

2019

Career development among risk-immersed youth: an applied exploration of vocational identity development

<https://hdl.handle.net/2144/38214>

Downloaded from DSpace Repository, DSpace Institution's institutional repository

BOSTON UNIVERSITY
WHEELLOCK COLLEGE OF EDUCATION & HUMAN DEVELOPMENT

Dissertation

**CAREER DEVELOPMENT AMONG RISK-IMMERSED YOUTH:
AN APPLIED EXPLORATION OF VOCATIONAL IDENTITY DEVELOPMENT**

by

SEAN K. FLANAGAN

B.A., Stonehill College, 2011

M.A., Boston College, 2013

Submitted in partial fulfillment of the
requirements for the degree of
Doctor of Philosophy

2019

© 2019 by
SEAN K. FLANAGAN
All rights reserved

Approved by

First Reader

Jonathan F. Zaff, Ph.D.
Research Professor of Applied Human Development

Second Reader

Kimberly A.S. Howard, Ph.D.
Associate Professor of Counseling Psychology

Third Reader

Scott C. Seider, Ed.D.
Associate Professor of Applied Developmental Psychology
Boston College

ACKNOWLEDGMENTS

As I reflect on my emergent career path and the many stepping stones that have led me to the completion of this work and my doctoral studies, I am humbled by the immense personal and professional privilege that I have been afforded throughout my life and in this process of clarifying my own vocational identity. I am immeasurably indebted to the many developmentally rich opportunities, unconditionally supportive people, and memorable places that have shaped my journey and enabled me to pursue this overwhelmingly challenging and deeply meaningful accomplishment. Expressing my gratitude to each person in the vast web of supportive relationships that has buoyed me throughout my graduate studies would require quite a number of pages. That said, I would like to express my heartfelt appreciation to just a few of the larger community of family, friends, mentors, and colleagues who have invested in me throughout.

First, I would like to thank my dissertation chair and advisor, Dr. Jonathan Zaff. I cannot adequately express my gratitude and admiration toward you as a mentor. Thank you for nurturing my ideas, challenging me to go further, shepherding me through the complexities of graduate school, and devoting countless hours of your time and effort toward my development. The opportunities, resources, and guidance that you've provided over the past several years are outweighed only by your compassion, thoughtfulness, and generosity as a person and scholar. I am endlessly impressed by your intellect and creativity and have truly cherished the opportunity to learn with and from you. I would also like to thank my committee members, Dr. Kimberly Howard and Dr. Scott Seider. Dr. Howard, you have been an invaluable mentor throughout my graduate studies. Thank

you for bringing me into the BU community, guiding me through the many ups and downs over this long road, and fostering my interests as a vocational scholar. You are an incredible example to aspire toward within the counseling and vocational psychology profession and a more gracious mentor than I could ask for. Dr. Seider, your constructive curiosity, thoughtfulness, and unyielding flexibility in this sometimes-complicated process have been vital. I and many of my fellow students have benefitted from your presence as a mentor and member of the BU community.

I would also like to thank my broader community at BU, including the Counseling Psychology and Applied Human Development faculty, past and present. Each of you have made this experience one that I can reflect on fondly. To my fellow BU students, most notably Ellie Castine and other members of my cohort, thank you for sharing in the highs and lows over the years and for the many valuable strengths, vulnerabilities, and funny moments that you have offered that have helped me grow along the way. To my Center for Promise family, thank you for welcoming me, investing in me, and challenging me to reach further than I knew I could. Most of all, thank you for caring for me as a person, reminding me to take my headphones off and look up from my desk each day, and showing me what it means to do rigorous research that elevates the dignity, respect, and voice of the young people we serve.

Thanks to the supervisors, staff, colleagues, and clients I have had the privilege of working with at the many clinical training sites throughout my graduate tenure—especially my supervisors and directors at the University of Michigan’s Counseling and

Psychological Services. The many hours spent with each of you have been challenging and treasured and have shaped the vision of the clinician, applied researcher, and person I aspire to become. To previous mentors at Stonehill College and Boston College, including Dr. David Blustein whose remarkable scholarship provided an enormous foundation for this dissertation. Thank you all for providing the foundational experiences that sparked my passion for this work and the guidance that fanned the flame.

Most importantly, my family. To my partner, Josie, you are an ocean of support, strength, and patience. Thank you for supporting me through the countless nights in the office, moments of distress and self-absorption, and the many months apart spent in Michigan. This accomplishment is a testament to your selflessness, unconditional love, and unwavering belief in me and this work. I am forever grateful. To my mom, Sheri, your resilience, determination, compassion, and generosity, have put all of this into motion. Thank you for every sacrifice you've made along the way, for keeping me grounded, and showing me how to live with love, humility, and levity. To my sister, grandparents, and other extended family, thank you for the love and support along the way—to answer your question, yes, I'm finally done with school. Thanks to my incredible community of friends that have kept me balanced, recharged, and reminded of the bigger picture.

Finally, to the young people who participated in this study and the organizations that serve them. This research would not be possible without your time, energy, and generosity. I hope that this study serves as a small piece of the puzzle toward improving the career development and lives of young people, all of whom deserve the same array of

supports and resources that I have so fortunately benefitted from throughout my life and this process. With humility, appreciation, and respect—thank you.

**CAREER DEVELOPMENT AMONG RISK-IMMERSED YOUTH:
AN APPLIED EXPLORATION OF VOCATIONAL IDENTITY DEVELOPMENT**

SEAN K. FLANAGAN

Boston University Wheelock College of Education & Human Development, 2019

Major Professor: Jonathan F. Zaff, Ph.D., Research Professor of Applied Human
Development

ABSTRACT

Drawing from the foundations of developmental science and vocational psychology, the present study examines the career development of risk-immersed young adults (n = 543) confronted with challenges in the school-to-work transition. The present study leverages The Psychology of Working Theory (Blustein, 2006; Duffy, Blustein, Diemer, & Autin, 2016) and Career Construction Theory (Savickas, 2012) as two complementary career development frameworks that are well-suited to be integrated as a career-specific expression of Spencer's (1997) Phenomenological Variant of Ecological Systems Theory (PVEST); a broader theory of human development focused on young people developing in social contexts offering more risk than protective factors. The integration of these theories provides an identity-focused cultural ecological (ICE; Spencer, 2006) perspective on the career development of young people at risk of being derailed from productive career pathways during the critical school-to-work transition. The author employs a correlational, cross-sectional, quantitative research design to examine survey responses from a sample of 543 risk-immersed young adults. Structural equation modeling was used to examine the associations between contextual predictors (i.e., *social marginalization, economic constraints*) and *vocational identity* development,

as well as the mediating role of psychosocial career constructs *career adaptability* and *work volition*. Results indicate that social marginalization had both direct effects on vocational identity development and indirect effects via work volition, but not career adaptability. Overall, results suggest that higher levels of social marginalization is associated with lower levels of vocational identity development and higher levels of self-doubt; in part, as a function of one's perceived work volition. Additional positive direct associations were observed between mediating variables and vocational identity processes, suggesting that higher levels of career adaptability and work volition promote career exploration and commitment and reduce self-doubt about one's career choice. Findings are discussed with a focus on implications for theory, research, practice, and policy to better serve the career development needs of risk-immersed youth.

TABLE OF CONTENTS

ACKNOWLEDGMENTS	iv
ABSTRACT.....	viii
TABLE OF CONTENTS.....	x
LIST OF TABLES	xiii
LIST OF FIGURES	xiv
CHAPTER ONE: INTRODUCTION.....	1
Background.....	1
The Importance of Work in People’s Lives.....	1
The School-to-Work Transition.....	6
Risk-Immersed Young People and Opportunity Youth.....	7
Career Development and Vocational Psychology	10
Purpose and Research Questions	32
Summary.....	35
CHAPTER TWO: THEORETICAL RATIONALE.....	37
Theories of Human Development.....	37
Scientific Discourse and Conceptual Contexts.....	38
Relational Developmental Systems: A Metatheoretical Framework for Vocational Behavior and Career Development.....	42
Relational Developmental Systems Theory: Metatheories of the Middle Range.....	57
Summary and Synthesis of a Relational Developmental Systems Conceptual Framework	90
Theories of Vocational Psychology and Career Development.....	93
The Psychology of Working Framework and Theory	94
Career Construction Theory: A Complementary Career Theory From a Lifespan Perspective	113
CHAPTER THREE: METHODOLOGY	145
Research Method	145
Research Questions and Hypotheses	147
Sample.....	149
Procedure	157
Measures	158
Demographic Covariates.....	158

Economic Constraints	159
Marginalization	160
Vocational Identity.....	160
Work Volition	162
Career Adaptability.....	163
Statistical Analysis.....	164
Descriptive and Preliminary Analysis	164
Measurement Models.....	168
Structural Models.....	171
CHAPTER FOUR: RESULTS	179
Preliminary Analyses	179
Data Screening.....	179
Distribution of Variables.....	179
Correlations Between Measured Variables.....	181
Associations Between Measured Variables and Demographic Variables	187
Regression of Measured Variables	203
Measurement Models.....	209
Marginalization.....	211
Vocational Identity.....	215
Volition	221
Career Adaptability.....	222
Total Measurement Model.....	222
Structural Models.....	223
Baseline Model	223
Hypothesized Partial Mediation Model	227
Alternative Structural Models.....	233
Summary of Findings.....	244
CHAPTER FIVE: DISCUSSION.....	249
Discussion of Findings.....	251
Direct Effects: Marginalization.....	251
Indirect Effects: Marginalization	262
Direct Effects: Economic Constraints.....	272

Theoretical Implications	275
Practice and Policy Implications.....	282
Limitations	298
Future Directions	312
Conclusions.....	315
BIBLIOGRAPHY.....	318
CURRICULUM VITAE.....	346

LIST OF TABLES

Table 1. First Sample (Career Program Participants) Demographic Characteristics.....	153
Table 2. Second Sample (Mechanical Turk) Demographic Characteristics	154
Table 3. Combined Sample Demographic Characteristics	157
Table 4. Descriptive Statistics of Measured Variables	180
Table 5. Correlations of Measured Variables	183
Table 6. MANOVA Between-Subjects Effects of Demographic on Measured Variables	190
Table 7. Outcome and Mediator Variables Regressed on Predictors	204
Table 8. Outcomes Variables Regressed on Mediators and Predictors	208
Table 9. Measurement Model Fit Indices	211
Table 10. VISA Items, Parcel Assignment, and Standardized Loadings.....	217
Table 11. Comparison of VISA Model Fit Indices for Present Study and Porfeli et al., (2011).....	219
Table 12. Summary Table of Fit Indices for Examined Structural Models.....	245

LIST OF FIGURES

<i>Figure 1.</i> Integrated structural model: An Identity-focused Cultural Ecological (ICE) model of vocational identity development.....	34
<i>Figure 2.</i> Schematic representation of a conceptual framework (Overton, 2015).....	39
<i>Figure 3.</i> Epistemological and ontological features of process-relational and cartesian-split-mechanistic paradigms of developmental science (Overton, 2013)	49
<i>Figure 4.</i> An illustration of the <i>Identity of Opposites</i> (Overton, 2013)	51
<i>Figure 5.</i> Synthesis of the Wholes (Overton, 2013)	55
<i>Figure 6.</i> Phenomenological Variant of Ecological Systems Theory (PVEST; Spencer, 2006)	84
<i>Figure 7.</i> The Psychology of Working Theory (Duffy et al., 2016).....	98
<i>Figure 8.</i> The Psychology of Working Theory (PWT; Duffy et al., 2016) from a Phenomenological Variant of Ecological Systems Theory (PVEST; Spencer, 2006) perspective.	108
<i>Figure 9.</i> Dimensions of career adaptability (Savickas, 2012).....	118
<i>Figure 10.</i> Hypothesized partial mediation model	148
<i>Figure 11.</i> Measurement models of latent variables.....	169
<i>Figure 12.</i> Baseline hypothesized model of direct effects of predictors on outcome variables	173
<i>Figure 13.</i> Alternative hypothesized full mediation model	177
<i>Figure 14.</i> Baseline structural model of outcomes regressed on predictors	225
<i>Figure 15.</i> Partial mediation model including only predictors and outcomes indicated as significant in the baseline model.....	228
<i>Figure 16.</i> Full mediation model including only predictors and outcomes indicated as significant according to baseline model.....	234
<i>Figure 17.</i> Partial mediation model including all vocational identity outcomes	236

Figure 18. Manifest partial mediation path model with all outcomes 243

CHAPTER ONE: INTRODUCTION

Background

The present study focuses on the career development of risk-immersed young people confronted with challenges along the school-to-work transition. In the present study, risk-immersed youth is a term used to represent young people developing in an ecological system that offers an unfavorable net balance between risk and protective factors. In an effort to understand the developmental experiences of these youth, as well as the influence of such experiences on their career development, this study will draw from theories of career development and attempt to situate these perspectives within broader theories of human development. More specifically, the present study will integrate the Psychology of Working Theory (Blustein, 2006; Duffy, Blustein, Diemer, & Autin, 2016) and Career Construction Theory (Savickas, 2012) under the rubric of the Phenomenological Variant of Ecological Systems Theory (PVEST; Spencer, 2006). In doing so, the present study offers an identity-focused cultural ecological (ICE; Spencer, 2006) perspective from which to understand the career development of risk-immersed young adults.

The Importance of Work in People's Lives

Work serves a central role in the lives of many individuals and provides a basic means of fulfilling needs for self-determination, social connection, and survival (Blustein, 2006; Duffy et al., 2016). Extant research illustrates the important influence of employment on psychological (Swanson, 2012; Paul & Moser, 2009) and physical health (Roelfs, Shor, Davidson, & Schwarts, 2011). Moreover, perspectives on the role of work

in people's lives suggests that work is a key forum in which individuals express a sense of identity (Savickas, 2005, 20012; Super, 1990; Super, Savickas, & Super, 1996), interests (Holland, 1997; Lent, Brown, & Hackett, 1994), personal and cultural values (Brown, 1996; Hartung, 2002), participate in social relationships and community (Blustein, Schultheiss, & Flum, 2004), and derive personal meaning or perhaps even fulfill a more transcendent calling in life (Dik, Byrne, & Steger, 2013; Duffy & Sedlacek, 2007).

The importance of work in people's lives is perhaps most apparent by observing the negative outcomes associated with the loss or lack of decent and/or meaningful work. The sociologist, Emile Durkheim, is often credited as the first to recognize the effects of unemployment on psychological and physical health through his observation that societal economic change coincided with increased suicide rates (Jin, Shah, & Svoboda, 1995). More modern estimations of the relationship between work and mental health are perhaps best summarized by recent meta-analyses (McKee-Ryan, Song, Wanberg, & Kinicki, 2005; Murphy & Athanasou, 1999; Paul & Moser, 2009). Analyses of cross-sectional studies demonstrate small and medium effects indicating that unemployed individuals endorse lower psychological and physical well-being than employed individuals (McKee-Ryan et al., 2005). Specifically, the literature indicates associated outcomes, including overall mental health, depression, anxiety, subjective wellbeing, self-esteem, and psychosomatic symptoms (Paul & Moser, 2009). Secondary analyses of existing longitudinal studies demonstrate the extent to which gaining and losing employment affects mental health. For example, the literature suggests small adverse effects of

moving from employment to unemployment on mental health and medium beneficial effects of moving from unemployment to employment (McKee-Ryan et al., 2005; Murphy & Athanasou, 1999).

In addition to the established relationship between psychological health and unemployment, considerable evidence exists highlighting the link between disconnection from work and physical health. For example, unemployment has been associated with increases in physical indicators of stress, poorer overall health, and higher rates of self-reported physical illness (Jin et al., 1995; Dooley, Fielding, & Levi, 1996). Longitudinal studies have shown consistent and significant increases in cortisol, prolactin, growth hormone, cholesterol, and decreased immune responses (Dooley et al., 1996). Furthermore, research indicates a relationship between unemployment and short- and long-term disability, hospital admissions, physician visits, and medication taken, even after controlling for socioeconomic and demographic variables (Jin et al., 1995).

Additionally, the literature boasts strong correlational and longitudinal research to support the relationship between disconnection from work and mortality (Roelfs et al., 2011; Dooley et al., 1996; Bartley, 1995; Jin et al., 1995). Population level studies of unemployment on mortality have indicated that every 1% increase in unemployment accounts for an excess of 6,000 deaths annually in the United States (Jin et al., 1995). Moreover, individual level studies have shown that standardized mortality ratios (an estimate of risk of death compared with the risk in the general population) are significantly higher for unemployed persons (Jin et al, 1995). A recent meta-analysis examined 42 studies published between 1984 and 2008 across 15 countries, which

included over 20 million participants, and found that unemployed individuals have a 64% higher risk of mortality after controlling for age and other covariates (Roelfs et al., 2011). Taken together, the literature lends support to the notion that work is a critical factor influencing individual psychological and physical wellbeing.

Historically, the United States has had one of the lowest unemployment rates among industrialized countries (Sorrentino & Moy, 2002). The most recent economic recession of the late 2000s, however, has led to increased scrutiny regarding the rate, nature, and implications of unemployment and reinvigorated the discourse around the importance of work. From December 2007 to June 2009, the U.S. saw the most rapid decline in employment during any recession in recent decades (BLS, 2012). In October of 2009, a 10.0% unemployment rate neared the record high of 10.80% set in November of 1982 (BLS, 2014). Obscured by the sheer increase in overall joblessness was the fact that the recession marked the highest proportion (4.4%) of long-term unemployment (27 weeks or longer) that the U.S. has ever seen (BLS, 2012). By the end of the recession, the U.S. unemployment rate was higher than most industrialized countries of the world (BLS, 2012). What has been perhaps most devastating, is that the recovery has been the slowest of any economic downturn in recent history (BLS, 2012).

In addition to economic recession, major shifts in the global economic landscape illustrate the impact of the changing nature of work in the 21st century on the now antiquated grand career narrative of the 20th century (Blustein, Olle, Connors-Kellgren, & Diamonti, 2016; Savickas, 2005, 2012). Factors such as the expansion of capitalism, globalization, technology, political trends, and demographic change have fundamentally

reshaped the nature of work, the availability and access to stable and sustainable careers, and consequently, the role of work in people's lives (Jacobs & Hawley, 2009; Savickas, 2012; World Bank, 2019). As the context and nature of work has evolved, the increasing prevalence of underemployment and precarious work (e.g., temporary, insecure, unstable) in the U.S. and global economies have become cause for concern (Kalleberg, 2009, 2012; MacDonald, 2009).

Although the implications of the changing nature of work are widespread, continued attention to the factors that shape access to decent, sustainable employment may be especially critical for less economically and socially advantaged individuals and communities. Access to decent work experiences is often most problematic for individuals who possess less agency over their work situations, individuals with fewer economic resource and social capital, and those who identify as part of groups that have been historically marginalized (Blustein et al., 2016). For example, unemployment has historically affected people of Color at disproportionately higher rates during periods of both economic stability and recession (BLS, 2012). Further, the literature examining the adverse effects of unemployment suggests that the impact of disconnection may be larger for blue-collar workers (Paul & Moser, 2009), new labor market entrants and less experienced workers (McKee-Ryan et al., 2005; Roelfs et al., 2011), and those who experience long-term unemployment (McKee-Ryan et al., 2005; Paul & Moser, 2009).

Taken together, the literature documents the critical importance of work in people's lives and illustrates the range of adverse outcomes associated with the lack and loss of work. Moreover, disparities in employment and work-related outcomes, coupled

with the changing nature of work in the 21st century, underscore the importance of understanding the work-related experiences of individuals on the margins of society, for whom issues of work have been under-examined, and for whom the consequences of disconnection may be most grave (Blustein, 2006).

The School-to-Work Transition

Access to decent work and avoidance of unemployment, underemployment, and precarious work is largely influenced by the degree to which individuals cope productively with the school-to-work transition. In light of changing economic and labor conditions of the 21st century, the school-to-work transition has become increasingly difficult for young people in Western, information-based economies (Ryan, 2001). Difficulty with the school-to-work transition has been attributed as a main cause of disconnection from work among young people eligible for workforce participation (Ryan, 2001) and has been the focus of major international educational and vocational guidance scholarship groups (e.g., the European Lifelong Guidance Policy Network, Organisation for Economic Co-operation and Development). Scholars have attributed persistently high levels of youth unemployment to several major factors, including young people leaving school without a basic education or educational qualifications, discrepancies between current educational systems and labor market requirements, and more general labor market problems that disproportionately impact young people (Quintini, Martin, & Martin, 2007). Moreover, certain groups of young people may be particularly vulnerable to difficulty along the school-to-work transition.

Risk-Immersed Young People and Opportunity Youth

The present study seeks to serve and understand the experiences of risk-immersed young people who may be more likely to experience difficulty in the school-to-work transition. Recent scholarship indicates that, compared to more advantaged peers, risk-immersed youth may be particularly vulnerable to barriers during the school-to-work transition (Blustein et al., 2002). Specifically, risk-immersed youth developing in environments that offer more risk than protective factors may be at heightened risk for disconnection from school and/or work as a function of increased barriers, adversities, and/or fewer social supports across developmental contexts compared to more advantaged peers (Bridgeland & Milano, 2012; Center for Promise, 2015; Pufall Jones et al., 2016, 2017).

The term “risk-immersed” represents a departure from alternate terms (e.g., “at-risk” or “high-risk” youth), which imply an origin of vulnerability and risk located in the individual. Instead, this term reflects a relocation of risk to the contextual conditions that frame the developmental ecology in which the individual is embedded and with which the individual interacts (Pufall Jones, et al., 2016, 2017). In describing ecological risk and protective factors, Spencer (2006) describes that for young people, families, and communities, risk can be understood as the balance between challenges and supports.

For the present study, risk-immersed youth is a term used to represent young people developing in an ecological system that offers an unfavorable net balance between risk and protective factors. These risk factors represent and potentiate one’s vulnerability to encountering stressors that challenge progress toward positive developmental

outcomes. Importantly, such risk factors do not deterministically guarantee that individuals exposed to higher levels of risk factors will encounter adversities (Spencer, 2006). Indeed, protective factors in the form of social supports or previous productive developmental coping styles can buffer against the conversion of risk factors to actualized stressors.

