, Norr, et. al support sensitivity to anxiety as the mechanism by which there is a gender difference in Post Traumatic Stress Disorder (2016).

However, Hirani, Lasiuk, and Hegadoren reviewed the literature that links resilience outcomes to gender and found that women often score lower in resilience than their male counterparts (2016). Hirani et. al. argue that this is a bias of socialization in that women are more often encouraged to share negative and vulnerable emotions while men are often taught to suppress these same emotions (2016). They argue that comparing men and women as it relates to resilience is problematic in that the genders have such significantly different experiences in society (2016). They further point out that many scales of resilience may be gendered in the semantics of how they address and define strength or resilience (2016).

Gadassi and Gati found that career preferences are heavily influenced by gender with women having more disparity between interest and career preference indicating a higher

degree of stereotype influence (2009). Men's identity are more explicitly tied to their career than women's in general (McArdle, Waters, Briscoe, & Hall, 2007). Gender was found to be a significant moderator of the relationship between unemployment and poor mental health (Paul & Moser, 2009). Ngo, Foley, Ji, and Loi found that men are more likely to have job and career satisfaction in a sample of Chinese workers (2014). However, in contradiction to their prediction that masculine identity would equate to higher levels of psychological capital, which is generally considered the Industrial-Organizational literature's equivalent of career adaptability, they found that both masculinity and femininity are equally likely to develop psychological capital by different loading of factors- optimism, self-efficacy, and hope (Ngo, Foley, Ji, & Loi, 2014).

Coetzee and Harry found that women had significantly higher degrees of career adaptability within a single work environment (2015). As this study was done with non-US populations, it may not reflect the trends we see; however, it dovetails with Vishnevsky, et. al's findings (2010) that women experience higher levels of post-traumatic growth. Conversely, Hou, et. al found that men had higher levels of career adaptability in their study of Chinese students (2012).

In summary, gender remains a significant construct within psychological research. There is some evidence that men experience higher levels of adversity while women experience higher degrees of sexual abuse (Chiang, et. al, 2016; Cronholm et. al, 2015). Women seem to overrepresent both extremes of resilience with higher levels of post-traumatic stress disorder and higher levels of post-traumatic growth (Jin, Xu, & Liu, 2014; Norr, et. al, 2016). International studies of career adaptability favor gender differently, likely due to societal factors (Coetzee &

Harry, 2015; Hou, et. al, 2012). Previous research provides intriguing suggestions and few consistent outcomes. Due to these divergent outcomes across adversity, resilience and career adaptability, proposing a direction of the moderating effects of gender would be premature.

### ***Social Class***

Social class has been significant within the adversity and career literature. Low socioeconomic status has been associated with higher levels of child abuse and neglect as well as a possible adversity itself with food insecurity and unstable housing. Socioeconomic status is also highly associated with education levels and career aspirations along with societal barriers to certain education and vocation opportunities (Blustein, Chaves, Diemer, Gallagher, Marshall, Sirin, & Bhati, 2002; Lapor & Heppner, 2009; Thompson & Dahling, 2012).

Cronholm et. al (2015) found that socioeconomic status was correlated with adverse experience with lower socioeconomic status having higher levels of adversity. Socioeconomic status is also associated with many of the health and well-being disparities that are identified by some researchers as outcomes of adversity, such as poor health, early death, and unemployment (Elo, 2009; McLaughlin, Breslau, Green, Lakoma, Sampson, Zaslavsky, & Kessler, 2011). Adversity and low socioeconomic status have been identified as significant stressors resulting in more negative life outcomes. The interaction between class and adversity is hard to explain as some adversity factors cause decreases in socioeconomic status, such as parental addiction, but low socioeconomic status can also lead to the development of adversities such as parental addictions (Dubowitz, Kim, Black, Weisbart, Semiatin, & Magder, 2011).

Reimers and Stabb provide a phenomenal overview of the importance of social class in counseling psychology especially as it intersects race and gender (2015). They highlight the

element of power and locus of control with social class factors which are especially evident when studying poverty. This review found that less than 40% of studies included examined class, race, and gender (Reimers & Stabb, 2015). Diemer and Rasheed Ali review the literature on social class in vocational psychology (2009). They note that social class is a particularly salient factor for vocational psychology, yet it is accounted for less often than other identity factors. They also acknowledge the complicated interactions of race and gender with social class, yet continue with a focus on social class exclusively. Diemer and Rasheed Ali review the definitions and modes of measurement used to explicate social class (2009). They criticize the historical view of socioeconomic status as levels of education or income, citing the neglected psychological factors of perception of social ranking. The Social Class Worldview Model (SCWM) allows participants to self-identify their social class identity (Liu, Soleck, Hopps, Dunston, & Pickett, 2004).

A study by Autin, Douglass, Duffy, England, and Allan demonstrated a positive association between socioeconomic status and career adaptability (2017). They studied the role of external factors in the development of career adaptability. They looked at social status and work volition as mediators of the development of career adaptability. The authors highlighted the importance of understanding external factors and barriers in the interpretation of the presence of career factors, such as career adaptability (Autin et al., 2017). This study linked socioeconomic status to the development of career adaptability implying that lower social status may limit the development of career adaptability. This may relate to adversity in that those in low social status families accumulate higher amounts of adversity which may then lead to exceeding the threshold of resilient development. The authors also highlight the importance

of the role of work volition as a mediator between career adaptability and social status. They found that those participants with higher socioeconomic status were more likely to develop higher levels of career adaptability (Autin et al., 2017).

This study by Autin et al. was very rigorous in the execution of appropriate methods and analysis (2017). However, the focus on the deficit perspective warrants critique. The understanding of external factors and their effects on individual career development is important. A balanced view of the effects of these factors would also be helpful. While coming from a lower social status background may limit individuals in certain aspects, it may also be a benefit in others. A balanced and non-dichotomous view of the influence external factors have on individuals' career development would provide for a more nuanced understanding of an individual's identity and would prevent the polarization of identities.

Diemer, Mistry, Wadsworth, López, and Reimers provide an overview of the definitions of social class with recommendations for the best ways to measure this slippery construct (2013). They define social class as the position within the hierarchy of a societal system related to power, resources, and control within said system. They review the more quantitative measure of socioeconomic status which measures financial and educational dimensions. They then review subjective social status which is most akin to our conceptualization of social class. This conceptualization acknowledges the cultural differences related to social class as well as the effects of perception of personal standing (Diemer, et. al, 2013).