Within the broader umbrella of risk-immersed young people, the term Opportunity Youth (Bridgeland & Milano, 2012; Belfield, Leven, & Rosen, 2012) has been proposed as a descriptor representative of young people ages 16-24 who have become disconnected from school and work, often as a result of difficulties managing the demands of high-risk environments. Recent estimates suggest, that approximately 4.9 million young people (12.3%) are disconnected from both school and work (Measure of America, 2017). Young people who become and remain disconnected are likely to experience significantly higher barriers to success in the form of lower educational qualifications, incarceration, disability, poverty, caregiving responsibilities (Measure of America, 2017), homelessness, early parenting responsibilities, peers that do not complete high school, major mental health issues, and fewer social supports (Center for Promise, 2015). Importantly, disconnection from school and work, particularly during the critical transition period of young adulthood, can have long-term negative effects including lower income, higher rate of future unemployment, as well as significant effects on physical and mental health across one's lifetime (Measure of America, 2017).

The term Opportunity Youth was adopted to reflect the recognition that young people who have become disconnected from school and work are often viewed from a

deficit perspective by society and the systems designed to serve such young people (Bridgeland & Milano, 2012). The Opportunity Youth descriptor represents the immense untapped value of such young people to society, their inherent dignity as human beings, and the great personal potential that might be realized if provided the supports and developmental conditions necessary to thrive.

Opportunity Youth represent an example of a subgroup of risk-immersed youth for whom there has traditionally been a lack of congruence between developmental needs and environmental affordances. In the United States, youth who experienced disconnection from education and career pathways have been found to experience as many as five or more adverse life experiences; approximately twice as many as youth who remained connected (Center for Promise, 2015). As such, Opportunity Youth represent a portion of youth within the risk-immersed population who may experience a level or combination of adversities that overwhelm individual resilience efforts.

The broad population of risk-immersed youth, including both connected and disconnected youth (e.g., Opportunity Youth), experience considerable and unique adversities threatening education and career progress. Disconnection from one or more systems reflects the impact of these barriers for some (e.g., Opportunity Youth), but not all risk-immersed youth. The common thread that unites these youth as a single population is their experience of barriers across developmental contexts. The present study therefore focuses on the broad population of risk-immersed youth, including but not limited to Opportunity Youth, who are more likely than more socially and economically advantaged peers to experience barriers to successful career and workforce

development.

Career Development and Vocational Psychology

One major field that has sought to explore the work-related experiences and behaviors of individuals, including the school-to-work transition, is the field of career development. Career development as an academic discipline is an interdisciplinary field of scholarship, practice, and policy focused on the career and work-related issues of individuals and groups within and across societies. The broader field of career development includes such diverse disciplines as labor economics, industrial-organizational psychology, counseling and vocational psychology and guidance, human resources and workforce development, government departments of education and labor, elementary and secondary education (K-12) and school counselors, as well as higher education systems, among others.

A brief history of the field. The psychological study of work in the lives of individuals and groups has primarily been the purview of counseling psychologists and more specifically, vocational psychologists. Career development, as topic of scientific inquiry within vocational psychology, represents the developmental process of vocational behavior over time, as experienced and expressed by individuals (Savickas, 2002). Scholarship and practice in vocational psychology dates back as early as the 15th century to the emergence of the vocational guidance movement (Zytowski, 1972). The first theoretical perspectives on vocational guidance emerged much later. Frank Parsons (1909) is often considered the father of modern vocational guidance and psychology for his efforts working with disaffected youth in the Boston community in the early 20th

century. Parsons' (1909) basic tripartite model of vocational guidance entailed a three-step model of occupational choice, which included understanding one's self, understanding the world of work and specific occupations, and using "true reasoning" to determine the relation between the two (Parsons, 1909, p. 5).

Over the years, the history of vocational psychology has been traced along the lines of two major traditions (Savickas, 2005); the differential paradigm (e.g., person-environment fit) and the developmental paradigm (e.g., Super, 1953, 1990). The differential perspective has been largely concerned with identifying features of individuals, work environments, and determining the fit between the two (Savickas, 2002). This perspective has also been referred to as the person-environment fit paradigm, which has its roots in the work of Parsons' (1909) original trait-and-factor theory (Brown, 2002) and is perhaps best exemplified by Holland's (1997) model of interest development (e.g., RIASEC) and Dawis and Lofquist's (1984) Theory of Work Adjustment. These traditional, and once dominant, theories of vocational development have specified person-environment fit (Holland, 1997) as the marquee predictor of career satisfaction and success. From this theoretical approach, career success and wellbeing are determined by the goodness of fit between the interests, skills, and abilities that an individual possesses and those required by the work role and environment.

The developmental perspective of careers has been considered the second of the two major "projects" of career development scholarship over the life course of the field (Savickas, 2005). Early on, Ginzberg, Ginsburg, Axelrad, & Herma (1951) sought to examine the empirical literature of the field and present the early makings of a

developmental theory of careers (Brown, 2002; Savickas, 2002, 2005). Donald Super (1953) critiqued and expanded upon the work of Ginzberg and colleagues (1951) and provided an empirical and theoretical basis for what would become the preeminent lifespan developmental theory of the modern vocational guidance movement. Super (1990) theorized that career development begins in childhood as children gain a better understanding of personal characteristics (e.g., skills, abilities, interests), clarify future visions of the self (e.g., self-concepts), integrate their multiple life roles (e.g., life structure) across the lifespan, and identify consonant work roles that allow for implementation of the self. Super's work inspired other theorists to explore career development processes as they begin in childhood and unfold throughout the lifespan. For example, Gottfredson's (2002) Theory of Circumscription and Compromise suggests that the development of one's vocational self-concept and the process of choosing a career begins in preschool and develops in stages through late adolescence. These stages are marked by an evolving awareness of fit between self and possible occupation, with consideration given to factors such as size and power, gender, social values, and unique aspects of self, such as interests, values, and abilities.

Theories aligned with the developmental perspective (Savickas, 2002) have largely eschewed the person-environment fit model as overly cross-sectional, linear, and formulaic (Blustein, 2006). In essence, person-environment fit models do well to match employable individuals to preferred work environments based on vocational skills and interests. They provide less insight, however, into the vocational behaviors of individuals over time and provide little consideration of the holistic identity of a person, as well as

the meaning and role of work in one's life. Such perspectives also presume a relative degree of choice over occupational pursuits, which circumscribes the applicability of such perspectives to individuals with a relative degree of privilege (Blustein, 2006). Many of the critiques regarding theoretical inclusiveness, however, can be applied to theoretical models across both traditions (i.e., differential, developmental). Much of this points to the recognition that many of the predominant theories and assessments of career development across the 20th century were developed *by* White males of European descent to explain the vocational behaviors *of* White males of European descent (Leong & Brown, 1995; Leong & Pearce, 2011; Blustein, 2006).

Since the field emerged, important contributions have been made in the development of theory, practice, and policy initiatives seeking to improve the career development and working lives of individuals and communities. As the field has evolved, several major critiques have been waged to challenge conventional paradigms within vocational psychology. Among these critiques have been (1) the field's failure to provide more inclusive perspectives that speak to the varied work experiences of diverse populations and (2) a lack of attention to developmental principles regarding the nature by which careers unfold across the lifespan. These critiques are central to the present study's focus on risk-immersed young people transitioning between education and labor contexts and are reviewed below.

A call for more inclusive perspectives. Over the past several decades, scholars have issued an ongoing polemic against traditional theoretical paradigms within the broader social sciences, psychology and education (Prilleltensky, 1997; Prilleltensky,

2005; Freire, 1993), and vocational guidance (Blustein, 2006; Richardson, 1996, 2000; Prilleltensky & Stead, 2014). Traditional paradigms in social science research, practice, and policy have promoted a narrowed focus on individuals and groups with a relative degree of privilege (e.g., White, male, college educated) at the exclusion of particularly marginalized communities and the social structures, systems, and practices that have served to perpetuate their historic oppression. Explicit in this discourse is a call to redefine a more inclusive agenda in the study of work-related issues and transcend a historical emphasis that has framed career assessment and guidance as vehicles supporting self-determined “career” choices of individuals with a relative degree of volition (Blustein, 2006). Thus, vocational scholars have been faced with the continued challenge to “trouble” the historically prevalent narrative of career guidance in favor of more inclusive and critical approaches to studying the role of work in people’s lives (Sultana, 2014).

Indeed, more inclusive perspectives on working require the field to abandon traditional “value-neutral” approaches to vocational scholarship, guidance, and policy (Prilleltensky, 1997). Instead, scholars are called to embrace a critical examination of the dominant research and policy agendas that perpetuate systems of oppression and shape the landscape of work-related issues, particularly for traditionally marginalized groups (Prilleltensky, 1997; Blustein, 2006; Prilleltensky & Stead, 2014). Scholars have been challenged to hold more deliberate and accountable positions on the personal, social, political, and economic implications of their work, with particular concern for issues of social justice in service of disaffected workers and traditionally marginalized groups.

Niles and Herr (2013), for instance, argue that the purpose and function of career development public policy can be measured along a bipolar continuum ranging from social justice to national security (e.g., economic, defense). The National Defense Education Act of the 1950s, for example, or one of the many current Science, Technology, Engineering, and Math (STEM) initiatives in the U.S., represent education and career development policies that promote a healthy STEM workforce. Primary among the motivations to cultivate a strong STEM workforce is the national interest in remaining globally competitive in defense, technology, and economy (Niles & Herr, 2013). Affirmative action initiatives, by contrast, are closer to serving the social justice end of the continuum.

There are varying conceptions of social justice with which to appraise progress toward the provision of socially just vocational guidance research, practice, and policy (Sultana, 2014). For example, research and policy agendas that promote individual agency possess clear utility for cultivating self-determination and empowering the truly disadvantaged. Such paradigms, however, simultaneously provide the assumptive foundation of individualism upon which more oppressive narratives such as meritocracy are perpetuated (Sultana, 2014; Prilleltensky, 1997). That is not to say that such agendas are unjust, but rather to draw emphasis to the moral complexity that is uncovered by a critical approach to research, practice, and policy.

In a seminal challenge of the prevailing zeitgeist of psychology, Prilleltensky (1997) beseeched the field to critically evaluate the moral implications of our professional values, assumptions, and practices and proposes an Emancipatory

Communitarian (EC) approach to professional psychology. A critical evaluation of one's values entails an examination of the extent to which such values promote caring and compassion, self-determination, human diversity, collaboration and participation, and distributive justice. He beckons professional psychologists to examine individual and collective assumptions regarding the good life, the good society, power in relationships, and professional ethics. Accordingly, psychologists ought to assess the implications of their research, practice, and policy as it relates to the problem definition, the role of clients or participants, the role of the helpers or scholars, the types of intervention and policies generated, and the timing of such activities (Prilleltensky, 1997). Taken together, these criteria constitute a framework from which psychologists can examine the moral implications of their professional approach to psychology.

Prilleltensky (1997) organizes the historical approaches to psychology across four major paradigms to provide a comparative analysis of the EC approaches relative to other traditions, including: 1) Traditional, 2) Empowering, 3) Postmodern, and 4) Emancipatory Communitarian. Emancipatory Communitarian approaches espouse a value position that seeks to reconcile the tension between the individual and collective good through a more equitable “balance between self-determination and distributive justice [and a] high degree of concern for well-being of individuals and communities” (Prilleltensky, 1997, p. 525). The assumptions of an EC approach entail the promotion of knowledge to serve moral values and consideration of the implications of knowledge, research, and practice in light of the moral question of the “good life” (Prilleltensky, 1997, p. 525). From an EC perspective, the “good life,” and what constitutes a good and

just society, is grounded in principles of “mutuality, social obligations, and the removal of oppression” (Prilleltensky, 1997, p. 525). Research and practice from an EC perspective requires that problems are considered in the context of interpersonal and social oppression. With that understanding in mind, efforts to promote social justice and the good life via knowledge, research, and intervention ought to work to ameliorate oppression at the individual level, as well as the level of broader social systems (Prilleltensky, 1997).

Importantly, there is no singular manner in which the EC approach is implemented in vocational psychology guidance (Blustein, McWhirter, & Perry, 2005) and thus, there is considerable opportunity for scholars to employ diverse and creative strategies in the research, practice, and policy processes. Maintaining a critical EC approach to scholarship is useful to ensure that research and policy do not seek solely to promote the interests of those that have inherited a relative degree of privilege, nor to empower marginalized individuals and communities at the exclusion of efforts to generate change among the very systems and institutions of oppression that have served to perpetuate injustice (Blustein, McWhirter, & Perry, 2005).

To summarize, there is a demand for vocational scholars to focus scholarship more prominently a broader range of issues related to working with relevance to more diverse populations of citizens (Blustein, 2006). In doing so, scholars ought to consider and clarify the social justice and moral position from which they operate. Furthermore, scholars should consider the degree to which scholarship privileges individual or systems perspectives, particular types of individuals or systems within these perspectives, and to

what end the chosen focus serves a social justice agenda.

The present study seeks to promote a more inclusive agenda to the psychological study of working by exploring the career development experiences of risk-immersed youth, a population that has been historically left out of the discourse in vocational psychology (Blustein, 2006). Moreover, the present study adopts an EC perspective through an examination of career development processes that focuses on both systemic and structural barriers, as well as individual psychosocial responses to engaging with such barriers.

A call for developmental perspectives. The need for a stronger adoption of developmental perspectives in the field of vocational psychology is born from the notion that “*vocational* development is inextricably woven into the fabric of *human* development in all its forms” (Hartung, Porfeli, & Vondracek, 2008, p. 66). Scholars have sought to situate career development as one of the many critical interrelated life-span pursuits that constitute one’s broader human development. Such efforts have illustrated the need to further ground theories of career development within broader theories of human development. The present study adopts a strong developmental approach in understanding the career development experiences of risk-immersed youth at a critical developmental period in the school-to-work transition. In the following sections, the author provides a detailed review of recent advances in human development theory as well as specific developmental theories that form the basis of the conceptual framework investigated in the present study.

Modern perspectives of human development. Modern perspectives on human development are situated in Relational Developmental Systems Theory (Lerner & Overton, 2008). The RDST perspective breaks from historically reductionist models that employ absolute splits between constructs such as nature and nurture (e.g., genetics and culture) in favor of a broader relational paradigm emphasizing the fusion between individual and environment. Relational Developmental Systems Theory (RDST) emphasizes the notion that individuals are embedded in sets of nested layers of social context. Within these social ecological layers, human developmental processes and outcomes emerge through mutually influential relations between the individual and environment. Further, such person↔context relations are conditioned by the characteristics of the individual's biological, psychological, and social (e.g., sociocultural, family, neighborhood or community, physical environment) systems, as well as the broader sociohistorical zeitgeist that temporally frames these interactions over time (Lerner, 2006).

By virtue of the potentially infinite variations in the characteristics of individuals and the ecologies in which they are embedded, such person-environment relations provide the assumptive foundation for relative plasticity of the individual over time. Moreover, this assumption supports the concept of diversity, defined as interindividual differences in intraindividual change over time (Lerner & Castellino, 2002). Further, the notion of individual agency in developmental processes emerges as individuals engage in the dynamic process of self-organization through successive adaptive relations with their social ecological contexts. Taken together, the individual is a dynamic, adaptive, self-

organizing living system that develops in, and through relation with, multiple social contexts, and possesses the capacity for relative plasticity and change. Several key examples of theories of human development that are situated in the broader RDST paradigm are Elder's Life Course Approach (Elder, 1996 1998), Bronfenbrenner's Bioecological Model of Human Development (Bronfenbrenner & Morris, 2006), and Spencer's (2006) Phenomenological Variant of Ecological Systems Approach (PVEST).

Spencer's (2006) PVEST model is of particular relevance to young people developing in risk-immersed ecological systems and struggling with environmental constraints during the school-to-work transition. Spencer crafted a compelling critique of traditional ecological systems theories (e.g., Bronfenbrenner, 1977) on the basis that such perspectives fundamentally ignore the unique phenomenological experience of normative developmental processes. Accordingly, Spencer's perspective emphasizes the ways in which individual psychosocial constructions are implicated in the processes of self-organization and identity development over the lifespan, with an emphasis on adolescence and early adulthood. Spencer specifically sought to address the inadequate acknowledgement within contemporary perspectives, of the immense impact of variation in contextual conditions on developmental outcomes and normative developmental processes. In particular, Spencer provides a persuasive portrayal of the ways in which structural, social, and interpersonal oppression have been absent from contemporary theories and are implicated in developmental processes of young people, specifically young men of color.

Briefly (and described more thoroughly in subsequent chapters), Spencer suggests

that a proper understanding of normative developmental processes must be grounded in an appreciation for (1) the net risk and protective factors within ones ecology, (2) the net effect of experiencing actual environmental stressors, (3) the reactive coping responses that are required of young people to manage such stressors, (4) the manner by which such coping styles become internalized over time into more enduring stable identities, and (5) the ways in which identity drives future person-environment relations, leading to either productive or unproductive stage-specific outcomes. Spencer's emphasis on phenomenology in developmental person-environment relations provides a compelling identity-focused cultural ecological (ICE; Spencer, 2006) perspective on normative developmental processes. To date, however, few vocational scholars have incorporated RDST or its many related theories (e.g., PVEST) into current perspectives on careers and work.

Career theory and modern developmental perspectives. Over thirty years ago, Vondracek, Lerner, Schulenberg, (1986) advocated for a contextually framed life-span developmental approach to career development that better incorporated developmental science into career development. As such, Vondracek and colleagues suggested conceptualizing career development as a process that is situated in broader developmental and contextual perspectives of human development. According to this perspective, it is prudent to conceptualize perspectives on career development scholarship, intervention (e.g., workforce development programs with at-risk young people), and policy, as pursuits in service of broader human development that focus, in particular, on work and career related issues.

Parsing out several tenets implicit in this perspective reveals both basic and complex assumptions that can guide insights on career development. First, consistent with a lifespan approach, career development can occur at any point in an individual's life. Second, career development inquiry, intervention, and policy should be thought of as organized, intentional, developmental, and sequential activities aimed to promote change among ongoing developmental processes toward a desired work-related outcome. While such activities may begin at some identified discrete time point, they should seek to shape a more enduring trajectory of progress rather than impact change solely at the discrete time point in which it was initiated. Third, the authors argue for a contextual approach that accounts for the dynamic interplay between the individual and multiple ecological layers of context in which the individual is embedded. Consistent with this is the notion that career development activities (e.g., scholarship, intervention, policy) intended to influence one aspect of an individual's life (e.g., career or work) should be expected to influence other aspects as well. Moreover, a number of normative and non-normative influences may occur across an individual's life that should be considered when engaging in career development activities.

The authors draw on three domains of normative and non-normative developmental influences (Baltes, Cornelius, & Nesselroade, 1978; Baltes & Danish, 1980) as they apply to career development in particular: a) normative age-graded influences; b) normative history-graded influences; and c) non-normative life-event influences. Normative influences can be both biologically and/or environmentally driven and tend to share a higher degree of universality than non-normative influences.

Normative age-graded influences are career related influences that covary with one's chronological age. For example, entry into formalized schooling, intellectual development, and meeting the required age of eligibility for labor market entry.

Normative history-graded influences are influences on an individual's career development that covary with historical events and context rather than an individual's chronological age. Normative history-graded influences may include socio-political, cultural, and economic events (e.g., the global recession of the late 2000's) that influence the landscape of work opportunity for individuals and groups. Non-normative influences are less universal in that they may or may not share some relationship with one's age or historical context. Events such as the loss or rupture of an intimate relationship, losing one's job, or experiencing a grave injury or illness describe several of the non-normative influences that shape one's future career development in unintended or unanticipated ways. Taken together, the authors suggest that career development actors ought to bear in mind the typical age-related developmental changes, cohort-related historical factors, and non-normative personal life events that shape an individual.

Notable examples of efforts to further situate vocational psychology scholarship in broader RDST perspectives include the work of Vondracek, as well as Hartung and Porfeli (Hartung, Porfeli, & Vondracek, 2005, 2008; Skorikov & Vondracek, 2007; Vondracek, 2001, 2007; Vondracek & Porfeli, 2008; Vondracek & Reitzle, 1998), Howard and Walsh's (2010) Conceptions of Career Choice and Attainment (CCCA) model of career reasoning in childhood, Patton & McMahon's (2006, 2014) Systems Theory Framework of Career Development, and Savickas' (1997, 2002, 2005, 2012)

Career Construction Theory. The work of these select scholars within the field of vocational psychology who have sought to fulfill the call for developmentalism in career development theory is a testament to impact of the pioneering work of Ginzberg and colleagues (1951), Super (1953, 1990) and Gottfredson (2002), among others.

With respect to the school-to-work transition, there have been several attempts to incorporate developmental perspectives into understanding this critical transition period. Following from the developmental perspective described above, several scholars have endeavored to ground career development theory in broader developmental theory to examine the school-to-work transition. For example, Blustein and colleagues (Blustein, Phillips, Jobin-Davis, Finkelberg, & Roarke, 1997) cited the developmental perspectives of Super (Super, 1990) and the developmental-contextualist lifespan career framework proposed above by Vondracek and colleagues (1986) as foundational perspectives in a mixed-methods investigation of the school-to-work transition among employed individuals aged 18 to 29. The authors drew from the developmental perspective to understand the individual and contextual factors perceived by individuals in the STW transition and the unique ways in which individuals perceive these factors with respect to job satisfaction and occupational choice congruence. Further, a more recent qualitative effort by Blustein and colleagues (2002) again drew from the framework proposed by Vondracek and colleagues (1986) to explore the STW experiences of 20 individuals from both high and low socioeconomic backgrounds. The authors found that individuals from higher socioeconomic backgrounds endorsed higher levels of experiencing work as a source of personal satisfaction, greater career adaptability, access to external resources,

and higher self-concept crystallization (Blustein et al., 2002).

Additionally, Solberg, Howard, Blustein, and Close (2002) drew from developmental-contextualism as a theoretical foundation for an innovative framework to school-to-work programming in K-12 schools. The authors proposed a School-to-Work-to-Life (STWL) framework based on the notion that “success in work and life mutually influence one another because the skills and behaviors necessary to succeed in one domain provide a behavioral and emotional template necessary to successfully navigate through other life domains (Solberg et al., 2002, p. 708). The authors depart from traditional person-environment fit paradigms (e.g., Holland, 1997) to propose an intervention framework that accounts for person-environment interactions within multiple social contexts across the lifespan that emphasizes adaptation in the school-to-work transition.

The concerted efforts of these select scholars have collectively sought to fulfill the call to better infuse developmentalism into theories of career development. Nearly 30 years later, however, this call remains somewhat unheeded by the field at large. Indeed, vocational researchers have continued to acknowledge that vocational scholarship has not been adequately contextualized within broader paradigms of developmental science (Hartung, Porfeli, & Vondracek, 2005; Schultheiss, 2008; Vondracek, 2001; Vondracek, Lerner, & Schulenberg, 1986). Perhaps more accurate, to acknowledge the many efforts of scholars such as those described above, is the notion that vocational psychology has not kept pace in updating career development theories to reflect the significant advancements that have occurred within the developmental sciences over the past several

decades. The integration of current perspectives on developmental theory are critical to ensure that explanations of career development, in particular, the school-to-work transition, are consistent with assumptions, theory, and empirical findings in the broader field of human development.

Advancing inclusive, developmental vocational psychology perspectives through interdisciplinary theory integration. In considering how to advance the goal of integrating career development and developmental science toward more developmental and inclusive perspectives on working, the present study identifies two theories of career development that are particularly well-suited to explain aspects of the school-to-work transition. Each, however, would benefit from a stronger articulation of their grounding in developmental perspectives and relational developmental systems theories. An examination of these select career theories reveals their complementary nature and provides a rationale for integrating the theories under the rubric of Relational Developmental Systems Theory and Spencer's (2006) PVEST model, in particular. Doing so provides a vocational perspective that is more fully grounded in modern developmental science with applicability to a wider population of young people.

Career Construction Theory. The first of these theories, Super's (1990) theory of career development, has been perhaps the most widely applied to the school-to-work transition by virtue of its lifespan perspective and stage model of career development processes (Solberg et al., 2002). Super's original theory has since been updated, expanded, and re-envisioned as Career Construction Theory (CCT; Savickas, 2002). Career Construction Theory was developed to better explain the career development

processes that unfold across the lifespan in a global, post-industrial, 21st century economy (Savickas, 2002). As noted above, CCT is situated within developmental-contextualism and social constructivism as metatheoretical foundations for understanding the role of work in individual's lives. As such, CCT emphasizes person-environment integration and adaptation as a process of self-making in which the individual imbues narrative meaning on objective vocational behaviors to construct a subjective understanding of one's career (Savickas, 2002, 2005).

Central to CCT are the constructs of vocational identity and career adaptability, which serve as meta-competencies for career construction in the 21st century (Savickas, 2002, 2005). Vocational identity is rooted in the work of Erikson (1959, 1968) and Marcia (1966, 1980) and represents the psychosocial processes of career exploration, commitment, and reconsideration. Within CCT, vocational identity furnishes the individual with a sense of direction regarding occupational decisions and career development. Career adaptability represents the individual's psychosocial resources for "coping with current and anticipated tasks, transitions, [and] traumas, in their occupational roles that, to some degree large or small, alter their social integration" (Porfeli & Savickas, 2012, p. 662). According to CCT, insofar as identity provides a guide for future career behaviors, adaptability describes the resources required to engage in the person-environment interactions that promote productive coping responses to adapt to career development tasks, transitions, and traumas. Career Construction Theory proposes five stages of career development across the lifespan, through which the individual cycles and recycles. Within this cycle, the individual relies on vocational

identity and career adaptability resources to chart and navigate one's course in the process of achieving career-related developmental tasks and navigating work related transitions and traumas.

Career Construction Theory offers a unique vantage point for understanding the school-to-work transition of risk-immersed young people. As a lifespan model of career development, CCT is uniquely positioned to describe the developmental processes and tasks required of the individual at various stages of development. The central constructs, identity and adaptability, are well aligned with modern understandings of human development and Relational Developmental Systems Theory, as they stress person-environment integration as the fundamental process underlying development. Further, the focal emphasis on identity development as a process of self-organization, which drives future person-environment relations, is highly consistent with developmental systems theories broadly, and specifically with Spencer's PVEST model. Despite its strong emphasis on developmental processes and identity formation, however, Career Construction Theory, has been criticized for lacking an equal emphasis on context and the role of environmental stressors in the career development processes that unfold across the lifespan (Savickas, 2012). Thus, while CCT offers a unique developmental perspective on the school-to-work transition, its application to career development processes of individuals developing in high-risk social ecologies has been less well defined.

The Psychology of Working Theory. The second of the career theories examined in the present study is the Psychology of Working Theory (Blustein, 2006; Duffy et al.,

2016), which was developed to explain the unique role that work plays in providing individuals with a means for satisfying basic needs for survival, self-determination, and relational connectedness. Central to the PWT is the notion of decent work, which describes the occupational conditions necessary to afford the individual with opportunities to fulfill the needs described above. Decent work in the PWT is described as work that consists of (1) physically and interpersonally safe working conditions, (2) hours that enable free time and adequate rest, (3) organizational values that are congruent with family and social values, (4) adequate compensation, and (5), access to adequate health care (Duffy et al., 2016).

The PWT was developed with an emphasis on explaining the work-related experiences of individuals of the working and middle class, those who experience marginalization and oppression in society, and those for whom extant theories of vocational behavior do not adequately capture the role and experience of work in their lives. As such, contextual barriers and constraints to decent work are intentionally placed at the forefront of the model and represent the immense impact of environment on access to decent work opportunities. The model suggests that marginalization and socioeconomic constraints are key predictors of decent work. The relationship between these predictors and decent work is suggested to be partially mediated by psychosocial variables of career adaptability (e.g., Savickas, 2012) and work volition (Duffy et al., 2012), thereby illustrating the role of person-environment relation in securing decent work opportunities. The PWT suggests that attainment of decent work allows individuals to fulfill basic human survival needs, relational needs, and self-determination strivings,

which in turn promote overall psychological well-being and work fulfillment. Further, several variables are proposed to moderate the relationships within the PWT model, including one's personality, capacity for critical consciousness, available social support, and broader macro-level economic conditions.

The PWT offers a critical vantage point for understanding the school-to-work transition. Fundamental to this perspective is the idea that basic employment may be an inadequate indicator of career success (Blustein et al., 2016). Instead, the PWT emphasizes that the quality of one's work experience and working conditions is fundamental for fulfilling psychological, relational, and survival needs, overall well-being, and satisfaction (Blustein, 2006; Blustein et al., 2016; Duffy et al., 2016). Further, the PWT was developed intentionally to understand the work experiences of those who have been traditionally underserved, marginalized, or oppressed (Duffy et al., 2016). With respect to the school-to-work transition of risk-immersed young people, the PWT offers a framework that is uniquely situated to explain psychosocial adaptation to contextual barriers en route to securing decent work.

The PWT's strong contextual emphasis and applicability to the school-to-work transition of risk-immersed youth, however, is somewhat constrained by the model's developmental limitations and utility across the lifespan. As the central construct of the model captures *decent work*, a measure of working conditions, the model is limited in its ability to examine the career development experiences of individuals who are not currently participating in the world of work. As such, although the PWT illustrates a strong contextual perspective and therefore offers utility in understanding the work-

related experiences of oppressed or marginalized individuals, it would benefit from a stronger infusion of developmentalism to allow for more universal use across the lifespan and for those not currently participating in work.

Integration of PWT and CCT within a PVEST framework. One potential avenue to strengthen both CCT and the PWT is a proposed integration of the two under the rubric of a RDST framework; in particular, the PVEST model suggested by Spencer (2006). Specifically, the proposed integrated model suggests substituting the central construct of the PWT, *decent work*, with a more developmentally appropriate construct, *vocational identity*, offered by CCT. Indeed, identity development has been suggested as an important process of career development (Super, 1990; Super, Savickas, & Super, 1996; Savickas, 2002, 2005; Skorikov & Vondracek, 2007) and one that may unfold in a qualitatively different manner for young people from risk-immersed backgrounds (Diemer & Blustein, 2007). By allowing vocational identity to supplant decent work as the central construct in the PWT, the resulting model might better achieve a career-specific expression of what Spencer's PVEST model articulates as an identity-focused cultural ecological (ICE) perspective on developmental processes.

From Spencer's perspective, identity, particularly a culturally and ecologically grounded understanding of identity, is the driver of stage-specific developmental outcomes (Spencer, 2006). From a career perspective, decent work can be seen as a productive stage-specific developmental outcome (Spencer, 2006) of the school-to-work transition. Therefore, according to Spencer's model, if we are to understand the processes that lead to the productive stage-specific outcome of decent work, scholars should seek to

understand the unique, culturally and ecologically grounded, processes of identity development that underlie and predict such outcomes. In other words, identity may provide the key developmental link missing from the PWT necessary to increase its developmental applicability and understand the school-to-work transition of risk-immersed young people. Further, by integrating the PWT and CCT in such fashion, the resultant model achieves a perspective that is more fully situated in modern developmental systems theories; thereby contributing to the ongoing efforts of vocational scholars to situate career theory in broader human development.

Thus, by integrating the PWT and CCT under the rubric of the PVEST model, the present study seeks to do two things: 1) examine identity as a key developmental construct of import to understanding the school-to-work transition of risk-immersed young people and, 2) provide an adapted theoretical and structural model that better situates understandings of career development processes in theories of broader human development. In striving toward these goals, the present study advances the field's mission to develop more inclusive and developmental perspectives in the study of work in people's lives.

Purpose and Research Questions

The present study seeks to understand the process of vocational identity development for risk-immersed young people confronted with challenges along the school-to-work pipeline. Through an integration of the PWT (Duffy et al., 2016) and CCT (Savickas, 2002) under the broader framework provided by PVEST (Spencer, 2006), the present investigation seeks to explore CCT's vocational identity construct as a

more developmentally appropriate central construct within the structural model offered by the PWT. By contextualizing vocational identity within the PWT, which explicitly positions contextual barriers and coping responses at the forefront of the model, the PWT is transformed into what Spencer's PVEST model describes as an identity-focused cultural ecological (ICE) perspective. This perspective offers a valuable framework to explain the normative developmental processes of diverse young people with an emphasis on developmental processes grounded authentically in the cultural and social contexts of the developing person's ecology (See Figure 1).

The developmental processes of interest to this study are focused most squarely on those of relevance to career development and the work role in particular. The following questions guide the present study.

- 1) To what degree do contextual constraints predict identity development among risk-immersed young people?
- 2) To what degree is the relationship between contextual constraints and vocational identity development mediated by additional psychosocial career development variables of work volition and career adaptability?

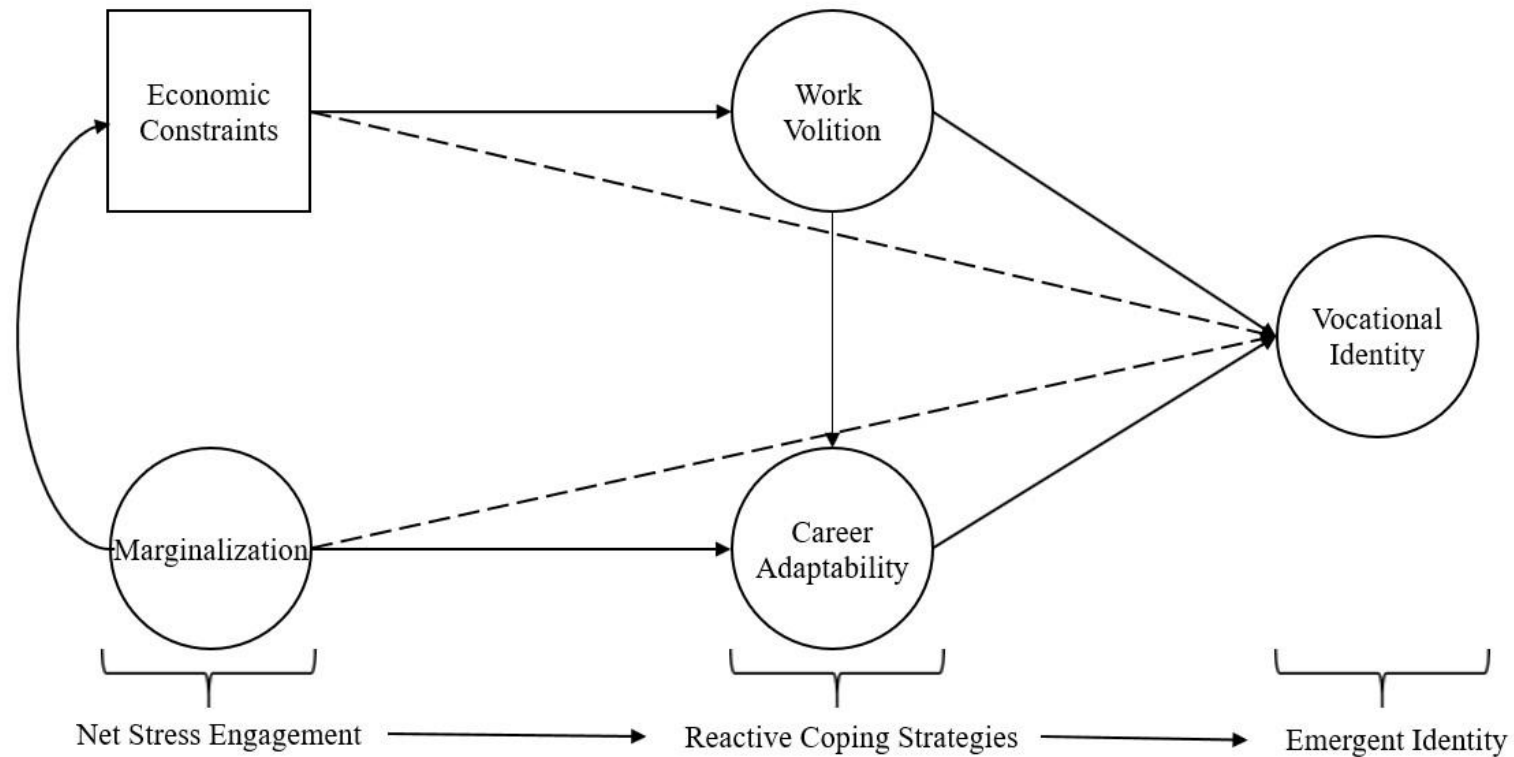


Figure 1. Integrated structural model: An Identity-focused Cultural Ecological (ICE) model of vocational identity development
 Note: The above model represents an adaptation of the Psychology of Working Theory (Duffy et al., 2016) in which the central construct, decent work, is replaced by Career Construction Theory's (Savickas, 2002) vocational identity construct. This integration provides a career-specific expression of Spencer's (2006) Phenomenological Variant of Ecological Systems Theory (PVEST) and provides an identity-focused cultural ecological (ICE) perspective (represented by brackets beneath the dashed lines) on the career development of risk-immersed young people.

Summary

Broadly, the present study seeks to situate career development processes within the broader field of developmental science and integrate elements of Career Construction Theory (Savickas, 2012) and the Psychology of Working Theory (Blustein, 2006; Duffy et al., 2016) within an ICE perspective advanced by the Phenomenological Variant of Ecological Systems Theory. In doing so, the present study offers a culturally and developmentally grounded structural model from which to understand the career development of risk-immersed young adults.

The recently proposed PWT structural model provides a conceptual foundation to contemplate the potential antecedents of entry into decent work. The PWT offers a contextually-focused model of career development that positions contextual barriers as fundamental forces shaping the career development processes for diverse groups. The central construct of the PWT, decent work, however, assumes a basic level of involvement in an occupation. For individuals that are pre-employment or unemployed, such as risk-immersed young people, or the subset of Opportunity Youth who have become disconnected during the school-to-work transition, the quality of one's work experience is a difficult phenomenon to evaluate. Thus, although the PWT offers a unique value relative to other extant career development models by virtue of its inclusive focus on the work-related experiences of diverse groups, it is somewhat limited in its applicability to individuals at earlier periods of development within the lifespan, as well as individuals who may be unemployed or disconnected from work.

Career Construction Theory (Savickas, 2012) offers a perspective that provides a

more comprehensive developmental framing of the process by which individuals cultivate career identity and adaptability as meta-competencies required to chart and maneuver their unique course in the world of work. Taken together, CCT offers a more developmental perspective to complement the PWT's contextual and social justice-oriented framework. Drawing from CCT as a foundational lifespan perspective on career and work in the 21st century, the present study replaces the central PWT construct of decent work with the CCT construct of vocational identity, a theoretically congruent and more developmentally appropriate construct for young adults. The resulting model offers a developmentally and contextually grounded perspective on young people during the school-to-work transition as they prepare to enter the workforce.

The integration of CCT's developmental perspective and vocational identity construct within the PWT's compellingly articulated contextually-focused framework produces a structural model that is strikingly well aligned with the identity-focused contextual ecological (ICE) approach outlined in PVEST (Spencer, 2006). By integrating these two complementary career theories under the PVEST rubric, this study advances a more culturally, contextually, and phenomenologically grounded developmental model of career development.

CHAPTER TWO: THEORETICAL RATIONALE

An extensive review of human development theory is provided below to describe the foundations from which the current study builds. Beginning with the meta-theoretical advancements within the developmental sciences, the study progresses toward relatively more specific developmental theories, such as PVEST (Spencer, 2006), which inform the conceptual framework examined in the present study. The review of human development theory is followed by a detailed review of career development theory with a focus on the PWT and CCT. Finally, the author provides a rationale for integrating these two career theories within the PVEST framework.

Theories of Human Development

To adequately contemplate concepts and questions of career development, one must entertain a broader consideration of the basic assumptions of human development and developmental science. In other words, if one is to contemplate questions related to careers—behaviors (objective) or interpretations of behaviors (subjective) enacted by the individual across the lifespan (Savickas, 2012)—one must also consider the broader assumptions of human development in which career behaviors are situated. The expansive purview of developmental science includes the study of questions germane to development (e.g., behavioral, cognitive, motivational, emotional, sociocultural), inheritance, and evolution (Overton, 2013). Conceptual perspectives offered by these more general fields of inquiry provide the fundamental and necessary assumptions required to contemplate vocational behavior of individuals throughout the lifespan.

Scientific Discourse and Conceptual Contexts

In order to discuss the various theoretical perspectives on human and career development, it is helpful to understand the ways in which theoretical concepts are organized in relation to one another and the observed phenomena that one wishes to describe. Conceptual clarification and organization are necessary prerequisites as, “only through establishing coherent sets of concepts can we continue to move forward toward the goals of describing, explaining, and optimizing human development” (Overton, 2013, p. 10). The following sections seek to outline the framework of concepts employed to ground our understanding of human development and career development.

In considering the relevance, utility, and role of theory, it is prudent to imagine scientific concepts and conceptual systems as layers of conceptual contexts arranged and “interwoven in a nested fashion” (Overton, 2015, p. 13), which serve to frame scientific questions, research programs, and paradigms. As such, conceptual systems are organized in hierarchical sets, arranged by increasing generality according to the scope and proximity to the everyday phenomena that the concepts are intended to explain. The whole of this hierarchy provides the *conceptual framework* (see Figure 2) that undergirds a scientific research paradigm. Here, a paradigm describes the broader system of assumptions, principles, or rules that frame a field of science (Overton, 2015). The conceptual framework structures the scientific discourse that surrounds the efforts to understand and explain the phenomena of import within a field of study.

Observational or Commonsense discourse encompasses the most basic “immediate and circumscribed” set of observational concepts (Overton, 2015, p. 13).

Commonsense discourse and observational concepts are composed of “folk beliefs” about everyday life. These folk beliefs provide the most basic form of scientific discourse describing “the nature of objects and events in the world” (Overton, 2015, p. 13). An example of these commonsense folk beliefs includes, “some people are smart’ and ‘other people are more or less smart’” (Overton, 2015, p. 13). These discursive units can be contrasted against their more abstract theoretical conceptual alternatives such as “IQ” (Overton, 2015, p. 13). Science, however, “often defined as the reflective criticism of common sense...requires movement to a level of critical reflection on this commonsense understanding” (Overton, 2015, p. 14).

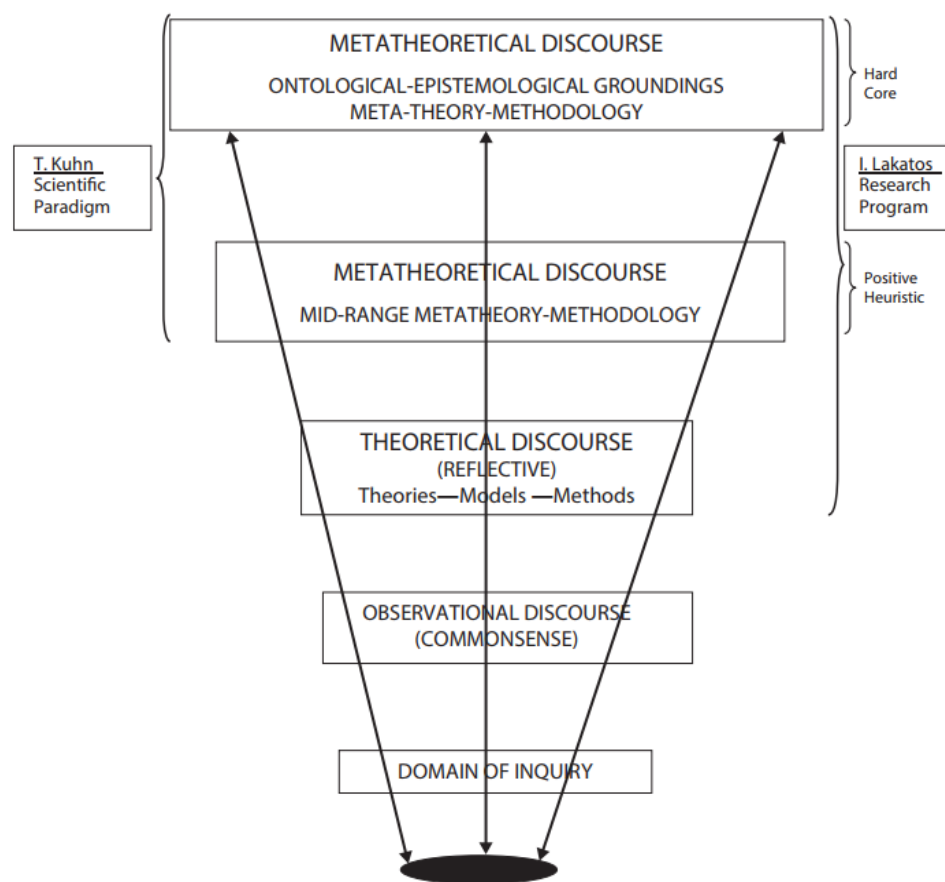


Figure 2. Schematic representation of a conceptual framework (Overton, 2015)

Reflective discourse refers to a collection of more general or abstract hierarchical conceptual sets describing critical reflections *on* or *about* commonsense or observational understandings and discourse. *Reflective discourse* consists of several tiers of conceptual sets ranging from the more immediate, *theoretical* discourse to the most general or abstract, *metatheoretical* discourse.