For this study, self-identified social class in childhood is proposed as the most salient measure of the influence of social class. The reasoning for deviation from the above mentioned recommendations lies in the chosen definition of social class- perception of positioning within

society and associated cultural features. The utility of the specificity of socioeconomic status is useful when examining social policy and economic factors. Social class as a construct should be left to self-report otherwise researchers risk invalidating the experience of the participant. Why should social class be the only identity variable that needs to be justified? The phenomenological experience of class is the focus of this study.

In summary, the research on social class has been hampered by disagreement as to how to define and measure the construct. This weakens the conclusions that have been drawn about adversity, resilience, and career adaptability. The understanding of self-reported social class- this study's conceptualization of the construct- is even less comprehensive and reliable. Due to the lack of overarching consensus on the definition of social class, proposing a direction of the moderating effects of social class would be ill-advised.

### ***Race/Ethnicity***

Many studies have demonstrated that race is associated with amount of adverse experiences with non-white people having higher levels of adversity (Cronholm et. al, 2015; Ghafoori, Barragan, Tohidian, & Palinkas, 2012). In a study targeting the adversity experiences of low socioeconomic status African Americans and Latinx populations, African American females reported the highest cumulative trauma levels with all groups measured reporting high levels of childhood sexual abuse and discrimination compared to known population studies (Myers, Wyatt, Ullman, Loeb, Chin, Prause, ... & Liu, 2015). Past research has also found

evidence for resilience outcomes within minority populations at a higher rate than White populations (Ghafoori, Barragan, Tohidian, & Palinkas, 2012).

Racial differences in vocational outcomes have been well established and related to societal level barriers, discrimination factors, lack of resources and cultural differences- all of which vary by social class and gender (Caldwell & Obasi, 2010; Howard, Carlstrom, Katz, Chew, Ray, Laine, & Caulum, 2011; Thompson & Subich, 2011). The historical, social, political, relational, and individual impact of race on career is beyond the scope of this paper. The depth, breadth, and importance of this factor cannot be overstated; yet, much of the research on racial disparities fails to account for the resilience and adaptivity of oppressed racial groups. Case and Hunter highlight the ability to self-manage emotions in the face of discriminatory experiences within the workplace, noting that the goal is to increase the individual's well-being within a limiting environment (2012). They describe the role of effective cognitions that allow for the development of resilient self-protection to allow for persistence despite oppression. They also highlight the role of "counter-spaces" in which oppressed individuals can give voice to their experiences of discrimination and express dissatisfaction in unjust power differentials experienced in other settings (Case & Hunter, 2012)

Youssef, Belew, Hao, Wang, Treiber, Stefanek, Yassa, Boswell, Mccall, and Su completed an ambitious and impressive study that examined the interactions between race (focusing on European Americans and African Americans), depression outcomes, Adverse Childhood Experiences, and resilience (2017). They found that race related to depression outcomes for small and moderate Adverse Childhood Experiences scores in that African Americans scored lower on depression measures in these categories (2017). They identified that resilience was a

moderating factor at every level of the Adverse Childhood Experiences scores (2017). This writer would make a further connection in that the experience of being a minority may have contributed to higher levels of resilience in the African American sample which may be part of the lower depression scores for African American participants in the low and moderate Adverse Childhood Experiences score categories compared to their European American counterparts. Youssef et. al. examined resilience as a trait moderator of depression outcomes (2017). This writer would view resilience as a possible outcome of Adverse Childhood experiences.

Research examining the interaction of race and career adaptability are scarce. It has been established that career construction theory does not account well for contextual factors and is very individual focused which seems to have limited the research focus on racial identity factors. Fouad and Byars-Winston completed an analysis of cultural context within career choice that spoke to the societal level effects on vocational psychology (2005). They highlight the limiting effects of the overarching societal oppression of racism on career choice, which then affects future outcomes. They highlight the need for more comprehensive studies on the different racial/cultural groups within each group rather than as a comparison to majority culture (Fouad & Byars-Winston, 2005). This is a precursor to the emphasis on intersectionality that is reviewed next.

In summary, the relationship between race and adversity is complex and symbiotic. The effects of race on vocational psychology is poorly understood in terms other than minority/majority divides. This simplistic understanding of racial group differences does not allow for a prediction of the moderations of each racial group. This need for acknowledging the

complexity of interacting identity factors is emphasized in the following overview of intersectionality.

### ***Intersectionality***

Intersectionality is the point at which different identity factors interact to affect each other and other variables in an individual's life (Simien, 2007). Historically identity factors have been studied in isolation without attending to the complexity of the myriad lenses through which the world is experienced. Intersectionality research acknowledges the overlapping and mutually influencing effects that identities have on each other (Simien, 2007).

The concept of intersectionality was first brought to light through the study of African American women's experience in the United States (Grzanka, Santos, & Moradi, 2017). This was a perfect example of an identity that was not the sum of its parts. The synergistic effect of holding two identities which are disadvantaged at the societal level provided a positive catalyst for changing the psychological perspective on identity research (Grzanka, Santos, & Moradi, 2017). Intersectionality is the acknowledgement that people are more than the sum of their identities (McCall, 2005). Intersectionality denies the study of identities in isolation from each other and the context or sociopolitical climate in which the person lives. This study hopes to adhere to the ideal of intersectionality while acknowledging the limitations that quantitative research places on describing complexity (Else-Quest & Hyde, 2016). It is hoped that the contribution of large scale effects may inform more nuanced and inclusive qualitative research that may bear out further enlightening data.

Intersectionality in its strictest definition is the inclusion of all points of identity to inform someone's state of being without dividing the influence of different points of identity

(Simien, 2007). It predominantly highlights levels of privilege or disadvantage assigned to different identities and how those levels of privilege or disadvantage interact within an individual in all life contexts (e.g. one identity may be privileged at school and another privileged in the community). This study does not adhere to the strict definition that disallows separation of identities. This study seeks to understand the effects of different identities individually as well as interactions of identities to examine which most significantly moderates the relationship between adversity and career adaptability.

### **Summary**

Altogether, there is a need for further understanding of the multifaceted effects of adversity on career adaptability considering past research on resilience and the effects of gender, race, and social class. Adversity has been framed excessively negatively in the past without acknowledgment of subsequent growth and adaptability. While resilience has been examined in the past within a general psychology lens, vocational psychology has not effectively explored this positive psychology lens of adversity. Career adaptability has not yet been explored in relation to the influence of adversity. Gender, race, and social class have been shown to significantly impact each variable in this study; therefore, factoring in these identity influences will inform the relationships between these variables though the direction is unpredictable.

The research questions this study aims to answer are: 1) What is the relationship between adversity and career adaptability? 2) Do demographic variables (such as gender,

ethnicity, social class) moderate the relationship between adversity and career adaptability? 3)

How similar are resilience and career adaptability?

### **Chapter Three**

As noted previously, the aims of this study are: 1) to better understand the relationship between adversity and career adaptability. 2) to examine whether race, gender, socioeconomic status, or resilience moderate this relationship- individually or in combination. 3) to examine the relationship between career adaptability and resilience. The hypotheses this study proposes are: 1) Career adaptability will be highest for those who have experienced a moderate level of adversity compared to those who have experienced high amounts or low amounts. 2) Race, gender, socioeconomic status, and resilience will moderate this relationship between adversity and career adaptability. 3) Resilience and career adaptability will have a significant positive correlational relationship.

#### **Population and Sample**

Participants were 202 adults living in the United States, ranging in age from 19 years old to 71 years old with a mean age of 37.58 years old. The participants' gender identities were 59.4% male, 39.6% female, and 0.5% transgender (no participants identified as nonbinary). Inclusion criteria was adults who currently live within the United States and are fluent in English. The participants' racial identities were 13.4% African American, 3.5% Hispanic or Latino, 7.4% Asian or Pacific Islander, 67.3% White, 2.5% American Indian or Alaskan Native, 2.0% Hispanic or Latino and White, 1.5% Asian and White, 1.0% Prefer not to say/Prefer to self-describe, 1.0% Black or African American and White, 0.5% American Indian or Alaskan Native and White.

This sample was gathered via Mechanical Turk. Participants received \$1.50 in compensation for survey completion. Sample size was determined using Cohen's process of

setting power at .80, a medium effect size, and a 0.05 alpha level (1988) which required 121 participants. Due to anticipation that some surveys would be determined incomplete or corrupt and therefore unusable, a greater number of participants were recruited to allow for a margin of safety.

### **Protection of Subjects' Rights**

The rights of the subjects have been protected by the confidentiality inherent with Mechanical Turk's privacy policy. The confidentiality was also protected by the storage of data collection identifying participants via identification code rather than their names or other identifying features, such as social security numbers or phone numbers. Also, the data spreadsheets were kept on locked computers that are kept behind locked doors without unauthorized access. The participants were given the chance to either opt into or out of the survey at their own free will prior to the survey beginning. The participants were also informed that they may discontinue the survey at any time. There are very few risks inherent to survey research. However, there was the possibility of upsetting thoughts related to the adversity measure we asked participants to complete. Participants were forewarned of this possibility and were given resources to connect to mental health support and hotlines.

### **Measurement Methods**

As mentioned previously, the measurement methods of this study were primarily surveys along with other demographic information questions. These surveys were completed online at the subjects' convenience as well as having the opportunity to opt out at any point. The Mechanical Turk website incentivizes their surveys by paying a small sum for each survey completed. This increases survey response rates; however, it may also inflate a random

response rate. This was controlled for by having checkpoint questions scattered throughout the surveys to ensure that participants are reading the questions thoroughly.

## **Measures**

### ***Cumulative Adversity***

In order to obtain a more nuanced understanding of adversity we used a survey from research by Seery et. al (Seery, Holman, & Silver, 2010; Seery, Leo, Lupien, Kondrak, & Almonte, 2013). The cumulative adversity measure is originally from Seery, Holman, and Silver's (2010) research which was adapted from the Diagnostic Interview Schedule trauma section and enhanced with events identified from patient self-reports of lifetime stressors. This measure lists 37 possible life events with the option of adding two events not listed. When identifying the adverse experience, participants are asked to specify the number of times the experience occurred (from one occurrence up to six or more occurrences). This allows for a range of cumulative adversity from zero up to 234. This study removed the previous instruments specifications for age as this study is not proposing age of adversity moderations to the relationships between adversity and resilience or career adaptability. Reviews of cumulative adversity measures noted that a comprehensive, universal measure is not yet available (Oh, Jerman, Boparai, Koita, Briner, Bucci, & Harris, 2018). Therefore, this research focused on the most comprehensive measure- in number and occurrences- of adversity that is available now. Hardt and Rutter reviewed the research on the validity of retrospective self-reports of adverse childhood experiences (2004). They noted inconsistencies of detailed narratives; however, they

also demonstrated that measures of specific events had reasonable validity- sibling corroborations with kappa values up 0.80 (Hardt & Rutter, 2004).

### ***Resilience***

To measure resilience, we used the Connor-Davidson Resilience scale (CD-RISC) which has 25 items all rated on a 5-point Likert scale (Connor & Davidson, 2003). This resilience measure conceptualizes resilience as a buildable trait which is in line with this view of this study. The test-retest reliability of the Connor-Davidson Resilience Scale is 0.87. Factor analysis shows five areas of factor loading: 1) Personal competence/perseverance, 2) Self-trust, tolerating difficulties and growth from hardship, 3) Acceptance of change and social support 4) Control factors, and 5) Spirituality factors (Connor & Davidson, 2003). The Connor-Davidson Resilience scale shows sensitivity to levels by reflecting the expected difference between clinical and general populations (Connor & Davidson, 2003). The criterion validity of the Connor-Davidson Resilience scale (CD-RISC) has been demonstrated by exploratory factor analysis accounting for 61% of the outcome variance (Karairmak, 2010). Convergent validity was demonstrated by comparison to the Kobasa Hardiness Scale (Kobasa, 1979) with a 0.83 correlation at <0.0001 significance (Connor & Davidson, 2003).

### ***Career Adaptability***

Career adaptability was measured by the Career Adapt-Abilities Scale (CAAS) created by Savickas and Porfeli (2012). This scale grew out of Savickas's concept of career adaptability and includes the four factors of concern, control, curiosity and confidence. There are 24 items total rated on a 5-point Likert scale. The scale has been validated across 13 countries in its first publication and has since then been supported and validated by many other

studies (Savickas & Porfeli, 2012). When looking at the US population, the total score reliability is 0.92 with subscale reliability ranging from .74 to .85 (Porfeli & Savickas, 2012). The validity has been established by comparison to the Vocational Identity Status Assessment (VISA) with sub-factors related to those of the Career Adapt-Abilities Scale (Porfeli, Lee, Vondracek, & Weigold, 2011; Porfeli & Savickas, 2012). While it may not be best practice to compare a scale to a previous scale created by one of the original authors of the Career Adapt-Abilities Scale, the validity has been well supported in subsequent papers by other authors (Maggiori, Rossier, & Savickas, 2017; Öncel, 2014; van Vianen, Klehe, Koen, & Dries, 2012).