Theoretical discourse contemplates and coordinates observational concepts into more cohesive and coherent arrangements. Within this layer of conceptual context are “theories, models, hypotheses, and they range from informal hunches to highly refined concepts concerning the nature of, and relations among, objects and events” (Overton, 2015, p. 14). Theoretical concepts are fundamentally aimed at describing the set of observational discourse. In other words, “at this level, concepts are *about* the observational set of discourse” (Overton, 2015, p. 14). Examples of theoretical discourse and concepts from developmental science include Piaget’s (1936, 1937) theory of cognitive development, Erikson’s (1963, 1982) theory of psychosocial development, Vygotsky’s (1978, 1980) sociocultural theory of development, and Ainsworth and Bowlby’s attachment theory (Ainsworth & Bowlby, 1991).

Metatheoretical concepts, or *background concepts*, provide the framing for the conceptual system that underpins the broader paradigm and when organized in a coherent system, or set, are defined as *metatheories* (Overton, 2015). Metatheoretical concepts and discourse are *about* theoretical and observational concepts and discourse. Thus, metatheories describe the most general rules and principles that guide the conceptual framework and a field of inquiry. Metatheoretical discourse occurs at two levels referred

to as (1) *Metatheories* and (2) *Metatheories of the middle range*.

Metatheories of the most general scope are described as *worldviews* and entail ontological and epistemological considerations and assumptions that ground the entire conceptual framework and the varying layers of conceptual sets that are nested within this level of the hierarchy. Together, the ontological and epistemological assumptions constitute the most general level of the conceptual framework and provide the rules and principles that describe the paradigmatic worldview of “the nature of the world...and the nature of how we know that world” (Overton, 2015, p. 14). *Metatheories of a middle range* are more immediately concerned with observational conceptual systems than the conceptual systems of metatheoretical worldviews but more general than the conceptual systems of theoretical discourse. For example, within the developmental sciences competing mid-range metatheories might offer concepts or discourse on the nature of the human organism (e.g., an active agent and dynamic system or computational input-output information processing device; Overton, 2015; Overton & Muller, 2012).

In considering the phenomena of the school-to-work transition among risk-immersed young people, it is critical to clarify the varying conceptual sets that would structure the reciprocal flow of scientific discourse. In other words, it is prudent to ground our examination of observational concepts (e.g., “people get an education and then enter a job” or “some people have an easier time getting jobs than others”) in a reflective discourse. Doing so will clarify the metatheoretical conceptual systems of the broader scientific paradigm of human development and the more circumscribed theoretical conceptual systems concerned with the phenomena of career development.

Relational Developmental Systems: A Metatheoretical Framework for Vocational Behavior and Career Development

Developmental science has evolved to become an interdisciplinary field concerned with describing, understanding, and explaining developmental processes and optimizing the adaptive development of individuals (Overton, 2015). In addition to optimizing intraindividual adaptive development among individuals, developmental science seeks to examine interindividual differences in intraindividual adaptation across the lifespan (Lerner, 2012). This modern conception captures the efforts of scholars to transform the related subfields of human development (e.g., developmental psychology, genetics) into a true multidisciplinary developmental science (Lerner, 2006, 2012; Lerner & Overton, 2008; Overton, 2015).

The Process-relational paradigm: Metatheory. Over the last several decades, scholars have set forth an argument for a new conceptual paradigm—perhaps more accurately, “a return to the historical roots of the field” (Lerner, 2006, p. 3)—to support integration and advancement within the fields of developmental science (Lerner, 2006; Lerner & Overton, 2008; Overton, 2010, 2013, 2015). Specifically, the need for paradigmatic reflection and reconceptualization has been justified by empirical and theoretical advancements in the many related disciplines (e.g., biology and genetics, theoretical physics, evolutionary psychology, cognitive science, sociocultural anthropology, etc.) that are united under the umbrella of developmental science.

The cartesian-split-mechanistic paradigm. Until recently, the prevailing scientific paradigm guiding developmental science has been referred to as the Cartesian-

Split-Mechanistic worldview (Overton, 2013). The Cartesian-Split paradigm is rooted in positivist metatheoretical assumptions and a worldview that the universe is uniform and permanent. This metatheoretical worldview set forth a mechanistic vision that the universe functioned as a machine composed by “a clockwork (and system of vortices)” in which external force or “push” was the singular cause of motion driving the machine (Overton, 2013, p. 95; Overton, 2015). Further assumed by this perspective was the positivist notion that the objects and features of nature could be “split into dichotomous pure forms” (Overton, 2013, p. 95). Taken together, this paradigm put forward an epistemological and ontological image of the natural world as separate from the mind, with features that were absolute and categorizable, and that functioned in a manner that was operationally mechanistic.

As suggested by the name of the paradigm, it was Rene Descartes and the ideas of Cartesian metaphysics that had the strongest influence on this metatheoretical foundation (Overton, 2013). Perhaps most salient among Descartes’ epistemological contributions were the principles of *splitting*, *foundationalism*, and *atomism* (Overton, 2013). *Splitting* is an assumption that relies on the principles of *foundationalism* and *atomism* and is more easily interpretable considering these assumptions. *Foundationalism* is the idea that a “rock bottom unchanging nature,” of reality exists. Here, reality is described as “an absolute, fixed, unchanging bedrock” which provides “a final fixed secure base” for understanding the natural world (Overton, 2013, p. 96). *Atomism* specifies that this bedrock foundation “is composed of elements’ pure forms...that preserve their identity regardless of context” (Overton, 2013, p. 96). *Splitting* is derived from these two

underlying axioms and describes the nature by which a whole can be partitioned into separate, mutually exclusive components composed of their most basic pure elemental forms. Corollary to these ideas is the assumption of *simple complexity*, which describes that the whole represents the simple additive sum of the element parts.

Taken together, the principles of *splitting*, *foundationalism*, and *atomism* describe the major epistemological processes of *decomposition* and *recomposition* (Overton, 2006, 2013). *Decomposition*, also known as *reductionism*, describes the process of separating or breaking down the whole into its smallest component parts. *Recomposition*, also known as *unidirectional, linear, and additive associative or causal sequences*, describes the notion that in constructing or reconstructing a whole, elemental parts must occur “according to their contiguous co-occurrence in space and time, or according simple efficient or material mechanical cause-effect sequences that proceed in a single direction” (Overton, 2013, p. 96). Otherwise stated, any aggregate whole is understood to be composed by individual or multiple “efficient and material causes” that operate conjunctively in an additive fashion (Overton, 2013, p. 96). The implications of these assumptions render any notion of reciprocal, circular, or downward causality impermissible in understanding developmental processes.

To date, these principles have guided related fields of developmental science such as genetics, cognitive development, and cultural studies. The Cartesian splits and mechanistic principles characteristic of the Cartesian-Split-Mechanistic worldview, however, have since been deemed theoretically and/or empirically untenable (Overton, 2013). It is useful to point out salient problematic manifestations of these principles that

conflict with modern advances in these fields. One example is found in psychology and studies of cognition. The emergence of the cognitive sciences during the Cognitive Revolution gave birth to “cognitivism,” which predominated cognitive developmental scholarship until recently. Cognitivism was deeply situated in the Cartesian-Split-Mechanistic worldview and the mid-range metatheoretical perspective of the computational model of the mind (Overton, 2013). Cognitivism conceptualized the body as separate from the mind (e.g., Cartesian-Split), which operated according to basic input-output computational models of cognition (e.g., mechanistic). Cognitivism portrays cognition as mental processes that are “locked in the brain, split-off from the full functioning of the body and from culture” (Overton, 2013, p. 96). The rise of cognitivism has come to pass, largely due to critiques suggesting that this reductionist model of cognition fails to properly account for the relationship between concepts of mind, brain, body, and culture. Further, data and empirical advances have failed to support the central claims of cognitivism.

Similarly, in subfields of sociocultural developmental studies, Cartesian claims that the individual and culture are absolutely and exclusively divisible have been strongly contested (Overton, 2013). Additional examples of falsely split conceptions include distinctions between nature v. nurture, person v. context, organism v. environment (Lerner, 2006; Lerner & Castellino, 2002), maturation v. learning, continuity v. discontinuity, stability v. instability, constancy v. change, or basic v. applied science (Lerner & Callina, 2013) among others relevant to developmental science (Lerner, 2006). As such, a demand has arisen for a metatheoretical worldview, which offers

epistemological and ontological assumptions that are more congruent with conceptual, theoretical, and empirical advances.

The process-relational paradigm. The Process-Relational paradigm (Lerner, 2006; Lerner & Overton, 2008; Overton & Lerner, 2012; Overton, 2006, 2010, 2012, 2013) represents a transition from the dominant Cartesian-Split-Mechanistic paradigm to the now widely adopted (Damon & Lerner, 2006; Lerner & Overton, 2008; Overton, 2006) Process-Relational paradigm and the related mid-range metatheory, Relational-Developmental-Systems.

The Process-Relational Paradigm (also referred to as Relationism; Overton, 2013, 2015) contains elements consistent with the ideas set forth by child development scholars in the late nineteenth and early twentieth-century (Lerner, 2006; see Cairns & Cairns, 2006 for a review) and is readily contrasted against the Cartesian paradigm (see Figure 3; for a more thorough review, see Overton, 2015). Although this sort of theoretical renaissance has been deemed “old wine in a new bottle” (Lerner, 2006, p. 2), the significant efforts of contemporary scholars to reorganize classic ideas into a relevant modern conceptual framework is perhaps metaphorically closer to developing new blends with classic varietals of grapes. This new blend seeks to better account for emergent data across several fields, heal the conceptual issues of the Cartesian-Split-Mechanistic paradigm, and provide new and useful empirical direction and predictions for the field (Lerner, 2006; Lerner & Overton, 2008; Overton, 2013, 2015).

The Relationist worldview provides epistemological and ontological assumptions that seek to overcome the false splits of the Cartesian paradigm (Overton, 2013, 2015; see

Figure 3). Ontologically, relationism assumes Reality as composed of *process-substance* and describes the *to and fro* of *becoming*. As such, nature is characterized by “process, activity, dialectic change, emergence, and necessary organization as fundamental defining categories” (Overton, 2013, p. 98). Epistemologically, relationism seeks to remain “*relatively inclusive...involving both knowing and known as equal and indissociable complementary processes in the construction, acquisition, and growth of knowledge*” (Overton, 2013, p. 98). Here, epistemological relativity implies dialectic logic such that inclusion can be understood only in reference and relation to its corresponding counterpart, exclusion. Accordingly, relationism excludes epistemological paradigms that rely on absolute exclusivity, dualistic, and “nothing but” ways of knowing, which seek to define and understand “fixed absolute elements” (Overton, 2013, p. 98). Instead relationism seeks to understand entities as contextually defined parts that are “co-equal, indissociable complementaries” within a larger whole (Overton, 2013, p. 98). Thus, rather than *splitting, foundationalism, and atomism*, relationism embraces *holism* as a central epistemological assumption.

Holism maintains the position that “the identities of objects and events derive from the relational context in which they are embedded. In other words, “wholes define parts and parts define wholes” (Overton, 2013, p. 98). Overton (2013) provides a simple example of words and sentences, such that “patterns of letters form words and particular organizations of words form sentences. Clearly, the meaning of the sentence depends on its individual words (parts define whole). At the same time, the meaning of words is often defined by the meaning of the sentence (wholes define parts)” (Overton, 2013, p. 98).

From a reductionist perspective of simple complexity, the whole is an aggregate of mutually exclusive and divisible parts, which can be recomposed in “additive sequences of mechanistic cause-effect relations” (Overton, 2013, p. 98). Holism, by contrast, asserts *organized complexity*, which posits that the whole is “an organized system of parts, each part being defined by its relations to other parts and to the whole” (Overton, 2013, p. 98). In the example provided, the whole (e.g., sentence) represents an organized system of parts (e.g., words) in which the words and sentence reciprocally imbue one another with particular meaning, neither of which cannot be inferred nor realized independently.

With the principle of holism in mind, relationism requires that “analysis of parts must occur in the context of the parts’ functioning in the whole. The context-free specifications of any object, event, or process...is illegitimate within a holistic system” (Overton, 2013, p. 98). Application of this principle within the earlier examples of cognitive sciences and sociocultural studies would suggest that the mind does not perform cognitive functions outside of the brain, nor does the individual perform any such functions without a cultural or social world in which to do so. Following from these assumptions, as individuals (parts) imbue their social worlds (whole) with culture, so too do social worlds (whole) imbue the individual with cultural meaning (part), thereby rendering the individual and culture as constitutive of one another through the principles of holism.

Worldviews	
Process-Relational	Cartesian-Split-Mechanistic
<i>Ontological Categories</i>	
Holism	Atomism
Activity	Fixity
Nature as Process	Nature as Substance (Matter)
Change—Becoming Dialectic	Stasis—Being
Necessary Organization Structure-Function Relations	Uniformity
Pluralistic Universe	Dualistic/Monistic Universe
Epistemological Categories	
Holism	Reductionism
Constructivism	Realism
Relational Understanding Identity of Opposites Opposites of Identity Synthesis of Wholes	Split Understanding
Multiple Standpoints of Analysis	Objectivism vs. Subjectivism
Multiple Forms of Explanation Formal Explanation Structure-Function Final Explanation Necessary Conditions	Efficient/Material Causal Explanation

Figure 3. Epistemological and ontological features of process-relational and cartesian-split-mechanistic paradigms of developmental science (Overton, 2013)

Although holism beseeches scholars to consider the relation between formerly split, or dichotomized, concepts and objects, it can be somewhat complex to understand how two entities are fundamentally, reciprocally, and constitutively related, yet at the same time, maintain identities of their own. The principle of holism is further detailed through its related corollary principles that address this question. Together, there are three fundamental principles situated within the broader assumption of holism: (1) the *identity*

of opposites, (2) the *opposites* of identity, and (3) synthesis of the wholes. These principles rely on *identity* and *differences* (also referred to as *opposites*) as two “moments of analysis” which alternate in occupying the figure and ground of the conceptual space used to clarify assumptions (Overton, 2013, p. 98).

Identity of Opposites. The *identity* of opposites is a principle that describes the identity among parts of the whole. According to this principle, parts are not mutually exclusive, contradictory, and absolutely distinct of one another but rather are constructed as “differentiated polarities (i.e., coequals) of a unified (i.e., indissociable) inclusive matrix -- as a *relation*” (Overton, 2013, p. 99). Each pole is implicated in a reciprocal and recursive definitional process in which each pole “defines and is defined by its opposite” and therefore “contains and, in fact, *is* its opposite” (Overton, 2013, p. 99). The nature of the relations between two mutually constitutive categories has been termed *reciprocal determination, co-action, fusion, relational bidirectional causality, relational causality, and circular causality* (Overton, 2013). These terms reflect the abandonment of strictly additive, unidirectional or bidirectional, mechanistic cause and effect relationships of the Cartesian paradigm in favor of positive and negative feedback loop models of relationism.

Overton (2015) provides an illustration of this point in the form of M.C. Escher’s *Drawing Hands* (see Figure 4), which demonstrates the way in which each hand is at once drawing and being drawn by the other hand in a profound relational depiction. Overlaid on the figure are examples of the formerly split dichotomous constructs biology and culture to illustrate that the same relational process depicted by the hands applies to

constructs of interest within developmental science. This relationist principle can also be represented in variable logic form such that the hands or constructs are replaced by basic variables (e.g., A and B). According to Cartesian *splitting, foundationalism, and atomism*, objects could be decomposed and understood down to their basic pure element parts such that the laws of contradiction specify that in no circumstances could “A= Not-A” (Overton, 2013, p. 95). In these illustrations, one can see the two moments (e.g., identity, differences) of analysis at play such that the left and right hand are simultaneously different from one another (i.e., opposites) and identical (i.e., A = Not-A), coequal, and dissociable as they are both drawn and being drawn by the other.

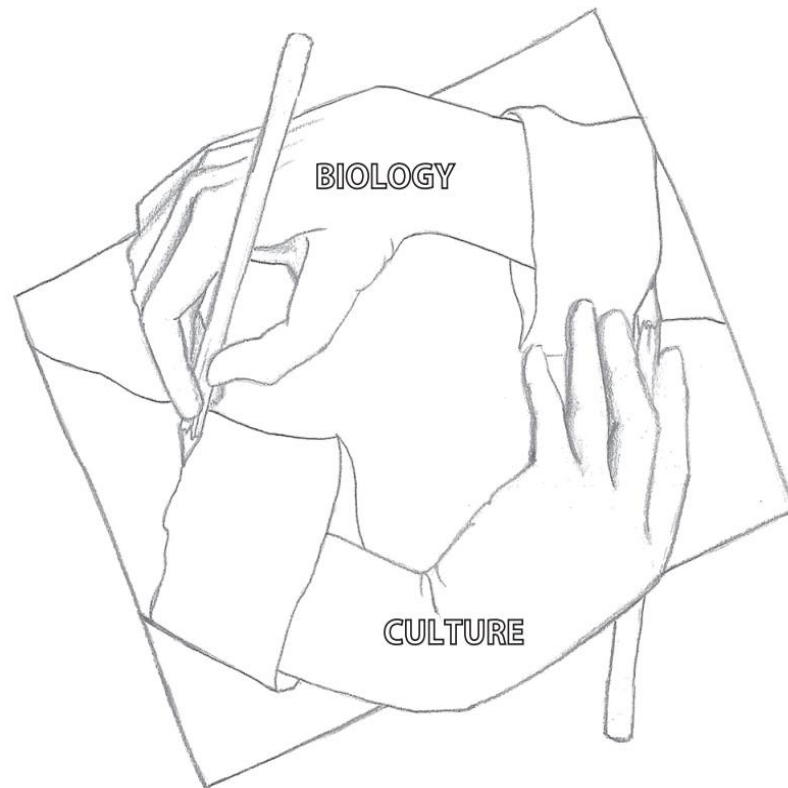


Figure 4. An illustration of the *Identity of Opposites* (Overton, 2013)

This exercise can be applied widely across conceptual splits such as nature and nurture, person and culture, encapsulated and extended mental processes, continuity and discontinuity, and stability and change, among others (Overton, 2013, 2015). As applied to the nature versus nurture debate in explaining human behavior, the principle of the identity of opposites seeks to honor the recognition that, “the fact that a behavior implicates activity of the biological system does not imply that it does not implicate the activity of the cultural system, and the fact that the behavior implicates activity of the cultural system does not imply that it does not implicate the activity of the biological system” (Overton, 2013, p. 100). Thus, the identity of opposites promotes the perspective that “seemingly dichotomous ideas often thought of as competing alternatives...can, in fact, enter into inquiry as coequal and indissociable” (Overton, 2013, p. 99).

Opposites of Identity. Where the *identity of opposites* seeks to establish fluid categories, it falls somewhat short of specifying a stable base for scientific inquiry to supplant the “bedrock” conceptions of *foundationalism* and *atomism*. The *opposites of identity* complements the *identity of opposites* by transitioning to the second of the two moments of analysis, *opposites* (i.e., differences). In this instance, the figure and ground of identity and opposites reverses. The utility of this transposition provides a newly conceived “*stable base*” to supplant the Cartesian *foundationalism* (Overton, 2013, p. 100).

This principle emphasizes the recognition within Escher’s *Drawing Hands* that although each hand is mutually and reciprocally constitutive of one another, nevertheless, a right and a left hand do exist. Wherein the identity of opposites, identity was focal and

the law of contradiction was suspended, the law of contradiction reemerges in the opposites of identity. As such, categories necessarily exclude one another, and the recognition of unique identities is possible. Importantly, these distinctions and unique identities rely on a conception of the *stable base* as one devoid of absolutes in which there is “not an absolute fixity, nor an absolute relativity, but *relative relativity*” (Overton, 2013, p. 100). Otherwise stated, the *relatively* unique identities of opposite concepts are *relatively* stable “within any holistic system and thus, may form relatively stable platforms for empirical inquiry” (Overton, 2013, p. 100). These platforms of relatively stable unique identities are not absolute foundations, as in the Cartesian platform, but rather are “*standpoints, points-of-view, or lines-of-sight*” from which to understand phenomena in a “multi-perspective world” (Overton, 2013, p. 100). Overton goes on to say:

Thus, to return to the example of nature-nurture, although explicitly recognizing that any behavior is both 100% biology and 100% culture, alternative points of view permit the scientist to analyze the acts of the person from a biological or from a cultural standpoint. Biology and culture no longer constitute competing alternative explanations; rather, they are two points of view on an object of inquiry that has been created by, and will be fully understood only through, multiple viewpoints. More generally the unity that constitutes the organism and its development becomes discovered only in the diversity of multiple interrelated lines of sight (bolding added to reflect emphases originally represented in italics;

Overton, 2013, p. 100).