### **Procedure**

The setting for the study was online on the Mechanical Turk website associated with Amazon. This allowed participants to complete the survey at their convenience in their own time which likely increased the participation. However, it complicated the sense of control we had over this study environment, as we could not control for distractions, multitasking, or interruptions. We also could not control for the environment in which they completed the survey as that was self-selected.

All participants were told that the survey concerned how experiences of adversity affect resilience and career adaptability. After clicking the link for the survey, they were assured confidentiality, and they provided informed consent via online verification. The survey was administered using the Mechanical Turk website associated with Amazon. To begin, all participants were given a demographics questionnaire to complete, followed by the Career Adapt-Abilities Scale (CAAS; Savickas & Porfeli, 2012), the Connor-Davidson Resilience scale (CD-RISC; Connor & Davidson, 2003), and the cumulative adversity measure (Seery, Holman, &

Silver, 2010). For more details on the exact instructions and surveys administered, see supplementary materials.

### **Data Collection and Analysis**

Data was collected in April and May of 2021. Data was stored in locked computers in locked rooms. The cost of hiring via Mechanical Turk was approximately \$315. The statistical package used for analysis was IBM SPSS Statistics. Some data were discounted due to attentiveness concerns. A standard was set for what surveys would be accepted and which would be rejected. As concerns of inattentive responding are so high for internet surveys (Wood, Harms, Lowman, & DeSimone, 2017), a limit was set to a minimum completion time of 4.33 minutes. As the average reading speed is approximately 238 words per minute (Brysbaert, 2019) and the survey contained 1,547 words, to simply read through the survey without responding would take approximately 6 minutes and 54 seconds. I decided to reject any surveys under 4.33 minutes as inattentive as it would be unlikely someone would be able to read questions thoroughly and give thoughtful responses within that time frame. Some surveys were rejected if they did something called straight lining which would be answering in the same column for each of the scales (Zhang & Conrad, 2014). There were also some attention checks throughout the survey (such as if they identified as one ethnicity but a different one within another part of the survey or if they answered questions in a way that is not feasible such as a male identifying having had unplanned pregnancies). There was no missing data due to the nature of collection via Mechanical Turk.

The analysis of the study sought to confirm or reject the stated hypothesis: 1) Career adaptability will be highest for those who have experienced a moderate level of adversity

compared to those who have experienced high amounts or low amounts. 2) Race, gender, socioeconomic status, and resilience will moderate this relationship between adversity and career adaptability. 3) Resilience and career adaptability will have a significant positive relationship.

To test for the curvilinear relationship assumed by the first hypothesis, we will complete a regression analysis of the data using adversity, squared adversity to predict career adaptability. The second hypothesis will be answered by running the above-mentioned hierarchical regression with gender, race, and socioeconomic status as moderators. If the moderators are significant, we can reject the null hypothesis. The third hypothesis will be answered by a simple correlation between career adaptability and resilience. This will indicate the degree of similarity in these variables. Comparison of related subfactors will be completed for control and confidence as both scales of resilience and career adaptability cite these as subfactors.

## Chapter Four

As mentioned earlier, the analysis of the study will seek to confirm or reject the stated hypothesis: 1) Career adaptability will be highest for those who have experienced a moderate level of adversity compared to those who have experienced high amounts or low amounts. 2) Race, gender, socioeconomic status, and resilience will moderate this relationship between adversity and career adaptability. 3) Resilience and career adaptability will have a significant positive relationship.

In order to examine the interaction effects for a possible quadratic relationship between variables, several new variables were computed. Due to the size of our sample, gender and race were recoded into dummy variables as privileged and marginalized identities. For gender, males were considered privileged and females and transgender individuals were considered marginalized identity. For race, identifying as White was considered privileged and all other racial identities were considered marginalized. Several interaction variables were also created to examine the possibility of a quadratic relationship, including gender by adversity, race by adversity, socioeconomic status (SES) by adversity, resilience by adversity, gender by adversity squared, race by adversity squared, SES biodiversity squared, and resilience by diversity squared. See Table 1 below for correlations between adversity, resilience, and career adaptability. See Table 2 below for descriptive statistics of adversity, resilience, and career adaptability.

**Table 2*****Correlations between Career Adaptability, Resilience, and Adversity***

		Career Adaptability	Resilience	Adversity
Career Adaptability	Pearson Correlation Sig. (2-tailed) N	1  202	.772** <.001 202	-0.37 .602 202
Resilience	Pearson Correlation Sig. (2-tailed) N	.772** <.001 202	1  202	.016 .820 202
Adversity	Pearson Correlation Sig. (2-tailed) N	-0.37 .602 202	.016 .820 202	1  202

\*\*Correlation is significant at the 0.01 level (2-tailed)

**Hypothesis One**

To test for the curvilinear relationship assumed by the first hypothesis, we completed a regression analysis of the data using adversity, squared adversity to predict career adaptability. There was independence of residuals, as assessed by a Durbin-Watson statistic of 2.045. There was homoscedasticity, as assessed by visual inspection of a plot of studentized residuals versus unstandardized predicted values. Tolerance values are greater than 0.1, therefore, there is not a problem with collinearity in this data set. The assumption of normality of the residuals has not been violated as assessed by analysis of skewness and kurtosis which are both within the acceptable range, as well as visual inspection of a histogram of career adaptability, and a P-P Plot of regression standardized residuals. The adversity variable was not centered due the meaningful zero of the adversity variable.

The addition of adversity squared to the prediction of career adaptability led to a statistically significant increase in  $R^2 = .026$ ,  $F(1, 199) = 4.978$ ,  $p < .05$ , adjusted  $R^2 = .016$ . The unstandardized B was -0.003 and the beta coefficient of adversity squared term is -0.43,  $p < .05$ .

Therefore, adversity squared adds statistically significantly to the prediction of career adaptability.

**Hypothesis Two**

To test the hypothesis that gender, race, socioeconomic status, and resilience will moderate this relationship between adversity and career adaptability, individual hierarchical multiple regression analyses were conducted for each of the four proposed moderators- gender, race, socioeconomic status, and resilience. In the first step, three variables were included: adversity, adversity squared, and the proposed moderator- race, gender, socioeconomic status, or resilience. Next, the interaction term between adversity X the proposed moderator and adversity squared X the proposed moderator was added to the regression model. Race was the only proposed moderator which accounted for a significant proportion of the variance in the relationship between adversity and career adaptability.

**Table 2**

***Proposed Moderators of Hierarchical Multiple Regression Predicting Career Adaptability from Adversity***

	R <sup>2</sup>	ΔR <sup>2</sup>	ΔF	unstandardized B	beta coefficient	unstandardized B	beta coefficient
				Adversity	Adversity	Adversity <sup>2</sup>	Adversity <sup>2</sup>
Gender	.044	.017	1.721	-0.101	-0.104	-0.001	-0.078
Race*	.070	.037	7.767	-	-	0.002	0.370
Socioeconomic status	.143	.017	1.924	-.107	-.967	.001	1.388
Resilience	.617	.007	1.686	-.008	-.871	8.213	.951

Note. N= 202, \* p< .05

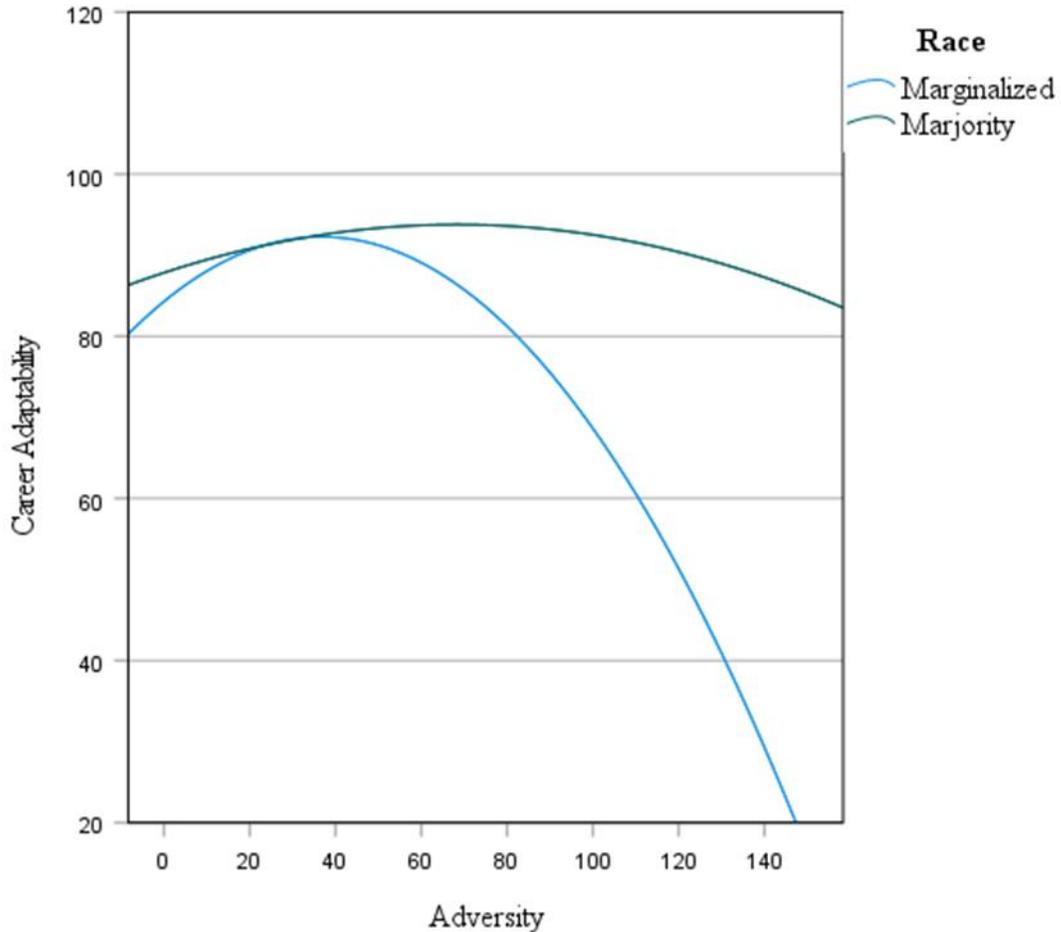
For gender, the prediction of career adaptability did not show a statistically significant change in R<sup>2</sup> = .044, F(2, 196) = 1.721, p = .182, adjusted R<sup>2</sup> = .019. The unstandardized B of the interaction of gender and adversity was -0.101 and the beta coefficient was -0.104, p =0.709.

The unstandardized B of the interaction of gender and adversity squared was -0.001 and the beta coefficient was -0.078,  $p = 0.750$ . Therefore, gender did not significantly moderate the prediction of career adaptability.

For race, the interaction variable for race and adversity was highly correlated with the interaction variable for race and adversity squared; therefore, the moderation by race was analyzed differently than the other three proposed moderators. In the first step, three variables were included: adversity, adversity squared, and the race. Next, the interaction term between adversity squared X race was added to the regression model. With race as a moderator, the prediction of career adaptability showed a statistically significant change in  $R^2 = .070$ ,  $F(2, 197) = 7.767$ ,  $p < 0.05$ , adjusted  $R^2 = .051$ . The unstandardized B of the interaction of race and adversity squared was 0.002 and the beta coefficient was 0.370,  $p < 0.05$ . Therefore, race did significantly moderate the prediction of career adaptability.

Figure 3

**Racial Differences within Career Adaptability and Adversity**



Note. Scatterplot of career adaptability by adversity by race

For socioeconomic status, the prediction of career adaptability did not show a statistically significant change in  $R^2 = .143$ ,  $F(2, 196) = 1.924$ ,  $p = .149$ , adjusted  $R^2 = .121$ . The unstandardized B of the interaction of socioeconomic status and adversity was  $-.107$  and the beta coefficient was  $-.967$ ,  $p = 0.709$ . The unstandardized B of the interaction of socioeconomic status and adversity squared was  $0.001$  and the beta coefficient was  $1.388$ ,  $p = 0.061$ . Therefore, socioeconomic status did not significantly moderate the prediction of career adaptability.