Taken together, these two holistic principles require one to embrace the identity of previously dichotomized opposites as related, coequal, differential polarities. Further, these polarities are mutually constitutive of one other, operate through co-actional relations as parts of a greater whole, and possess relatively unique and differentiable features. These unique features allow for multiple relatively stable standpoints from which to examine phenomena.

Synthesis of wholes. Thus far, the principles of the *identity of opposites* and the *opposites of identity* have framed the relationship among parts within the perspective of holism. The *synthesis of wholes* serves to complete the picture by describing the relationship of parts to the greater whole. To complete the resolution of the tension created by the existence of bipolar opposites, the Process-Relational paradigm moves “away from the extremes to the center and above [to acknowledge the whole] the conflict, and to there discover a novel system that will coordinate the two conflicting systems” (Overton, 2013, p. 100). Within the discussion of the nature and nurture bipolarity, matter (nature) and society (nurture) represent an identity of opposites in that recognition of an object as social or cultural does not preclude its existence as matter and vice versa. Further, this bipolarity represents the opposites of identity as unique and differentiated features that serve as standpoints on which the hypothetical object can be examined from either a socio-cultural or physical perspective. The synthesis of the wholes seeks to answer how to “coordinate these two systems” (Overton, 2013, p. 101). Overton goes on to explain,

*Arguably, the answer is that it is **life** or living systems that represent the coordination of matter and society. Because our specific focus of inquiry is the psychological subject, we can reframe this matter-society polarity back into a nature-nurture polarity of **biology** (matter) and **culture** (society). In the context of psychology, then, as an illustration, if we again write **biology** on one and **culture** on the other Escher hand...and question what system represents the coordination of these systems, it is life, the human organism, the person...That is, the person is the relational synthesis of biological and socio-cultural processes. (Overton, 2013, p. 101)*

The relational synthesis more broadly can be conceptualized as a standpoint that “coordinates and resolves the tension between the other two components of the relation,” and serves as the platform from which empirical inquiry can emerge (Overton, 2013, p. 101). In the instance of nature-nurture, there are three related standpoints: person, culture, and biology (see Figure 5). Each standpoint provides a relative vantage point from which to view the relationship of parts to the whole.

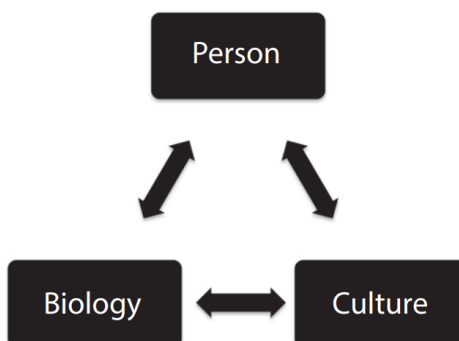


Figure 5. Synthesis of the Wholes (Overton, 2013)

The person standpoint describes the way in which the human organism coordinates the relationship between matter and society. The biological standpoint, describes the way in which the human organism and culture, “*Life and Society*” are synthesized and coordinated by *Matter* (Overton, 2013, p. 101). The third synthesis standpoint, that of culture, illustrates how person (mind) and biology (body) are coordinated by society. Taken together,

*When the three points of synthesis--biology, person, and socioculture--are cast as a unity of interpenetrating co-acting parts, there emerges...a **biopsychosocial** model of the organism. In their tripartite relational approach, each part interpenetrates and **co-constructs** the other or **co-evolves** with the other. Development of the biological organism begins from a relatively undifferentiated biosocial action matrix, and through co-constructive interpenetrating co-actions, the biological, the cultural, and the psychological or person part systems emerge, differentiate, and continue their interpenetrating co-construction, moving through levels of increased complexity toward developmental ends (Overton, 2013, p. 102).*

Thus, to examine development from the psychological synthesis standpoint (person), one must entertain the constitutive opposites of biology (i.e., nature) and culture (i.e., nurture), the relation among the two as parts, and the synthesizing role that person plays in coordinating and resolving the tension between the two. Further, to appreciate the psychological synthesis standpoint, one must understand its position in relation to the synthesis standpoints of biology and culture to appreciate these standpoints as coequal

relational parts of a greater whole. Only then can one begin to engage in a process of reflective discourse that adequately examines phenomena from multiple perspectives.

Relational Developmental Systems Theory: Metatheories of the Middle Range

The next section provides a discussion of mid-range metatheories that are aligned with the epistemological and ontological assumptions of relationism. These mid-range metatheories help to frame some of the key assumptions regarding the human organism. Each of these metatheories of the mid-range varies slightly in the scope and focus of their commentary on human development. Furthermore, differences across these metatheories can be understood as complementary or fused such that each perspective offers a nuanced part of the greater whole that can function as a standpoint for examining human and career development.

Relational developmental systems. Relational-Developmental-Systems (RDS; also referred to as Relational Developmental Systems Theory [RDST] or Developmental Systems Theory [DST]) has been identified as a mid-range metatheory to serve as the central derivative of the broader Process-Relational paradigm (Lerner, 2006; Lerner & Callina, 2013; Lerner & Castellino, 2002; Lerner & Overton, 2008, 2014; Overton, 2006, 2013, 2015; Overton & Muller, 2012).

The defining features and principles of RDST include (1) relationism and integration of levels of organization (2) historical embeddedness and temporality (3) relative plasticity and change and (4) limits of generalizability, diversity, and individual differences (Lerner & Damon, 1998; Lerner, 2004, 2006; Lerner & Castellino, 2002).

The following provides a somewhat more expansive explication of these defining

features.

The RDS perspective maintains *a relational metatheory*. As described above, relationism represents a moving away from a Cartesian paradigm of positivism, reductionism, and a worldview that assumes the universe as uniform and permanent. Instead, the relationist paradigm embraces a postmodernist perspective that seeks to heal Cartesian dualism in the “ecology of human development” (Lerner, 2006, p. 3), promote a worldview that honors the relations between parts and the whole, and instill a respect for multiple perspectives.

Further, RDST assumes that *all levels of organization are fused*. The integration of levels of organization builds from the assumptive logic of relationism to specify the belief that the levels of organization within the ecology are fused or integrated (Lerner, 2006). These various levels include the biological, physiological, cultural, historical organization to which the living system is related.

With respect to the relations between the individual and the fused levels of organization comprising the living system, RDS specifies that the process of *development involves mutually influential individual↔context relations*. RDS explains that “development occurs through mutually influential connections among all levels of the developmental system, ranging from genes and cell physiology through individual mental and behavioral functioning to society, culture, the designed and natural ecology and, ultimately, history” (Lerner, 2006, p. 3). RDS employs the use of bidirectional arrows to illustrate the relations across levels of organization. For example, with respect to general discussions of ontogenetic development across the lifespan, the relation between person

and environment can be represented as individual↔context. Relations across other levels of the ecology are represented in kind, for example, family↔community, school↔neighborhood, child↔parent.

The processes described above represent the *integrated actions and individual-context relations* that drive development. These mutually influential integrated actions and individual↔context relations represent the basic unit of analysis within the study of human development and developmental science (Lerner, 2006). This principle is similar in many ways to Bronfenbrenner's (Bronfenbrenner & Morris, 2006) PPCT model's focal emphasis on *Process*.

The next assumption describes the process by which such relations are organized across time, thereby defining principles of *temporality and plasticity in human development*. Temporality provides the platform for time and place from which systematic change, or plasticity, in the developmental system can take place (Lerner, 2006). In other words, individual↔context relations are located in, and organized across, time and history. Plasticity across time and place can be observed according to trajectories or patterns of intraindividual change. Plasticity therefore reflects the relations *among* individual↔context relations with respect to relative changes in developmental outcomes. Further, drawing on the principles of holism, the individual represents an adaptive living system that coordinates nature and nurture through the process of self-organization. Developmental processes and outcomes are produced by self-organization at increasingly complex levels across time.

Plasticity within human development should be viewed as *relative plasticity*.

Consistent with the process-relational emphasis on relative relativity, plasticity in human development is not a limitless phenomenon (Lerner, 2006). The magnitude of plasticity is defined as “the probability of change in a developmental trajectory occurring in relation to variation in contextual conditions” and may vary across the individual lifespan and across history (Lerner, 2006, p. 3). Plasticity is considered a fundamental strength of human development as it opens the possibility for change.

The next principle concerns plasticity as an indicator of *intraindividual change*, *the notion of interindividual differences in intraindividual change*, and *the significance of diversity*. The study of diversity is “of fundamental substantive significance for the description, explanation, and optimization of human development” (Lerner, 2006, p. 3). Here, the definition of diversity relies on the recognition that “the combination of variables across the integrated levels of organization within the developmental system that provide the basis of the developmental process will vary at least in part across individuals and groups” (Lerner, 2006, p. 3). Diversity is observed by examining interindividual differences in intraindividual change, which are produced by variation in idiographic, group differential, and nomothetic phenomena implicated in the relations across levels of organization.

Potential and observed plasticity provide the basis for optimistically seeking characteristics of individuals and ecologies that can be aligned to promote positive development (Lerner, 2006). By this rationale, developmental science can inform interventions to augment developmental trajectories by aligning the strengths of individuals and levels of ecological context. This principle describes the basis for

perspectives on positive human development and positive youth development (Lerner, Almerigi, Theokas, & Lerner, 2005; Theokas et al., 2005; Benson, Scales, Hamilton, & Sesman, 2006).

Finally, RDS emphasizes the *value of multidisciplinary and change-sensitive methodologies* in developmental scholarship. Examining and analyzing plasticity and change across the fused levels of organization require multidisciplinary efforts and change sensitive methodologies (Lerner, 2006). The developmental system is best understood from multiple standpoints and perspectives, which can be realized only through the integration of multi- or interdisciplinary scholarship. Change sensitive methodologies (e.g., designs, methods of observation and measurement, analytic approaches) that can integrate evidence of change in trajectories at multiple levels of analysis is required by virtue of the developmental system's temporal embeddedness and plasticity.

Considered together, these features and principles coalesce to provide an illustrative summary of the way that RDS views the individual:

as an *inherently active, self-creating (autopoietic, enactive,) self-organizing, and self-regulating, relatively plastic, nonlinear complex adaptive system*. The system's development takes place through its own *embodied activities and actions* operating *coactively* in a lived world of physical and sociocultural objects, according to the principle of *probabilistic epigenesis*. This development leads, through positive and negative feedback loops created by the system's organized action, to

increasing system differentiation, integration, and complexity, directed toward adaptive ends (Overton, 2015, p. 12)

Ecological systems theory. Ecological models of human and vocational development have sought to further explicate the varying layers of social, political, economic, and cultural systems, institutions, and norms that frame development. Broadly, “ecological models encompass an evolving body of theory and research concerned with the processes and conditions that govern the lifelong course of human development in the actual environments in which human beings live” (Bronfenbrenner, 1994, p. 37). Perhaps the most salient instantiation of Ecological Systems Theory is that of Urie Bronfenbrenner’s Bioecological Theory of Human Development, which offers “an evolving theoretical system for the scientific study of human development over time” (Bronfenbrenner & Morris, 2006, p. 793). Within the broader scope of developmental science, Bronfenbrenner’s model offers a meta-theory of the middle range, of which “the general perspectives advanced and elaborated...are also parts of other related lines of theoretical and empirical inquiry into human development” (Bronfenbrenner & Morris, 2006, p. 794).

Bronfenbrenner’s Ecological Systems Theory (1977) was among the first models to articulate specific layers or ecologies of the social environment that shape individual development. Within the bioecological model, development is examined from the perspective of continuity and change “in the biopsychological characteristics of human beings, both as individuals and as groups...[which] extends over the life course, across successive generations, and through historical time, both past and future”

(Bronfenbrenner & Morris, 2006, p. 793). Bronfenbrenner positions the bioecological model as one that asserts an “interdisciplinary and integrative focus on the age periods of childhood and adolescence and its explicit interest in applications to policies and programs pertinent to enhancing youth and family development” (Bronfenbrenner & Morris, 2006, p. 794).

At the time of the model’s inception, Bronfenbrenner critiqued developmental psychology as “the science of the behavior of children in strange situations with strange adults” (Bronfenbrenner, 1974, p. 3), typically observed for “for the briefest possible period of time” (Bronfenbrenner, 1986, p. 288). As such, Bronfenbrenner argued that social scientists, “should be studying development in its ecological context; that is, in the actual environments in which human beings lived their lives” (Bronfenbrenner, 1986, p. 288). A central aim of Bronfenbrenner’s model was therefore to promote methods and scholarship that provide “studies of children and adults in real-life settings, with real-life implications” (Bronfenbrenner, 1986, p. 288). He later documented that an unfortunate byproduct of the call for more attention to development in context ultimately led the field to an overindulgence toward studying “context without development” (Bronfenbrenner, 1986, p. 288). Later iterations of his theory (e.g., Bronfenbrenner & Morris, 2006) provide important updates to the central drivers of the biopsychological development of the individual in context to specify the key features of his comprehensive model and encourage scholarship examining development in context.

Prior to a discussion of the defining features and propositions, several definitional assumptions are outlined to help frame the propositions and defining features of the

bioecological model. First is the definition of the concept of *development*. From the bioecological perspective, *development* is defined as “stability and change in the biopsychological characteristics of human beings over the life course and across generations” (Bronfenbrenner & Morris, 2006, p. 796). As such, stability and change (i.e. continuity and discontinuity) are developmental constructs of neutral valence for which the implications on developmental outcomes are empirical questions in and of themselves (Bronfenbrenner & Morris, 2006, p. 796). Secondly, the model’s name as a *bioecological* framework describes the fundamental belief that the living organism represents, in part, a biological system. The model recognizes that biologically based influences shape the individual’s engagement in developmental activities and that such biological and evolutionary systems impose limits and needs in the form of necessary environmental conditions required to actualize development. Third, the factors that drive changes in developmental processes, person characteristics, and context characteristics across generations and within individual lives are held in equal esteem. Further, experience is a critical element of the bioecological model such that there is equal standing given to objective features of the ecological system, as well as the individual’s subjective experience. Finally, the bioecological model seeks to align itself with the properties of a “good” and “practical” theory and endeavors to explicitly evaluate the alignment between the theoretically proposed principles and research methods implicated in empirical inquiry.

Bronfenbrenner’s theory sets forth two main propositions and several defining features (Bronfenbrenner & Morris, 2006). The first proposition is that development

occurs through increasingly complex and reciprocal interactions between the individual and their immediate environment (e.g., persons, symbols, objects). Those interactions between individual and immediate environment that are most frequent, consistent, and enduring are considered proximal processes and include activities such as athletics, reading, or skill acquisition that occur through parent-child interaction or peer group interaction, for example. Proximal processes are the primary drivers of development and participation in such processes promotes the abilities, motivations, knowledge, and skills necessary to engage in activities with others and by one's self (Bronfenbrenner & Morris, 2006). In other words, with increasingly complex interaction with the environment, individuals "increasingly become agents of their own development" (Bronfenbrenner & Morris, 2006, p. 797).

The second proposition explains that the form, content, power, and direction of change through proximal processes vary according to the characteristics of the individual and the environment (including proximal to distal) in which they are taking place. Together, these propositions suggest that proximal process interactions powerfully mediate the relationship between the individual and their environment but that this relationship is moderated by the particular characteristics of each. Further, the social "continuities and changes occurring over time through the life course and the historical period during which the person has lived" (Bronfenbrenner & Morris, 2006, p. 798) are implicated in the unique influence of the proximal processes on the particular outcomes of interest.

The defining features of the model include four key concepts, *Process*, *Person*,

Context, and *Time*, and the “dynamic, interactive relationships among them” (Bronfenbrenner & Morris, 2006, p. 795). When operationalized through a given research design these concepts can be acronymized as the PPCT model.

Process refers primarily to the central tenets of Proposition I and II and describes the proximal processes that encompass the interactions between the individual and environment. Process is understood to occur over time and represents the primary driver of development. Proximal processes are understood in a variety of ways that lend a richer description than able to be captured in either Proposition alone. Proximal processes are supported by the following assumptions (Bronfenbrenner & Morris, 2006):

- 1) Development requires the individual to engage in activity
- 2) Activity must take place regularly and over an extended time frame
- 3) To promote development, activities must endure long enough to become “increasingly more complex (p. 798), thereby departing from basic principles of rote repetition
- 4) Effective processes are bidirectional and characterized by reciprocity and exchange
- 5) Proximal processes may include interactions with people, objects, and symbols that encourage “attention, exploration, manipulation, elaboration, and imagination” (p. 798)
- 6) The factors detailed in Proposition II influence the “content, timing, and effectiveness of proximal processes (p. 798)

- a) Development promotes increases in scope and level of individual capacity and continued development therefore requires corresponding increases in complexity and extensivity in proximal processes. Although the individual may tolerate prolonged duration between proximal processes, regular interaction should be maintained
- b) The person may engage in proximal processes with people outside of the family system with increasing regularity across time.

The concept of *Person* refers to one half of the caveat presented in Proposition II, which explains that the power of proximal processes to impact development varies as a function of characteristics of the developing individual. Bronfenbrenner detailed three types of person characteristics most prominently implicated in variation in proximal processes: *dispositions*, *resources*, and *demand* characteristics. Dispositions are the attitudes and beliefs that incline an individual toward interaction with the environment in a given manner. Dispositions can be either *developmentally generative* insofar as they “set proximal processes in motion and sustain their operation” or *developmentally disruptive* insofar as they “interfere with, retard, or even prevent their occurrence” (Bronfenbrenner & Morris, 2006, p. 810). *Resources* refer to “ability, experience, knowledge, and skill...required for effective functioning of proximal processes at a given stage of development” (Bronfenbrenner & Morris, 2006, p. 796). Finally, the *demand* characteristics refer to the attributes of the person that “invite or discourage reactions from the social environment that can foster or disrupt the operation of proximal

processes” (Bronfenbrenner & Morris, 2006, p. 796). Taken together, the collection of these three characteristics pattern the Person structure that conditions variation in proximal processes across individuals.

Contexts refer to the other half of the caveat presented in Proposition II, which suggests that the influence of proximal processes on development varies as a function of the characteristics of the levels of contextual organization ranging from immediate to more distal environmental layers. Importantly, the aforescribed Person characteristics also apply to persons within the individual’s immediate environment (i.e., microsystem), such as parents, friends, teachers, mentors, or coaches. Bronfenbrenner’s (1977) theory explained that although proximal processes occur primarily within the immediate environment, or microsystem, development is influenced by forces rippling across a set of nested ecological environmental layers (Microsystems, Mesosystems, Exosystems, Macrosystems) that vary in relation to the individual from proximal to distal, respectively. These nested layers of context describe the multiple social settings in the individual’s ecological universe and the relations among those settings with respect to the individual’s development (Bronfenbrenner & Morris, 2006).

Microsystems are defined as the immediate environments in which proximal processes are enacted in direct contact with the individual (e.g., family, peers, teachers, colleagues). The microsystemic level therefore captures interactions with any individuals, objects, and symbols within social settings that the individual directly interacts with. The earliest of these interactions might include the mother-child dyad, while others include broader interactions with a family member, a teacher, coach, police officer, boss or

supervisor, or a community-based organization staff member or peer that the young person interacts with.

Mesosystems describe the broader system of interacting microsystems in which an individual is embedded and the relationships among them (e.g., school and family, peers and work). Examples of the interplay between microsystems might include the relationship between a parent and teacher, a teacher and school counselor, the relationship between parenting practices and peer group selection with respect to a particular individual developmental outcome such as academic achievement (Bronfenbrenner & Morris, 2006), or the relationship between the individual's school and career pathways program with respect to coordinating and integrating resources to support the young person's postsecondary or workforce readiness.

Exosystems describe the systems of relationships between one's microsystems and other settings in which the individual does not directly participate (e.g., parent's or spouse's workplace) that indirectly shape the individual's development by virtue of their relationship to the individual's microsystem. Examples of exosystemic relations might be the parenting practices of peers' parents, the influence of a parent's workplace on the individual's family system, or the fiscal philanthropy of various grant-funding organizations on a workforce development program's available resources. A more comprehensive manifestation of the exosystem would be the network of families extending from the individual's peer group or that exist within the individual's neighborhood that characterize the community's "level of social integration" (Bronfenbrenner & Morris, 2006, p. 818). Evident in each circumstance are "the linkages

and processes taking place between two or more settings, at least one of which does not contain the developing person, but in which events occur that indirectly influence processes within the immediate setting in which the developing person lives” (Bronfenbrenner, 1994, p. 24).

Macrosystems are the broader belief systems (e.g. cultural, political, social, legal, economic, etc.) that distally frame the constellation of micro-, meso-, and exosystems available to an individual (Bronfenbrenner, 1977). Examples of macrosystemic forces include the various social policies that undergird employment and labor practices observed by the parents’ employer (e.g., Family Medical Leave Act [FMLA]), fundamental social norms and legislation that underpin school policy (e.g., Section 504 of the Rehabilitation Act of 1973, Family Educational and Privacy Rights Act [FERPA], and the Individuals with Disabilities Education Act [IDEA]), or legislation (including repeal or failed passage), policy, and social discourse around immigration, citizenship, education, and labor participation, such as the Development, Relief and Education for Alien Minors (DREAM) Act or the Deferred Action for Childhood Arrivals (DACA).

Importantly, with respect to metatheoretical principles such as *plasticity* and *diversity*, the bioecological model describes principles of multifinality and equifinality through the lens of *dysfunction* and *competence*. Here, *dysfunction* is defined as “recurrent manifestations of difficulties on the part of the developing person in maintaining control and integration of behavior across situations. Conversely, *competence* is understood as “demonstrated acquisition and further development of knowledge and skills-whether intellectual, physical, socioemotional, or a combination of

them” (Bronfenbrenner & Morris, 2006, p. 803). As such, proximal processes that arise through interaction with disadvantaged and disorganized environments are likely to produce developmental outcomes that represent dysfunction, whereas those that arise from more stable and resource rich environments are more likely to produce competence. Further, proximal processes promoting competence contribute to better developmental functioning but also buffer against competing effects of disorganized or disadvantaged environments.