For resilience, the prediction of career adaptability did not show a statistically significant change in  $R^2 = .617$ ,  $F(2, 196) = 1.686$ ,  $p = .188$ , adjusted  $R^2 = .607$ . The unstandardized B of the interaction of resilience and adversity was  $-0.008$  and the beta coefficient was  $-.871$ ,  $p = .136$ . The unstandardized B of the interaction of resilience and adversity squared was  $8.213$  and the beta coefficient was  $.951$ ,  $p = .081$ . Therefore, resilience did not significantly moderate the prediction of career adaptability.

### **Hypothesis Three**

The third hypothesis was answered by a simple linear regression between career adaptability and resilience. A linear regression was run to understand the effect of resilience on career adaptability. To assess linearity a scatterplot of career adaptability against resilience with a superimposed regression line was plotted. Visual inspection of these two plots indicated a linear relationship between the variables. There was homoscedasticity and normality of the residuals. There was independence of residuals, as assessed by a Durbin-Watson statistic of  $1.874$ . The prediction equation was:  $\text{career adaptability} = 37.295 + 0.764 * \text{resilience}$ . Resilience statistically significantly predicted career adaptability,  $F(1, 200) = 294.883$ ,  $p < .001$ , accounting for  $59.6\%$  of the variation in career adaptability with adjusted  $R^2 = .594$ , a medium size effect according to Cohen (1988).

### **Summary of Results**

In summary, the addition of adversity squared to the prediction of career adaptability led to a statistically significant increase in  $R^2 = .026$ ,  $F(1, 199) = 4.978$ ,  $p < .05$ , adjusted  $R^2 = .016$ . The beta coefficient of adversity squared term is  $-0.43$ ,  $p < .05$ . Therefore, adversity squared adds statistically significantly to the prediction of career adaptability which suggest a

curvilinear relation between adversity and career adaptability. The suggested moderation of this relationship by gender, socioeconomic status, and resilience was not statistically significant. Race was the only proposed moderator which accounted for a significant proportion of the variance in the relationship ( $R^2 = .070$ ,  $F\{2, 197\} = 7.767$ ,  $p < 0.05$ , adjusted  $R^2 = .051$ ). Resilience statistically significantly predicted career adaptability,  $F(1, 200) = 294.883$ ,  $p < .001$ , accounting for 59.6% of the variation in career adaptability within our sample.

## Chapter 5

The goals of this study were: 1) to better understand the relationship between adversity and career adaptability. 2) to examine whether race, gender, socioeconomic status, or resilience moderate this relationship. 3) to examine the relationship between career adaptability and resilience. The hypotheses this study proposed were: 1) Career adaptability will be highest for those who have experienced a moderate level of adversity compared to those who have experienced high amounts or low amounts. 2) Race, gender, socioeconomic status, and resilience will moderate this relationship between adversity and career adaptability. 3) Resilience and career adaptability will have a significant positive correlational relationship.

This study found that there is a curvilinear relationship between adversity and career adaptability. Race was the only proposed moderator which accounted for a significant proportion of the variance in the relationship. Gender, socioeconomic status, and resilience did not moderate this relationship. Resilience and career adaptability are significantly correlated.

202 adults living in the United States completed a cumulative adversity survey (Seery, Holman, & Silver, 2010), the Connor-Davidson Resilience scale (CD-RISC; Connor & Davidson, 2003), the Career Adapt-Abilities Scale (CAAS; Savickas & Porfeli, 2012), and a demographic survey on the Mechanical Turk platform.

### **Hypothesis One**

The first hypothesis- Career adaptability will be highest for those who have experienced a moderate level of adversity compared to those who have experienced high amounts or low amounts- was supported by this study. A curvilinear relationship was found demonstrating

higher career adaptability for those who have experienced a moderate level of adversity compared to those who have experienced high amounts or low amounts of adversity.

The curvilinear relationship found between adversity and career adaptability (in that the higher and lower amounts of adversity correspond to lower amounts of career adaptability whereas a moderate amount of adversity corresponds with a higher degree of career adaptability) has the possibility to influence the way we conceptualize adversity in research. This finding provides an important counterpoint to the overwhelming focus of the deleterious effects of adversity across the lifespan (Felitti, Anda, Nordenberg, Williamson, Spitz, Edwards, et al., 1998; Johnson & Thompson, 2008, Moisaner & Edston, 2003; Mollica, McInnes, Pham, Fawzi, Murphy, & Lin, 1998; Priebe & Esmaili, 1997; Wenzel, Griengl, Stompe, Mirzaei, & Kieffer, 2000). Historically the focus of trauma research has zeroed in on the individuals with the highest amount of adversity and the most debilitating outcomes. While well intentioned, this focus has neglected to provide space to understand those who experience a moderate degree of adversity and experience higher functionality following adverse experiences.

According to this study's finding, the view of adversity as solely damaging is stunted. To truly understand the full spectrum of the effects of adverse experiences, we must also acknowledge the possibility that a certain degree of exposure to adversity may teach resilience- not unlike the effects of immunization on our physiological bodies. There is also some indication that experiencing little-to-no adverse experiences could result in lower career adaptability. This may demonstrate that a deficit of difficult experiences may interfere with a person's ability to grow and develop the necessary resilience and coping skills to take on larger tasks. Prescod and Zeligman (2018) suggest that the intrusion elements of trauma are most

highly correlated with career adaptability. They also found evidence of the role of posttraumatic growth as a moderator between the relationship of trauma and career adaptability.

The curvilinear relationship found between adversity and career adaptability also dovetails with the curvilinear relationship between adversity and functioning found by Seery, Holman, and Silver (2010). As suggested by Seery, Holman, and Silver (2010), this disparity in results compared to previous research may be due to the study's use of a more nuanced- and therefore more comprehensive and inclusive- conceptualization of adversity compared to those studies that use a dichotomous measure - adverse experience yes or no, or a measure with a limited number of range in outcomes - such as the adverse childhood experiences (ACE) measure ranging from 0-7, 10, or 12 depending on the version used. This study's adversity measure had a virtually unlimited cap; however the measured outcomes in this sample ranged from 0 through 146.

This finding is especially relevant for career outcomes, as vocational psychology has excessively focused on the deleterious effects of high adversity as well (Lund, et. al, 2013; Paul & Moser, 2009; Strauser, et. al, 2006). However some studies have demonstrated more mixed outcomes such as career and life stress correlating with decreased career indecision and dissatisfaction with career choice (Bullock-Yowell, et. al, 2011) and trauma survivors demonstrating more motivation and openness to career counseling than nonsurvivors (Coursol,

Lewis, & Garrity, 2001). Within this study's framework, adverse experiences can be recategorized as sources for potential strength within career contexts.