The fourth and final key feature of Bronfenbrenner’s model is that of *Time*, which has also been referred to as a layer of ecology termed, the *chronosystem* to illustrate the relation between time and the ecological layers containing social settings, institutions, and beliefs (e.g., micro-, meso-, exo-, macro-systems). The element of *Time* locates the proximal processes that shape development within time and space. The concept of time was included to explain the impact of changes occurring across ecological levels throughout the individual’s lifespan, as well as historical changes that occur across time and shape the nature of the multiple layers of the ecological system. Time is defined relative to the ecological layer in which it functions. For example, *microtime* describes the “continuity and discontinuity in ongoing episodes of proximal processes” (Bronfenbrenner & Morris, 2006, p. 796). *Mesotime* “is the periodicity of these episodes across broader time intervals, such as days and weeks” (Bronfenbrenner & Morris, 2006, p. 796). Finally, *macrotime* describes changes in broader society across the lifespan and across generations, with respect to their influence on individual developmental processes and outcomes.

Time illustrates the temporal influence of proximal processes on development that vary as a function of the characteristics of the person and context. Bronfenbrenner points out that,

The degree of stability, consistency, and predictability over time in any element of the systems constituting the ecology of human development is critical for the effective operation of the system in question. Extremes either of disorganization or rigidity in structure or function represent danger signs for potential psychological growth, with some intermediate degree of system flexibility constituting the optimal condition for human development (Bronfenbrenner & Morris, 2006, p. 820-821).

In other words, fundamental to the implication of time on developmental processes is the reciprocal interaction between time, proximal processes, and the unique characteristics of the person and levels of contextual organization implicated within the proximal processes. The model suggests that the “form, power, content, and direction” (Bronfenbrenner & Morris, 2006, p. 798) of proximal processes is a function of both time and level of organization, in addition to person and environment characteristics. Time is therefore implicated insofar that “proximal processes cannot function effectively in environments that are unstable and unpredictable across space and time” (Bronfenbrenner & Morris, 2006, p. 820). Moreover, disorganization at higher levels of organization (i.e., *macrosystemic* social class, health, or educational disparities, institutional racism, voter suppression; *exosystemic* school funding, parental labor practices and conditions; *mesosystemic* neighborhood or community organization, disruption, or social capital,

community↔police relations) promote reinforcement of disorganization at more proximal levels (i.e., among and within interconnected microsystems) of organization and vice versa. As such, the influence of instability, unpredictability, and disorganization, for example, are amplified as a function of chronicity, the saturation of these characteristics across levels of organization, and the interaction between the two. Accordingly, the unique characteristics of the person↔context interaction condition individual development as a function of time, with longer and more chronic durations of exposure producing increased probabilities of cumulative effects on the individual's development.

The macrosystem and chronosystem are the aspects of Ecological Systems Theory that are perhaps most salient in, or characteristic of, contemporary life course theories on human development. In his most recent update of the bioecological model, Bronfenbrenner describes the essentiality of Life Course Theory to the development of the ecological model, specifying that "life-course development played a significant role in the formulation of the original ecological model...and has exerted even greater influence on the model's subsequent evolution in this same domain" (Bronfenbrenner & Morris, 2006, p. 821). As such, a brief discussion of Life Course Theory is warranted to properly explicate the tenets of this perspective.

Life course theory. Bronfenbrenner's later iterations of the bioecological model (Bronfenbrenner & Morris, 2006) include Time as a fundamental phenomenon implicated in development. While Bronfenbrenner draws heavily from the work of Life Course Theorists, the bioecological model's emphasis is primarily on "the role of developmental processes and outcomes in producing large-scale changes over time in the state and

structure of the broader society over time, and the implications of those changes for society's future" (Bronfenbrenner & Morris, 2006, p. 796). By contrast, Life Course theory strives to understand the process by which development is influenced by temporally framed social and historical shifts.

Consistent with the Process-Relational paradigm, Life Course Theory is a mid-range metatheory that strives to explain human development as a function of "temporal, contextual, and processual distinctions" that manifest through "life patterns," which are "embedded in social structures and cultures that are subject to historical change" (Elder, 1996, p. 31). Perhaps more consistent with a Process-Relational framework is the notion that life patterns unfold according to the reciprocal relations between the individual and the fused layers of context (e.g., social structures, cultures, and historical change) in which the individual is embedded, similar to the metatheoretical assumptions of Relational-Developmental Systems as well as Bronfenbrenner's Bioecological Systems Theory.

Beginning in the 1920's, three landmark longitudinal studies at the University of California, Berkeley (e.g., the Oakland Growth Study, the Berkeley Guidance Study, and the Berkeley Growth Study) sought to explore individual development across the life-course (Elder, 1998). These studies informed a paradigm shift in understanding the complex influences on human development across the lifespan that revolutionized theory, research, and practice in related fields of (e.g., child development, human development, developmental psychology, sociology).

The life course approach provides a meta-theoretical lens to explain the course of

human development in light of shifting social structures and historical events. Glen Elder pioneered the contemporary conception of the life course approach as the study of human development with attention to the confluence of universal life-cycle transitions (e.g., entry into formal schooling, birth of a child) and broader historical influences (e.g., times, places, events) that “shape the social trajectories of family, education, and work, and in turn influence behavior and particular lines of development” (Elder, 1998, p. 2).

Elder first employed this life course approach to investigate the differences in developmental pathways of older versus younger cohorts that lived through the Great Depression and served in World War II and the ways that biological development (e.g., proxied by age) intersected with historical changes (e.g., global war) to differentially shape life course patterns for each of these two cohorts (Elder, 1998). Later studies employed similar life course techniques to study the impact of economic decline on the development of American families and children in the 1980’s Midwest and 1990’s inner-city Philadelphia. The life course approach employed across this set of studies uncovered a common link among the diverse samples and identified patterns of family adaptation (e.g., depression, marital strife) as a mediator between historical forces (e.g., economic decline) and child developmental (e.g., emotional distress, academic problems) pathways.

Comparative life course investigations of children born during the Depression era identified differences between cohorts of Americans born just a decade apart such that those born prior to 1910, who enjoyed the benefits of childhood development in a relatively economically stable middle-class zeitgeist, largely transitioned to pursue educational, career, and family success. Comparatively, the younger cohort, born in the

late 1920's and early 1930's experienced their most formative childhood years under much different macro-economic and family conditions marked by stress and turmoil, as parents sought to make ends meet in a declining industrial economy.

The defining features of Life Course Theory include principles of (1) *historical time and place*, (2) *timing in lives*, (3) *linked lives*, and (4) *human agency* (Elder, 1998). The first principle of *historical time and place* suggests that the individual life course is embedded in and influenced by historical phenomena (e.g., times, events) that the individual experiences throughout the lifespan. The second principle of *timing in lives* suggests that the influence of events, and series of events, across development is a function of when in the person's lifespan they occur. The third principle is that of *linked lives*, which describes that individual lives are interdependent and that the influence of social and historical factors that shape development are a function or expression of this interdependence. In other words, cohort or generational effects imply shared experience and therefore characterize the interdependence of individual life courses. The fourth and final principle is that of *human agency*. This principle explains that the individual life course is characterized by choices, decisions, and actions in relation to opportunities and constraints presented within the particular historical and social circumstances of the individual's ecology. Importantly, this final principle illustrates the interplay between person qualities and contextual affordances with respect to adversity and mobility.

Bronfenbrenner and Morris (2006) endeavored to add a fifth feature, which functions more as a modification of the first principle than a principle of its own. The authors suggest that changes over time in the factors (e.g., Process-Person-Context-Time)

that influence human development are products of historical change but also producers of historical change, thereby underscoring the bidirectional reciprocal relations across levels of organization.

Perhaps the most unique contribution of the life course approach to the broader developmental sciences and the Process-Relational paradigm is that it seeks to identify normative and nonnormative indicators of lifespan development with particular attention to historical or cohort effects that shape person-context relations among individuals and groups. Pertinent examples of such historical effects with respect to work and labor might include the recession of the early 2000's, the increasing movement toward a globalized information-based economy and post-industrial workforce (i.e., demand for post-secondary training, effect of automation, decline of manufacturing and industrial labor infrastructure), or increasing disparities in education, income, access to decent work, and social mobility.

Building from the contributions of the Bioecological model, the Phenomenological Variant of Ecological Systems Theory seeks to address several key shortcomings of extant models of human development.

Phenomenological variant of ecological systems theory. The Phenomenological Variant of Ecological Systems (PVEST; Spencer, Dupree, & Hartmann, 1997, Spencer, 2006) critiques and extends Bronfenbrenner's bioecological model by integrating a phenomenological perspective with existent ecological systems approaches. PVEST is first and foremost concerned with grounding discussions of normative developmental tasks in a more authentic recognition of the contextual variation and personal

construction. Following from the basic metatheoretical assumptions of Relational Developmental Systems Theory and Bronfenbrenner's Bioecological Theory, PVEST strives to conceive of human behavior, self-organization, and development through a "developmental, process-oriented, and context-sensitive focus," while also emphasizing and prioritizing "culture, as lived and experienced at multiple levels of the environment, and in individual's own perceptions" (Spencer, 2006, p. 830). PVEST was therefore developed to offer a more inclusive framework for developmental science with respect to the provision of "a perspective relevant to the contextual and cultural experiences of diverse groups" (Spencer, 2006, p. 830). Otherwise and more specifically stated, PVEST endeavors to offer an "authentic rendering of developmental processes for humans considered diverse as a function of characteristics such as race, gender, ethnicity, socioeconomic status, immigration status, faith community, skin color, and nativity" (Spencer, 2006, p. 830).

This contribution to the developmental sciences offers an explanatory model for understanding disparities in developmental outcomes among individuals with specific attention to reconceptualizing explanations for observed developmental differences across groups. Group differences in developmental outcomes and patterns are conceived as a function of "(a) sharing what appears to be the same space and opportunities, (b) attempting behavioral responses to seemingly parallel human development tasks and stage-specific expectations for competence, but frequently (c) demonstrating disparate behavioral outcomes in response to myriad challenges" (Spencer, 2006, p. 831).

Central to PVEST is the understanding that all youth are subject to normative

developmental processes such as physical, social, and psychological growth and identity formation, which are grounded in social and cultural layers of ecology. Toward that end, the PVEST model seeks to explain the ways in which differences in societal expectations, stereotypes, and biases (Spencer et al., 1997), such as structural racism and racial stereotyping (Spencer, 2006) provide fundamentally different contextual environments that condition individual↔context phenomenological experiences across development. In an effort to imbue the ecological systems theoretical conception of development in context with a postmodern emphasis on subjectivity, phenomenology, and the lived experience (Spencer et al., 1997), the PVEST model (Spencer, 2006; Spencer et al., 1997) seeks to explain patterns of resilience and coping, identity, and developmental outcomes in response to contextual stressors and barriers (Spencer, Fegley, & Harpalani, 2003).

Importantly, PVEST departs from historically power-dominant group-referential constructions of concepts (Spencer, 2006). For example, the term *diverse youth* refers to all categories of a given reference group unless otherwise specified (e.g., ethnicities, races, socioeconomic statuses or classes, etc.). In so doing, PVEST contributes toward the development of a more inclusive lexicon for developmental science in which historically power-dominant groups (e.g., White, male) are included under the umbrella of diversity labels rather than tacitly privileged as the normative referent group. This reconsideration is driven by a recognition that “all groups have distinctive histories and responsive traditions that evolve into both unique yet similar cultural patterns. Accordingly, a major influence...for diverse youth is the impact of distinctive conditions

for each and the role of history” (Spencer, 2006, p. 830).

PVEST embraces the position that previous perspectives in developmental science have suffered from several major conceptual errors or ignorances (Spencer, 2006). The first suggested conceptual flaw is that extant theoretical perspectives have largely ignored the role of contextual variation in explaining developmental processes. As such, White children and adolescents have served as the “normative” group upon which assumptions of developmental science are propagated. As such, differences in developmental processes of youth of Color—and in truth, youth of Color, themselves—have consequently been considered atypical and viewed through the lens of a deficit model. Further, in contemplating explanations for socially perceived unfavorable, maladaptive, or problematic developmental or behavioral outcomes, context seldom figures into the equation. Instead explanations are located in the individual, particularly for youth of Color.

The second conceptual flaw of extant developmental perspectives is that discussions of context insufficiently acknowledge or incorporate the influences of major social, cultural, and historical problems, as well as differences in systems of power and privilege. These social forces, such as racism, sexism, education, health, or income inequality differentially shape the degree to which an individual is afforded opportunities to experience social consonance or dissonance (i.e., goodness of individual-context fit). For example, individuals of racial/ethnic majority groups (i.e., White, European American) are likely to experience higher degrees of social consonance across contexts by virtue of racial privilege. The normative assumption that all youth experience such

consonance emerges as a narrative that becomes reinforced as the normative expectation for all groups with little attention given to the role that variation in privilege, structural or environmental affordances, and inequity play in shaping developmental processes. In other words, for young people of Color, “long-term economic and social barriers are ignored frequently, leaving to be inferred that all problems are inherent to the individual” (Spencer, 2006, p. 837).

The third key flaw suggested by Spencer and colleagues (2006) is that developmental perspectives are too often suspended when considering the behavior of marginalized youth. Spencer explains, for example, that research on youth of Color “frequently underexamines developmental processes and overemphasizes risk factors and unproductive stage-specific outcomes (e.g., early pregnancy, disproportionate incarceration rates, school failure, and aggression)” (Spencer, 2006, p. 838). As a result, normative stressors are “compounded by context character factors that are associated with racial stigma and color-linked traditions that assume equality of experience and exposures” (Spencer, 2006, p. 838). Consequently, the prevailing discourse locates explanations for unproductive coping outcomes as fixed, pathologized, and individualized, rather than as developmental and contextually influenced phenomena in the form of “normative developmental thematic stressors experienced by youth of color, such as off-timed physical and social maturation and peer pressure issues” (Spencer, 2006, p. 838). These key critiques reflect the fundamental contributions of the PVEST model. In seeking to provide an inclusive model for all youth, PVEST provides a perspective that is more squarely positioned to serve as a platform for understanding the

normative developmental experiences of marginalized youth, particularly youth of Color and those living in high-risk environments (Spencer, 2006; Spencer et al., 1997; Spencer et al., 2003).

Prior to outlining the key features of the PVEST model, it is critical to frame the model's foundation in social cognitive and phenomenological perspectives (Spencer, 2006). These approaches are consistent with Process-Relational conceptions of the relations between cognition and the social environment. Accordingly, the developing individual is influenced by feedback loops produced through interaction with the social environment. This social feedback serves as the basis for self-inferences that the developing person uses to engage in meaning-making processes about the self and the world. Such inferences and meaning-making include "(a) the perception of challenges and available resources; (b) exposure to modeled strategies for reactive coping, and (c) character of self-processes inferred and enacted, which then contribute to stable emergent identity processes" (Spencer, 2006, p. 845). Importantly, under the assumption that context is implicated in social cognition and self-processes, it stands to reason that differences and variation in context character (e.g., the nature and availability of affordances in the developing person's ecology) are indissociable participants in the process of self-making and identity formation.

Particularly for young people developing in high-risk environments, "the ecology of youth development may take on a particularly troubling hue... [which] makes it difficult for adolescents to engage in positive character formation given that the process is attempted under what Chestang (1972) describes as 'hostile conditions'" (Spencer,

2006, p. 845). The notion of hostile conditions reflects the often-unrecognized inequity that risk-immersed youth and youth of Color “are not provided opportunities for social experimentation without significant consequences and personal risks” (Spencer, 2006, p. 846). For marginalized youth, the process of self-making, identity formation, and opportunities for social consonance between self and context is inherently sabotaged by social, structural, and institutional stressors that disproportionately affect risk-immersed youth and are largely unacknowledged in extant models of development. As a phenomenological variant on ecological systems with self-making and identity as central features, the PVEST model represents an identity-focused cultural ecological (ICE) perspective that better accounts for these influences on human development. The following provides an overview of the defining features of this ICE perspective (see Figure 6).

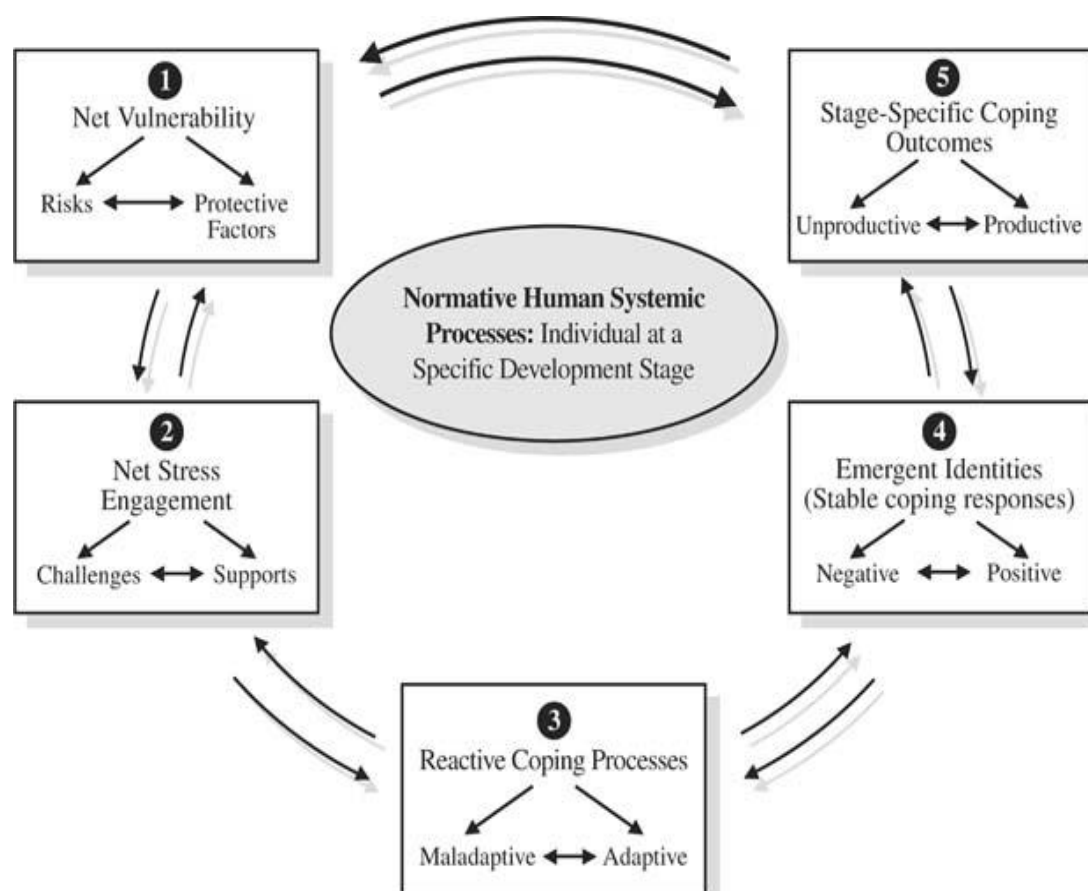


Figure 6. Phenomenological Variant of Ecological Systems Theory (PVEST; Spencer, 2006)

Key features of the PVEST model as an ICE perspective. The PVEST model explains the phenomenological intersection with the bioecological model as a process that includes (1) risk contributors to human vulnerability understood as both risk and protective factors, (2) the normative experience of engaging with stressors, (3) the need and deployment of reactive coping responses, (4) the emergence and function of stable identities, and (5) associations with stage-specific patterns of coping outcomes (Spencer, 2006). Taken together, these principles form the basis of a recursive, bidirectional, structural model of identity development across the life course that explains the “relation between context, coping, identity, and outcomes” (Spencer et al., 2003, p. 181).

Risk contributors and net vulnerability. The first component of the model, *net vulnerability*, outlines the various risk and protective factors that comprise the potential psychosocial stressors in the individual's ecology and serve as probabilistic determinants of adverse outcomes (Spencer et al., 2003). Such risk factors might include individual, family, or community level risk indicators and the concept of net vulnerability reflects the assumption that some protective factors typically exist alongside risk factors and may serve to buffer or compensate for identified risk indicators (Spencer, 2006). Risk contributors among young people of Color or youth in high-risk environments might include “socioeconomic conditions such as poverty, sociocultural expectations such as race and sex stereotypes, and sociohistorical processes including racial subordination and discrimination—all of which pose threats to healthy development” (Spencer et al., 2003, p. 182). By contrast, protective factors might include

privilege group membership, a particular cultural socialization history, skin color, facial features, body type, intellectual superiority, attractiveness, economic stability, well-educated parents and protective extended family networks, emotionally available and caring adults or nonrelated kin, and an individual's personal history of productive coping during a prior period of stage specific outcomes (Spencer, 2006, p. 847).

Of particular note is the recognition that although risk and protective factors may not directly interact or engage with the individual, they potentiate the vulnerability of the individual to encountering a range of stressors. In the process of self-making and identity formation, however, the ways in which young people perceive themselves is informed by

their appraisal of the conditions in which they are embedded, the social expectations imposed on the individual, and the perception of one's own developmental processes (Spencer et al., 2003). Risk contributors at varying levels of ecology and organization are therefore rife for internalization as part of the self-making process.

Net stress engagement. While risk contributors are factors that potentiate the encountering of stressors, net stress engagement describes the lived and actual experience of engaging with stressors (Spencer et al., 2003). These stressors are described as “situations that challenge one’s psychosocial identity and psychological well-being” and can include major life events or daily experiences (Spencer et al., 2003, p. 182). Stressors encountered by the individual might be “physically experienced or symbolically inferred (e.g., assumptions about privilege expected and supports available or perceptions about tests or confrontations to be weathered)” (Spencer, 2006, p. 848). For example, for young people of Color, experiences with racial or ethnic discrimination (i.e., physically experienced) or prejudicial racist social expectations (i.e., symbolically inferred) are important stressors that shape one’s daily lived experience, identity, and performance outcomes (Spencer, 2006). For risk-immersed youth and young people of Color, expectations of low academic achievement, career attainment, and social mobility represent symbolic stressors that work to undermine positive identity development and subsequent performance outcomes in the school to work pipeline. Consistent with the concept of *net* risk contributors or stress engagement, social supports can help to buffer against or offset the impact of stress engagement. Further, actualized stressors typically mobilize some form of response by the individual.