This finding also fits well with our theoretical underpinnings. This outcome supports Savickas's conception of self as agent within career construction theory (2013) by showing the importance of the individual's response to adverse circumstances. This finding connects with Johnston's finding that career adaptability is a buildable trait partially established by past experience (Johnston, 2018). This finding also fits well with our grounding in resilience theory which focuses on the development of strengths through difficult circumstances. These results also support the conceptualization of resilience as a buildable rather than stable trait (Richardson, 2002). This result is in line with strengths-based research in resilience and post-traumatic growth which highlights the ubiquity of trauma and the generally resilient response from the population at large (Bonanno, 2004 & 2013; Bonanno & Kaltman, 2001; Cadell, Regehr, & Hemsworth, 2003; Jayawickreme & Blackie, 2014, Westphal & Bonanno, 2007).

## **Hypothesis 2**

Contrary to the claim in the second hypothesis that gender, race, socioeconomic status, and resilience would moderate the relationship between adversity and career adaptability, race was the only proposed moderator which accounted for a significant proportion of the variance in the relationship.

### ***Gender***

Gender did not moderate the relationship between adversity and career adaptability. This outcome is surprising due to the vast amount of research showing gender differences across all of our salient variables. Past studies show gender differences across the amount and

type of adversity experienced which would seem to cause gender identity to moderate the relationship between career adaptability and adversity (Chiang, Kress, Sumner, Gleckel, Kawemama, & Gordon, 2016; Cronholm et. al, 2015), as well as gender differences in the development of PTSD symptoms following adversity (Jin, Xu, & Liu, 2014; Johnson & Thompson, 2008; Norr, et. al, 2016), and gender differences in the development of post-traumatic growth following adversity (Jin, Xu, & Liu, 2014; Vishnevsky, Cann, Calhoun, Tedeschi, & Demakis, 2010). This finding also contradicts Hu, Zhang, and Wang's finding of gender differences in the relationship between resilience and mental health (2015).

Previous research has consistently shown gender as a significant moderator in career outcomes, such as career interests (Gadassi & Gati, 2009), career identity (McArdle, Waters, Briscoe, & Hall, 2007), unemployment (Paul & Moser, 2009), and job satisfaction (Ngo, Foley, Ji, & Loi, 2014) to name a few. However, this finding does parallel Ngo, Foley, Ji, and Loi's finding that all genders are equally likely to develop psychological capital which is the Industrial-Organizational literature's equivalent of career adaptability (2014). Studies on gender differences in career adaptability have had mixed results with some identifying higher career adaptability in women (Coetzee & Harry, 2015) and others finding higher career adaptability in men (Hou, et. al, 2012). This sometimes conflicting evidence may imply that there are other elements that are moderating the role of gender within the relationship between career adaptability and adversity. Clearly, further study of gender's role in career adaptability is needed.

### ***Social Class***

Social class also did not moderate the relationship between adversity and career adaptability. This is surprising as research has demonstrated the significant effects of social class on career adaptability (Autin et al., 2017). This finding contradicts other research that has shown that social class is highly associated with education levels and career aspirations along with societal barriers to certain education and vocation opportunities (Blustein, Chaves, Diemer, Gallagher, Marshall, Sirin, & Bhati, 2002; Lapour & Heppner, 2009; Thompson & Dahling, 2012).

One possible interpretation of this is that the lack of moderation by gender or social class, may show the universality of this phenomenon that moderate adversity allows for the development of career adaptability. Another interpretation of the lack of moderation by gender or social class may be the higher occurrence of adversity-based on gender and socio-economic status (Cronholm et. al, 2015; Dubowitz, Kim, Black, Weisbart, Semiatin, & Magder, 2011), meaning that this difference by gender or social class may already be accounted for by the difference in levels of experienced adversity and therefore for further moderation is not found. The effects of gender and social class may have been represented within the cumulative adversity measure which would then negate any moderation effects that may be found. Due to experiences of bias and marginalization, non-male individuals and those who identify with a lower socioeconomic status may disproportionately represent the moderate to high adversity participants.

## ***Race***

Race was the only proposed moderator which accounted for a significant proportion of the variance in the relationship. This relationship seems to demonstrate lower levels of career adaptability at high levels of adversity for individuals of marginalized identities. The detrimental effect of high adversity levels is likely compounded by the increased allostatic load carried by individuals who move through society with the micro and macro experiences of oppression. This finding seems to demonstrate the salience of race within experiences of adversity and the development of career adaptability. The influence of race is shown to be so robust that it influences this relationship beyond the measurable experience of adversity.

Many studies have demonstrated that race is associated with amount of adverse experiences with non-white people having higher levels of adversity (Cronholm et. al, 2015; Ghafoori, Barragan, Tohidian, & Palinkas, 2012; Myers, et. al, 2015). Past research has also found evidence for resilience outcomes within minority populations at a higher rate than White populations (Ghafoori, Barragan, Tohidian, & Palinkas, 2012). Racial differences in vocational outcomes have been well established and related to societal level barriers, discrimination factors, lack of resources and cultural differences- all of which vary by social class and gender (Caldwell & Obasi, 2010; Howard, Carlstrom, Katz, Chew, Ray, Laine, & Caulum, 2011; Thompson & Subich, 2011). Fouad and Byars-Winston highlight the limiting effects of the overarching societal oppression of racism on vocational outcomes (2005).

## ***Resilience***

Resilience did not moderate the relationship between adversity and career adaptability. This finding contradicts previous research which showed resilience moderating adaptable

outcomes following experienced stressors (García-Izquierdo, et. al, 2018; Lanz & Bruk-Lee, 2017; Meng, Wu, and Han, 2018). Past research identified that resilience was a moderating factor at every level of the Adverse Childhood Experiences scores (Youssef, Belew, Hao, Wang, Treiber, Stefanek, Yassa, Boswell, Mccall, and Su, 2017). Prescod and Zeligman found evidence of the role of posttraumatic growth as a moderator between the relationship of trauma and career adaptability (2018). One explanation for the lack of moderation by resilience between career adaptability and adversity may be the degree to which the constructs of resilience and career adaptability seem to overlap. As demonstrated by the proof of our third hypothesis, resilience and career adaptability seem to have a lot in common whether that relationship is causal- with one building the other- or conceptual similarity is currently unclear.