Reactive Coping Methods. Reactive coping methods are strategies that the individual employs to respond to stressors with an aim to resolve dissonance-producing situations characterized by lack of fit between individual↔context relations (Spencer et al., 2003). Spencer describes the process by which normative cognitive development allows the individual to experience and maintain awareness of dissonance-producing situations. With increasing cognitive development, this awareness creates a more acute intolerance of dissonance and subsequent motivation to resolve such discrepancies.

At a basic level, reactive coping strategies are methods of solving problems that arise when confronted with stressors. Importantly, these strategies can be more or less adaptive and the adaptiveness of a given strategy can vary across contexts (e.g., neighborhood, school) such that what is adaptive in one contextual space may be maladaptive in another. Further, the adaptive nature of coping responses is situation specific. For example, youth that experience decreased interaction (e.g., time and attention) with parents and consequent increases in familial responsibilities may engage in coping styles to resolve this dilemma that increase risk behaviors in peer or community contexts (i.e., maladaptive). By contrast, youth may deploy coping styles that seek out support among other supportive adults (i.e., adaptive) to resolve this dilemma. Following from the principles of social cognition and learning, youth may identify alternative coping styles and options according to models presented in their ecology, make inferences regarding the plausibility of such styles effectiveness in resolving dissonance, and implement various styles in an attempt to respond to encountered stressors.

Emergent Identities. Emergent identities constitute the way the individual perceives the self (e.g., racial, cultural, and ethnic identity, sex and gender role identity, self and peer perceptions of an individual) both within and across social contexts (e.g., family, peers, community; Spencer et al., 2003; Spencer, 2006). According to PVEST, emergent identities arise through social cognitive influences on self-processes that manifest specifically through internalized self-appraisals of coping strategies over time. As the individual incorporates feedback from successive attempts at implementing coping strategies over time, those coping strategies “yielding desirable results for the ego” are reinforced, repeated, or “preserved” (Spencer et al., 2003, p. 182; Spencer, 2006). In other words, the integration of various ego-syntonic and objectively effective coping strategies over time provide the basis for identity formation, which is reinforced through both self-appraisal and environmental feedback. These emergent identities form the basis for “future perceptions, self-appraisals, and behavior such as decision-making processes” and lay the foundation for more enduring patterns of negotiating individual↔context relations (Spencer, 2006, p. 850).

Life-Stage Specific Coping Outcomes. Emergent identities provide an increasingly firm reference point from which the individual can anchor future perceptions of self and behavior. These perceptions, rooted in identity, provide the basis for shaping behaviors that drive either adverse (maladaptive) or productive (adaptive) *life-stage specific coping outcomes* (Spencer et al., 2003). Examples of productive outcomes might include good health, positive relationships and social supports, psychological well-being (e.g., self-esteem), and “adequate employment preparation” (Spencer, 2006, p. 850). Adverse or

maladaptive coping outcomes might include poor health, negative relationships, leaving school or poor school performance, extra market (i.e., illegal) forms of economic earning, or incarceration (Spencer et al., 2003; Spencer, 2006).

An important assumption of the PVEST model is the cyclical and recursive relationship between components across the lifespan as the individual is exposed to various risk and protective factors, encounters and engages with new stressors, negotiates stressful situations with various reactive coping strategies, and incorporates these experiences, expectations, and processes into an evolving definition of self to be appraised by the individual and others. Further, Spencer's model focuses largely on the phenomenological experience of stress, coping, identity development, and developmental outcomes during adolescence. She explains, "as noted by Erik Erikson (1959), Anna Freud (1958), and more recently by James Marcia (1991), it is the pure rapidity of physical and psychological changes, social fluidity, and youths' spatial mobility that contribute to the enhanced high-risk character of adolescence" (Spencer et al., 2003, p. 182). Spencer's (2003) model therefore posits adolescence as a period of the life course "characterized by rapid and broad developmental changes" which requires "significant coping resources and supports" (p. 183). Further, Spencer and colleagues (2003) indulges that "it is the fragile character of self-processes during the adolescent years that present the most obvious wear and tear on the individual and society, more generally" (p. 183).

Through the ICE perspective proposed by PVEST, Spencer conveys the irony that, although there is perhaps no construct more representative of the difficulties and coping strategies required to cohesively integrate a multitude of self-processes and

percepts, than identity, few have endeavored to integrate the processes of identity formation with the concept of coping responses and situate the two within the space and time of the ecological model proposed by Bronfenbrenner (Spencer et al., 2003).

Taken as a whole, Spencer's PVEST model frames a compelling argument that a sense of purpose is a critical developmental strength and that there has been a fundamental oversight in developmental scholarship regarding the role of contextual characteristics as shapers of purpose and self-making processes. Further, Spencer points to the absence of a substantive and meaningful discourse on the significant variation in contextual conditions afforded to young people in America and the consequent impact on identity formation. In maintaining a phenomenological perspective of identity development, grounded in time and space with particular attention to the role of culture, PVEST "captures the meaning making processes underlying foundational identity development and outcomes" (Spencer et al., 2003, p. 182; Spencer, 1995, 1999).

Summary and Synthesis of a Relational Developmental Systems Conceptual Framework

Taken together, the perspectives above provide the basis of a conceptual framework within developmental science to structure a broader reflective discourse on human development. This conceptual framework details the metatheoretical worldview and related midrange theoretical perspectives required to contextualize a discourse on the *relatively* more circumscribed domain of vocational behavior and career development. At the broadest echelon, the Process-Relational paradigm provides the epistemological and ontological assumptions rooted in relationism that guide the theoretical conceptual sets at

more immediate levels. Of particular relevance are the implications of a process-relational perspective on the reconsideration of previously dichotomized concepts as fluid categories (e.g., nature↔nurture, person↔environment, and individual↔context). From the process-relational perspective, these concepts represent reciprocally determined coequal constructs (i.e., identity of opposites) that maintain *relatively* unique and differentiable features (i.e., opposites of identity), and operate through a process of reciprocal co-action, which is coordinated and synthesized by the living system (i.e., synthesis of the wholes). This worldview allows one to enter into a discourse from a particular standpoint (e.g., psychological, contextual, biological) in the process of engaging in scholarship that is inclusive of multiple perspectives.

The Process-Relational paradigm sets the stage for the metatheories of the midrange, which offer a *relatively* more immediate set of conceptual systems to guide a discussion of the living system itself. The broadest of these meta-theories of the midrange is Relational Developmental Systems Theory. The RDST perspective provides an understanding that the individual is a dynamic and adaptive living system, characterized by integrated levels of organization (e.g., biological, psychological, cultural, historical), that develops through mutually influential and reciprocal individual↔context relations, is relatively plastic, and for which development is probabilistically determined. Further, by virtue of the dynamic living system's relative plasticity and the theoretically infinite variations in individual↔context relations, interindividual differences in intraindividual change represent the process by which diversity in human development is understood. The Positive Youth Development (Lerner et al., 2005) framework that emerges from

RDST emphasizes the elements of plasticity and diversity in individual↔context relations. According, this perspective offers a view of the developing person in which outcomes are optimized through the provision of resources and supports that are aligned across contexts at varying ecological layers and integrated with the unique needs and strengths of the young person.

Complementary, and still more immediate than the RDST perspective, are the Bioecological Theory or Ecological Systems Theory, the Life Course perspective, and the Phenomenological Variant of Ecological Systems Theory. Bronfenbrenner's Ecological Systems Theory more clearly explicates and specifies individual↔context relations as proximal processes and drivers of development (i.e., Process), details the individual characteristics that condition individual↔context relations (i.e., Person), furnishes the contextual layers of the developing person's ecology (i.e., Context), and situates proximal processes temporally within the lifespan and across generations (i.e., Time). Life Course Theory serves to more finely articulate the impact of historical and sociocultural changes implicated in developmental processes.

The Phenomenological Variant of Ecological Systems Theory provides a phenomenological integration with Ecological Systems Theory to confront the previously ignored sociocultural and structural stressors that condition the individual↔context relations of all youth; particularly those embedded in the most risk-immersed environments. PVEST describes the reactive and resilient coping styles required of these environments, the emergent identities constructed as individual↔context relations are internalized, and the ensuing developmental outcomes observed at various stages across

the lifespan.

The fundamental assumptions guiding developmental science are a necessary prerequisite to engaging in a reflective discourse on vocational behavior, namely the school-to-work transition for young people developing in risk-immersed environments. Following from these perspectives, traditional theoretical perspectives on vocational behavior and career development can be arrayed and reconsidered in a manner that is more consistent with the principles of developmental science. Put more simply, if one is to engage in an examination of positive career development, one must adequately consider the broader fundamental assumptions of positive youth development and developmental science.

Theories of Vocational Psychology and Career Development

Historically, the career development field has retained a rather myopic approach to theory, research, and practice; focusing primarily on the career choices of relatively privileged individuals (e.g., White, college educated, male; Blustein, 2006; Richardson, 1993; Smith, 1983; Blustein et al., 2002). More recently, career development researchers and theorists have sought a more inclusive stance that focuses on the work-related issues of risk-immersed youth and otherwise historically marginalized populations (Blustein, 2006; Wilson, 1996; Constantine, Erikson, Banks, & Timberlake, 1998). Therefore, there has been a greater emphasis on understanding the ecological and contextual influences that facilitate or impede career development for risk-immersed groups (Fouad & Byars-Winston, 2005; Kenny, Blustein, Chaves, Grossman, & Gallagher, 2003; Kenny et al., 2007; Blustein, McWhirter, & Perry, 2005; Lent, Brown, & Hackett, 1994) as well as the

real and perceived differences in opportunity structure that shape career outcomes (Fouad & Byars-Winston, 2005; Astin, 1984; Cook, Heppner & O'Brien 2002).

The Psychology of Working Framework and Theory

The Psychology of Working Framework (PWF; Blustein, 2006) and Theory (PWT; Duffy et al., 2016) evolved from a recognition of the critical role that work plays in furnishing individuals' lives with opportunities to fulfill needs related to self-determination, social connectedness, and basic survival (e.g., food, shelter, clothing). The agenda set forth by the PWF endeavored to open a more inclusive discourse on issues of work for a diverse population of individuals, particularly those "near or in poverty, people who face discrimination and marginalization in their lives, and people facing challenging work-based transitions for which contextual factors are often the primary drivers of the ability to secure decent work" (Duffy et al., 2016). The PWF has served as a domain-specific metatheoretical framework for the field of vocational psychology to advance a more inclusive epistemological perspective on the psychological study of working among diverse groups. This meta-framework has served as the basis for the more recent development of a more detailed Psychology of Working Theory (Duffy et al., 2016) that specifies a structural model of career development and, in particular, the attainment of *decent work*.

The following sections will detail the structural model proposed by the PWT, identify key conceptual shortcomings of the PWT with respect to the PWT's applicability across the lifespan, and serve as a foundation for a consequent consideration and integration of additional career development theory to reconcile the identified conceptual

barriers.

The psychology of working theory: A contextually-focused structural model of career development and decent work. The PWT (see Figure 7) was developed to advance the position that extant vocational theory over the past century has inadequately focused on the work experiences of

“people on the ‘lower rungs of the social position ladder’--people without sufficient access to financial and social capital, marginalized people (i.e., who are marginalized on the basis of factors such as race, ethnicity, social class, and/or gender), and people who are forced to make involuntary work-based transitions--for whom elements of context are often primary in driving the experience of work” (Duffy et al., 2016, p. 127)

The PWT therefore strives to better account for social and contextual influences in understanding the work experiences of individuals. Fundamental to this focus is the need to shine a light on the critical influence of factors such as social class, power and privilege, and choice in shaping the process of accessing, engaging, and experiencing work (Duffy et al., 2016). Following from this recognition, the PWT departs from the traditional theoretical focus within vocational psychology on the individual and internal drivers of career development and instead places sociocultural, contextual, and structural factors in the conceptual foreground, thereby blending psychological and sociological approaches to understanding work and career development (Duffy et al., 2016). Thus, the PWT seeks to offer an inclusive and integrative approach, grounded in social justice and multicultural perspectives, that explains the work experiences of diverse groups of

people, with a particular focus on “those from poor and working-class backgrounds and disenfranchised and marginalized populations” (Duffy et al., 2016, p. 127).

Central to the PWT is the construct of decent work, a concept that has been largely advanced by the International Labor Organization (ILO, 2008, 2012; Duffy et al., 2016). Decent work offers an aspirational definition of work rooted in the belief that work is central to individual well-being, provides the most basic opportunity for social and economic mobility among individuals, families, and communities, and is increasingly difficult to access and attain in the changing global economy (Duffy et al., 2016). The ILO’s definition of decent work includes four fundamental features, the last of which provides the basis for operationalization of the psychosocial construct of decent work included in the PWT.

The first feature of decent work is that its creation, existence, and maintenance are within the purview of responsibility of the larger sociopolitical systems in which individuals reside. In other words, decent work requires and relies on systems of government to invest in creating opportunities for citizens to access and participate in decent work. Second, decent work requires provision of basic human rights, the legal protection thereof through policy and regulation, and the basic freedom of workers to exercise such rights (e.g., representation, freedom of association, access to collective bargaining rights, etc.; Duffy et al. 2016). Third, decent work is founded on the right to engage in continued social discourse regarding the changing nature of work and the individual and collective experience of employment and working. This aspect of decent work is meant to cultivate a communitarian macroculture around working in which there

is equitable participation and voice in the broader conversation about individual experiences within systems of work. Finally, the fourth feature describes the essential and concrete conditions required of an occupation to meet the standard of decent work and provides the basis for the operationalized construct that constitutes the central feature of the PWT structural model.

THE PSYCHOLOGY OF WORKING THEORY

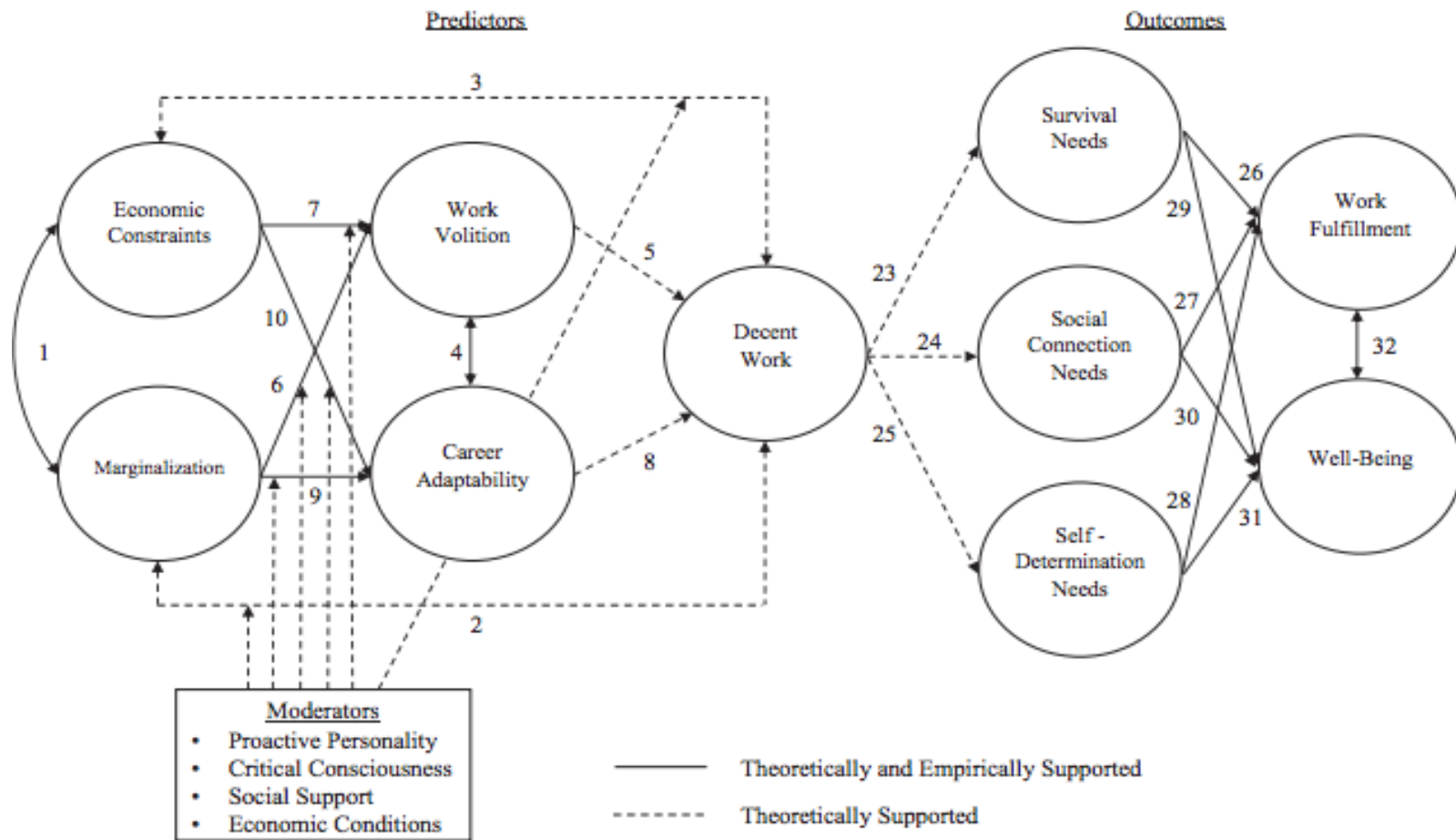


Figure 7. The Psychology of Working Theory (Duffy et al., 2016)

Decent work. Of the four defining features of decent work as specified by the ILO, the first three represent macrolevel perspectives on decent work with general relevance to all workers within and across systems of work and labor (Duffy et al., 2016). The fourth feature constitutes a shift in level of organization from the more distal perspective on labor toward a microlevel analysis of the individual's experience in an occupation, job, or work role. As such, Duffy and colleagues (2016) have sought to adapt this fourth feature for use in a psychological perspective on decent work. Decent work is therefore conceived as a multidimensional construct composed of, "(a) physical and interpersonally safe working conditions (e.g., absent of physical, mental, or emotional abuse), (b) hours that allow for free time and adequate rest, (c) organizational values that complement family and social values, (d) adequate compensation, and (e) access to adequate health care" (Duffy et al., 2016, p. 130). The attainment of decent work requires the sufficient fulfillment of all five of the constitutive dimensions.

Predictors of decent work. The primary predictors of decent work as specified in the model represent contextual factors proposed to shape the access, attainment, and experience of decent work. These contextual predictors are grounded in intersectionality perspectives (Cole, 2009) on social identity to specify the manner by which "unique experiences, restrictions, and affordances" are grounded in the social identities embodied by the individual and the intersectionality among such identities (Duffy et al., 2016). This recognition lays the foundation for the operationalization of contextual inputs, manifest as experiences of *marginalization* and *economic constraints*, most relevant to the unique, diverse, and intersecting social identities of a given individual or group.

Marginalization. Marginalization describes the process by which individuals are consigned to positions of less power and inclusion with society through externally imposed social, structural, or systemic influences (Duffy et al., 2016). Given the entanglement and pervasive cross-cutting impact of social class with other forms of social marginalization, class-based oppression is afforded a more complete discussion in the form of *economic constraints*, which together with *marginalization*, serve as the twin contextual predictors of decent work. The *marginalization* construct of the PWT, therefore focuses on other forms of social marginalization based on race, ethnicity, gender, sexual orientation, ability level, and/or immigration status, among other plausible forms of social or interpersonal discrimination. These key forms of social marginalization function to disproportionately reduce access to the work opportunities and conditions reflective of decent work. The PWT therefore proposes that greater levels of marginalization serve to decrease attainment and participation in decent work.

Economic constraints. Economic constraints describe the impact of social class and socioeconomic status on securing decent work, thereby reflecting the PWT's focus on explaining the career development experiences of individuals and groups with limited opportunity and resources (Duffy et al., 2016). Economic constraints encapsulate two primary manifestations of class-based oppression. The first is that of economic resources and is perhaps best aligned with definitions of socioeconomic status—a more “objective” indicator of social positions based on characteristics such as income, education level, and occupational prestige. The second is that of social and cultural capital and is perhaps best aligned with definitions of social class—a more “subjective” indicator of social status

reflected by access to social and cultural capital offered by the individual's or group's social position. These two perspectives offer different vantage points to understand the impact of class-based oppression that impose economic constraints on opportunities and access to decent work as a function of one's social position in the "social-economic-cultural hierarchy" (Duffy et al., 2016).

Mediators. The relationships between contextual barriers and decent work are hypothesized to be partially explained by psychosocial variables describing (a) one's perceived range of occupational choices in career decision-making and (b) the self-regulatory psychosocial capacities required to navigate career transitions.

Work volition. Work volition is defined as "an individual's perception of choice in career decision-making despite constraints" (Duffy et al., 2016, p. 135). Work volition represents a malleable attitudinal variable characterized as a perception derived from actual and real experiences with barriers related to economic constraints and marginalization. The positioning of this construct in the PWT model suggests that individuals experiencing higher perceived work volition are more likely to have access to meaningful and decent work. Previous research has suggested that work volition is related to, yet distinct from, other contextual constraints and has been demonstrated to mediate the relationship between socioeconomic status and quality of work experiences (e.g., meaningful work; Duffy, Douglass, Autin, & Allan, 2015). Thus, the inclusion of work volition in the PWT represents the hypothesized influence of contextual constraints on career outcomes as a function of one's perceived freedom of career choice. The PWT hypothesizes a negative relationship between contextual barriers (i.e., marginalization

and economic constraints) and perceived work volition.