### **Hypothesis 3**

In line with the third hypothesis, resilience was statistically significantly related to career adaptability. The robust relationship between resilience and career adaptability bridges the span between vocational psychology and general psychological factors by demonstrating the relationship between buildable resilience and measured career adaptability. This finding may lead to a more nuanced and interconnected understanding of how individual characteristics interrelate with vocational outcomes.

This finding is perfectly in line with the qualitative ventures of Bimrose and Hearne (2012). Their interpretation of the relationship between resilience and career adaptability is that individuals with higher resilience are more able to adapt within a career context when encountering barriers and difficulties. This finding of the relationship between career adaptability and resilience also supports Richardson's meta-analysis which found that

adaptability and tolerance are significant factors in resilience (2002). This is also consistent with Rudolph, Lavigne, and Zacher's finding that career adaptability is linked to general psychology factors of cognitive flexibility, pro-activity, personality characteristics, calling orientation, optimism, and positive core self evaluations (2017). The relationship between career adaptability and resilience may open up doors for developing and harnessing resilience and directing it towards career outcomes.

### **Limitations**

There are several limitations to this study. We cannot ensure that the participants are representative of the population we are trying to capture due to lack of controls for who opts into completing the survey. Also, as an exploratory survey with only correlational data collection, we cannot imply any causation. Additionally, as mentioned in the literature review, there may be several mediating or moderating factors that are more salient to the variation in our variables that have not been accounted for. The limited sample size precludes a more nuanced understanding of the impact of gender, race, and socioeconomic status. A larger sample size with more representation of marginalized populations would allow for more confident and robust conclusions related to the effects on the relationship between career adaptability and adversity as well as the possibility of looking at interactions effects by identity factors.

The measures this study proposes to use have received some empirical critiques. The Connor Davidson resilience scale subfactors have been widely critiqued and stand alone analysis of the subfactors is not recommended (Bezdjian, Schneider, Burchett, Baker, & Garb, 2017; Campbell-Sills & Stein, 2007; Green, Hayward, Williams, Dennis, Bryan, Taber, ... Calhoun,

2014). The Career Adapt-Abilities Scale has been criticized for original validation on high school students as well as being skewed toward westernized, individualistic thinking (Nye, Leong, Prasad, Gardner, & Tien, 2018). The cumulative adversity measure from Seery, Holman, and Silver's (2010) is an adaptation of an adaptation with no reports of reliability or validity. However, comparable measures of self-reported cumulative adversity show high levels of reliability and validity (Oh, Jerman, Boparai, Koita, Briner, Bucci, & Harris, 2018).

### **Research Recommendations**

As the focus of prior research has been on these extreme representations of adversity and subsequent functional interference (Briesch, Swaminathan, Welsh, & Chafouleas, 2014; Moisander & Edston, 2003; Mollica, McInnes, Pham, Fawzi, Murphy, & Lin, 1998; Priebe & Esmaili, 1997; Wenzel, Griengl, Stompe, Mirzaei, & Kieffer, 2000), these results suggest further exploration into those with moderate experiences of adversity. This study and future research into all levels of adversity will be able to correct or refine Meichenbaum's (1994) dose-response theory of adversity and dysfunction two more accurately represent the entire spectrum of those who experience adversity. Thereby decreasing the unnecessary dark prognosis of future functioning of those who experience adversity.

Future research should replicate this study with larger samples to better understand the relationship between cumulative adversity and career adaptability as well as that relationship moderation by identity factors. Once this finding has been supported and established in the

literature, intervention studies for individuals with a history of adversity should be conducted to establish best practice in developing career adaptability from adversity.

Future research should also look into the mechanisms by which career adaptability and resilience are created. Several researchers have attempted to describe the development of such factors, such as Maddi's (2005) position that resilience is due to static and inheritable personality factors, and Kalisch, Müller, and Tüscher (2015) positing that resilience grows from neurobiological fine tuning during exposure to stressors. However, there is minimal research on the mechanisms by which resilience is developed thereby limiting our understanding and efficacy of interventions to foster resilience.

Future research would benefit from a more thoughtful conceptualization of adversity and avoid conflating adversity research with measurements that quantify symptoms of post-traumatic stress disorder. Understanding protective factors and mechanisms by which to foster career adaptability and resilience will be especially salient for those in marginalized populations as shown by this study's finding of lower levels of career adaptability for individuals who experience high levels of adversity while living in a society that is oppressive to them. Future research should also look at the role of psychological or cognitive flexibility within the development of career adaptability and resilience.

### **Treatment Recommendations**

The curvilinear relationship found between career adaptability and adversity may support Cohen's proposal to use narrative therapy to assist in meaning making for those who have experienced adversity 2009. This could easily translate to vocational therapy by focusing on developing resilient narrative to career barriers and setbacks. Vocational therapists and

psychologists may benefit from integrating this strength-based perspective into their work with clients whom they know have a history of adversity or ongoing adversity especially as it relates to negative career outcomes. These mechanisms for cultivating career adaptability and resilience with a strength-based perspective will be especially salient for individuals of marginalized identity who experience a high level of adversity.

## **Conclusion**

The purpose of this study was to better understand the relationship between adversity and career adaptability, to examine whether race, gender, socioeconomic status, or resilience moderate this relationship, and to compare career adaptability and resilience. This study found that the relationship between adversity and career adaptability is curvilinear with higher levels of career adaptability occurring at moderate levels of adversity and lower levels of career adaptability occurring with the lowest and highest levels of adversity. The study also showed that this relationship is significantly moderated by whether an individual holds majority status with marginalized individuals experiencing high degrees of adversity having the lowest levels of career adaptability. The study demonstrated that career adaptability and resilience have a strong positive relationship.

Future research should implement nuanced measures of adversity that do not conflate the construct with symptoms of post-traumatic stress disorder. Future research should look into the mechanisms by which career adaptability can be cultivated following adverse experiences. Vocational counseling should look to enhance resilient narratives for those who

experience career barriers and setbacks as well as using a strength-based approach to allow past adversity to translate to career adaptability across circumstances.

This study is a quantification of the strength some individuals develop through the experience of overcoming adverse circumstances. The study supports initiatives that look to cultivate a growth mindset following adversity and foster generalized resilience and adaptability within career contexts. The study is an acknowledgment of those who have persevered through adverse life circumstances to achieve more than was expected of them.

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