Career Adaptability. Career adaptability is a construct derived from Career Construction Theory and represents the individual's "readiness and resources for coping with current and anticipated tasks of vocational development" (Savickas, 2002, p. 156). This construct represents a self-regulatory resource for the individual to manage transitions, tasks, and traumas within the career development process. Similar to work volition, career adaptability is a malleable construct hypothesized to explain the relationship between contextual barriers and work outcomes. Career adaptability is a four-dimension construct composed of *concern* regarding one's vocational future, *control* over one's life and future, *curiosity* about oneself, work opportunities, and career development processes, and *confidence* in one's ability to achieve necessary career development tasks and negotiate barriers. Career adaptability will be more fully explicated below in the context of Career Construction Theory. The PWT hypothesizes a negative relationship between contextual barriers and career adaptability and suggests that career adaptability partially mediates the relationship between contextual predictors and decent work.

Moderators. Among the direct and indirect relationships between contextual predictors and decent work, several key moderating variables are proposed within the model. The PWT specifies four moderating variables hypothesized to alter the direction or strength of the relations between contextual predictors and decent work: *proactive personality*, *critical consciousness*, *social support*, and *economic conditions*. Proactive personality and economic conditions represent moderating variables that are relatively

more focused on internal individual traits and objective external environmental characteristics. In other words, these variables represent characteristics of the Person and Context components of Bronfenbrenner's PPCT model. Critical consciousness and social support are perhaps closer to describing aspects of *Process* that characterize development. Together, these moderators represent key variables that shape individual↔context relations according to a developmental science conceptual framework.

Outcomes. The primary outcomes predicted by decent work include several outcomes related to need fulfillment, including *survival needs*, *social connection needs*, and *self-determination needs*, which together predict two superordinate psychological outcomes, *work fulfillment* and *wellbeing*.

Need fulfillment outcomes. The primary need fulfillment outcomes predicted by decent work describe the ways in which participation in dignified work provides a basis for fulfilling basic material, relational, and psychological needs. *Survival needs* describe the most basic function of work to provide individuals with economic means to access resources such as food and shelter. When provided with decent work, individuals can attain a reliable and stable income to provide safety and security for self and family, as well as other related resources required for basic survival. *Social connection* describes the ways in which work provides a theater to fulfill the human needs for relatedness (e.g., connection, attachment, belonging; Duffy et al., 2016). This need for social connection is fulfilled in two primary ways, either directly through interpersonal interaction within the workplace (e.g., coworkers, clients, supervisors, supervisees), or more broadly by

“linking work to the broader society” and providing “opportunity for workers to feel that they are contributing to their larger economic, political, and social worlds” (Duffy et al., 2016, p. 139). These primary forms of connection allow the individual to attain a sense of meaning and connection to individuals and their broader cultural context. Finally, *self-determination needs* describe the ability to engage in activities “that are intrinsically or extrinsically motivating in a meaningful and self-regulated fashion” (Duffy et al., 2016, p. 139). In other words, it allows the individual an opportunity to experience and negotiate both intrinsically and extrinsically rewarding activities. The PWT suggests that greater access and participation in decent work promotes greater fulfillment of survival needs, social connection, and self-determination.

Superordinate outcomes produced by need satisfaction. The PWT suggests that fulfillment of survival, social connection, and self-determination needs can improve human functioning in two primary ways, including *work fulfillment* and *wellbeing*. Along these lines, greater satisfaction of survival, social connection, and self-determination needs will lead to higher experiences of work fulfillment and overall wellbeing.

Alignment between the PWT and developmental systems theories. The perspective offered by the PWT describes a model in which contextual barriers and considerations are placed at the foreground of the model, thereby illustrating their central importance to career development processes. Although the model explicitly purports to draw from developmental perspectives (Duffy et al., 2016; Blustein et al., 2006) and does well to illustrate the notion of development-in-context, the model remains somewhat limited in its applicability across the lifespan. Although the PWT is one of the strongest

contextually-oriented career development models available in the literature, it could benefit from a stronger infusion of developmental perspectives to further situate itself in a relational developmental systems perspective.

First and foremost, the model is developmentally limited by virtue of the fact that the central construct of the model measures decent work, which examines the individual's experience of the occupational conditions descriptive of their work role. As the central construct presumes participation in work, the model is, in many ways, narrowly positioned to explain the work experiences of individuals that are actively participating in some form of work. The model's utility is therefore somewhat limited with respect to understanding the career development of individuals that are *not* currently participating in work, such as unemployed persons, pre-employed youth, or those in the midst of career transitions that otherwise inhibit their participation in a work role. Expanding the applicability of this model to non-working populations is key to broadening the PWT's utility for understanding the career development of populations such as risk-immersed youth or Opportunity Youth in the school-to-work transition.

As such, the following section provides an argument for critically reconsidering the structure of the PWT model from the perspective of developmental theory, namely, Bronfenbrenner's (1977) Ecological Systems Theory and Spencer's (2006) PVEST model. This argument will endeavor to illustrate several ways in which this model is well aligned with, but would benefit from a stronger infusion of, developmental perspectives offered by the PVEST model. In particular, an argument will be made to include a more developmentally appropriate construct, such as identity, to replace or precede the central

construct of decent work. Through the inclusion of an identity construct, the PWT model becomes more closely aligned with PVEST's conception of developmental processes and may possess increased applicability across the lifespan to better explain the career development of non-working marginalized populations, such as risk-immersed young people in the school-to-work transition.

Prior to a discussion of the alignment between the PVEST and PWT models, it is helpful to consider the basic alignment of the PWT with broader ecological systems theories (e.g., Bronfenbrenner & Morris, 2006). In its current iteration, the PWT's main predictors of marginalization and economic constraints illustrate two examples of contextual factors that might implicate influences from various levels of the individual's social ecology, which is highly consistent with Bronfenbrenner's ecological systems model (Bronfenbrenner & Morris, 1996). Thus, at a basic level, the PWT assumes a vision of the individual in context and implies that career development processes entail person↔environment relations across contexts. As the model is focused on individuals from high-risk environments, the PWT specifies that these person↔environment relations are likely to include experiences of marginalization and economic constraints that condition the individual's development at both proximal and distal levels and shape their pathways to attaining decent work. Thus, the PWT is highly consistent with Bronfenbrenner's basic propositions that person↔environment relations at varying levels of the social ecology influence developmental outcomes (i.e., attainment of decent work). In fact, one of the greatest strengths of the PWT is its emphasis on the role of context in shaping career development outcomes (Duffy et al., 2016)

Spencer's PVEST model, as described above, derives from the basic assumptions of Bronfenbrenner's ecological systems theory. Spencer's (2006) critique of Bronfenbrenner's model, however, suggests that it is the individual's unique phenomenological perception of their developmental processes that conditions the ways in which the individual self-organizes to form a more stable identity throughout development, which drives future person↔environment relations and outcomes. This latter point illustrates the Spencer's emphasis of the PVEST model as an identity-focused cultural ecological (ICE) perspective.

The PVEST model and the PWT are uniquely aligned in several ways (see Figure 8) and a comparison of the basic constructs in each illustrate the ways in which the PWT might serve as the foundation for a career-specific expression of Spencer's PVEST model. At a basic level, each seeks to provide models for understanding the lived experiences of individuals developing in ecological systems that are fraught with risk factors. In other words, using the language of Spencer's PVEST model, both seek to understand the experiences of individuals with high *net vulnerability*. Whereas Spencer's PVEST model explicitly identifies net vulnerability within the structural model, the PWT attends to net vulnerability more implicitly through its focus on the work-related experiences of historically marginalized populations.

THE PSYCHOLOGY OF WORKING THEORY

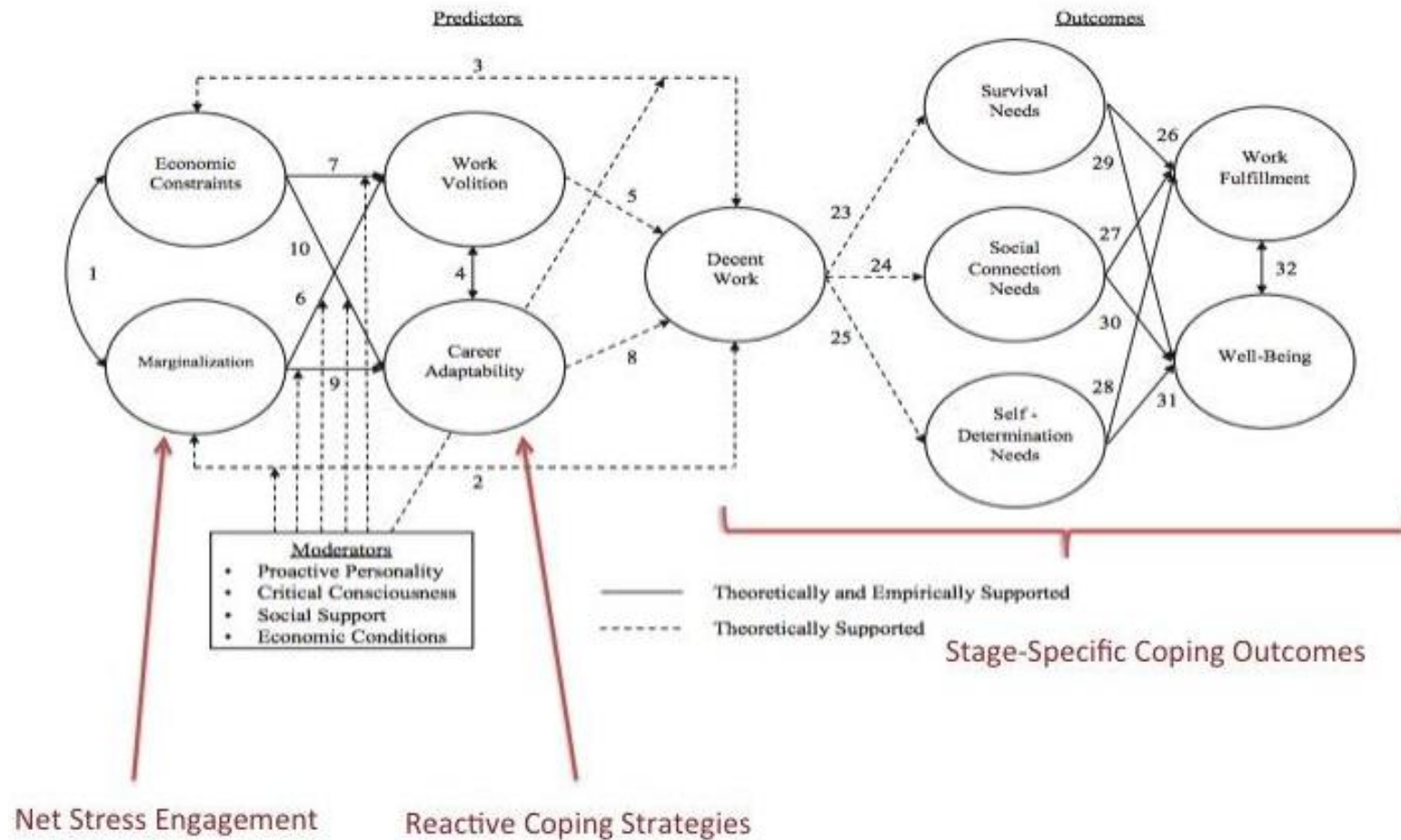


Figure 8. The Psychology of Working Theory (PWT; Duffy et al., 2016) from a Phenomenological Variant of Ecological Systems Theory (PVEST; Spencer, 2006) perspective.

Note: Red arrows/brackets denote the stage of Spencer's PVEST model corresponding to each PWT construct.

Second, the contextual predictors specified in the PWT model represent general forms of what the PVEST model specifies as *net stress engagement*. Spencer (2006) explains that although *net vulnerability* represents the constellation of potential risk and protective factors in the person's ecology, *net stress engagement* represents those instances in which the individual is experientially confronted with environmental barriers. Similarly, the PWT's main predictors, *marginalization* and *economic constraints*, represent manifestations of experiencing such environmental stressors. Otherwise stated, the primary predictors of the PWT are manifestations, or expressions, of stress engagement as modeled in the second component of the PVEST structural model. Both models therefore seek to include elements that describe the individual's experience of interaction with environmental stressors.

Third, the PWT model seeks to further explicate the nature of the person↔environment relations underlying career development processes primarily through the proposed mediators between the contextual barriers and decent work, which include work volition and career adaptability. These constructs suggest that, in light of significant environmental barriers, providing individuals with a relative degree of choice over work options (volition) and opportunities to develop the psychosocial resources required to adapt to the environment (adaptability) during work transitions would promote connection to decent work. Taken from a PVEST perspective, these mediators represent Spencer's third component of the PVEST model, *reactive coping styles*. Work volition represents the individual's psychosocial belief and perception of occupational choice despite environmental constraints (Duffy et al., 2012) and therefore illustrates a

career specific psychosocial response that is shaped by one's engagement with environmental stressors. Furthermore, the career adaptability construct is perhaps an even more fitting career specific expression of one's *reactive coping styles*, as career adaptability represents the "readiness and resources for coping with current and anticipated tasks of vocational development" (Savickas, 2002, p. 156). Savickas' construct of career adaptability describes the ways in which the individual adapts through person↔environment relations using psychosocial resources to navigate the transitions, traumas, and developmental tasks of career development. Taken together, the mediators specified in the PWT represent career-specific expressions of PVEST's *reactive coping styles* to describe the ways in which individuals perceive and adapt to environmental stressors.

Considering the points described above, the PWT is strikingly well aligned to serve as a career specific expression of the PVEST model as it incorporates, in some form or fashion, career specific manifestations of the first three constructs of the PVEST model, *net vulnerability*, *net stress engagement*, and *reactive coping styles*. The first construct, *net vulnerability*, is represented implicitly, rather than explicitly modeled in the PWT. The latter two constructs, *stress engagement* and *reactive coping styles*, are more squarely aligned with the major predictors (e.g., marginalization, economic constraints) and mediators (e.g., work volition, career adaptability) of decent work within the PWT, respectively.

In keeping with an evaluation of the PWT from the perspective of PVEST, however, the PWT makes a somewhat premature leap from Spencer's third structural

construct, *reactive coping styles* (i.e., career adaptability, work volition) to what would be considered Spencer's fifth structural construct, productive *stage specific coping outcomes* (i.e., attainment of decent work). In other words, insofar as the PWT predictors (i.e., marginalization, economic constraints) represent *net stress engagement* and the mediators (i.e., work volition, career adaptability) represent *reactive coping styles*, which together predict *stage specific coping outcomes* (i.e., decent work attainment), the PVEST model would suggest that a construct representing the fourth PVEST component of *emergent identities* is missing from the PWT model. This fourth element of the PVEST model, *emerging identities*, describes the process by which individual's reactive coping strategies become incorporated over time into more enduring identities, which drive subsequent person↔environment relations and consequently influence *stage specific coping outcomes*. In summary, the PWT structural model, examined as a career-specific expression of these PVEST components, implicitly includes the first PVEST construct (i.e., *net vulnerability*) and explicitly includes the second (i.e., *net stress engagement*), third (i.e., *reactive coping strategies*), and fifth (i.e., *stage specific coping outcomes*) PVEST constructs but not the fourth (i.e., *emergent identities*). The PWT thereby omits a critical developmental link of identity in an otherwise well-aligned contextual model of career development for risk-immersed individuals.

Thus, PVEST provides a model to explain the behavior and developmental outcomes of risk-immersed young people and the PWT is poised to serve as a career-specific expression of this model to explain the career development of risk-immersed individuals. Perhaps most salient in Spencer's critique of Bronfenbrenner's model,

however, is the lack of attention toward the unique phenomenological experiences of person↔environment relations, the ways in which the phenomenological constructions of those experiences inform the individual's future self-organization in the form of identity, and the ways in which identity, as understood from a cultural and ecological perspective, serves to drive future developmental outcomes (Spencer, 2006). Furthermore, it is the phenomenological aspect of identity formation that constitutes Spencer's characterization of PVEST as an identity-focused cultural ecological perspective (ICE). Thus a similar claim as was made against Bronfenbrenner's theory might be made against the PWT as a failure to adequately account for the phenomenological experience of person↔environment relations, the ways in which those experiences shape identity development, and the ways that identity development shapes developmental outcomes.

Although the PWT incorporates many aspects of Spencer's PVEST-ICE model, namely the strong emphasis on contextual stressors and reactive coping strategies required to adapt to one's ecology, the inclusion of an identity construct would position the PWT more strongly as a potential ICE model of career development for risk-immersed young people. In fact, within the PWT, the contextual predictors themselves are framed from an identity perspective (Duffy et al., 2016) such that the salience of social, structural, and environmental forces are contingent upon one's social identities and the intersectionality of those identities. Despite this seeming compatibility, however, the PWT does not specify an identity construct within the model. In other words, although the PWT purports to explore contextual barriers and responses to such stressors from a phenomenological perspective, an identity construct is not explicitly included in

the model. The inclusion of an identity construct could therefore be the missing link to strengthen the PWT's phenomenological focus, alignment with developmental theory, and applicability to a broader range of populations, including non-working individuals.

Career Construction Theory: A Complementary Career Theory From a Lifespan Perspective

Career Construction Theory (CCT) provides an example of a lifespan model of career development with roots in developmental systems theories (Savickas, 2012). By contrast to the PWT, CCT offers a lifespan development model in which identity serves as a central construct. As such, CCT may provide a complementary theory to be integrated with the PWT to enhance the model's developmental utility.

According to CCT, vocational identity and career adaptability are considered metacompetencies for career construction in the 21st century (Savickas, 2012). Savickas' lifespan model, further detailed in the following sections, describes the life stages of career development as a *maxicycle* through which the individual progresses across the lifespan and through which the individual may engage in *minicycles* during times of career transition. According to CCT, individual career construction is contingent upon developing a vocational identity and the career adaptability resources required to navigate career development transitions, traumas, and tasks. As the individual progresses through the maxicycle or engages in minicycles as a product of career transitions, traumas, or normative developmental tasks at later stages, it is identity and adaptability that provide the fundamental basis for charting and maneuvering the course of career construction across the lifespan. Savickas explains that, "together, the meta-competencies of identity

and adaptability give individuals a sense of when it is time to change and the capacity to change” (Porfeli & Savickas, 2012, p. 749).

According to CCT, difficulty within the school-to-work transition may result from “maladaptive attitudes, beliefs, and competencies [required] for crystallizing preferences, by vocational identity styles that distort the specification of an occupational choice, and by external barriers that thwart actualizing a choice” (Savickas, 2002, p. 177). Put more simply, from a developmental systems perspective, CCT posits that individuals in the school-to-work transition may have difficulty with stage-specific career developmental tasks due to difficulties with the development of an identity and the adaptability resources that drive career-relevant person-environment relations across the lifespan. CCT further posits that identity and adaptability resources for coping with career development tasks are particularly salient during the school-to-work transition as this is the period during which the individual is first confronted with making and implementing a career choice.

Like the PWT, Career Construction Theory offers a model in which, career adaptability is central to understanding person \leftrightarrow environment relations. Unlike the PWT, CCT suggests that vocational identity formation is a critical predictor of work-related outcomes. Integrating CCT’s identity focus with the PWT structural model may help fulfill the missing link in a career-specific expression of Spencer’s PVEST model. CCT is further detailed below to provide an adequate explication of the theories’ key assumptions and features.

Career Construction Theory. Career Construction Theory (Savickas, 1997, 2002, 2005, 2012) represents an evolution of Donald Super’s theory of vocational

development (Super, 1953, 1990). The theory employs social constructivism and developmental-contextualism (Ford & Lerner, 1992) as meta-theoretical frameworks and views the individual as co-constructing the vocational self through a process of adaptation and integration with the environment (Savickas, 2002).

Through the adoption of social constructivism and developmental-contextualism, Savickas' Career Construction Theory expands on Super's Theory in two critical ways (Savickas, 2002). First, CCT re-envision's Super's original "self-concept theory" as a "personal construct theory" to reflect the theory's emergent identification with epistemological constructivist assumptions and distinction from ontological constructionist beliefs. In other words, Savickas more explicitly articulates the theory's philosophical assumptions and position that individuals "construct representations of reality," although they do not thereby "construct reality in itself" (Savickas, 2002, p. 154). Much of this is rooted in CCT's differentiation between objective and subjective careers in which the former represents the observable behaviors of the individual's career pattern and the latter represents the narrative by which the individual imbues meaning on career behavior across the lifespan (Savickas, 2002).

CCT's second major departure from Super's theory is on the basis of developmental assumptions as CCT abandons the organismic paradigm in favor of a contextualist and relational perspective. This second update to the theory is critical as it shifts assumptions of human development from a focus on "maturation of inner structures" to one that conceives of human development as a process of adaptation between individual and environment. This perspective is highly consistent with RDST

and the broader process-relational paradigm (Lerner, 2006; Lerner & Overton, 2008; Overton, 2010, 2013, 2015).

As a lifespan perspective, CCT emphasizes that careers develop across the life course as a function of the individual's encountering and mastery of the tasks of psychosocial and cultural adaptation (Super, Savickas, & Super, 1996). The theory suggests that developmental tasks across the lifespan can be either predictable and "loosely associated with chronological age" or unpredictable and nonlinear (Super, Savickas, & Super, 1996, p. 131). Thus, the lifespan resembles the "normal but not invariable" sequence and corresponding ages associated with each life stage (Super, Savickas, & Super, 1996, p. 131). Each life stage consists of several developmental tasks that reflect the societal expectations for the individual regarding the preparation, engagement, and reflection on the work role that the individual will likely encounter. Adaptation to each developmental task promotes successful functioning in the work role and provides the scaffolding necessary for the individual to encounter and adapt to subsequent developmental tasks. Implicit in a stage model such as Super's model or CCT is the notion that one's inability to adapt to a stage, or skipping a stage all together, may produce downstream difficulties at future stages (Bell, Super, & Dunn, 1988; Havighurst, 1953; Super, Savickas, & Super, 1996). The stages of the maxicycle, as well as minicycle, are described in the following section.

Growth (Childhood, ages 4-13). Psychosocial development within the growth stage, spanning from approximately ages four to thirteen, has been widely explored within the field of psychology, however, relevant findings have less frequently been

incorporated into, or applied to, theories of vocational development (Savickas, 2002).

The growth stage is the first of CCT's developmental stages and focuses on physical and psychological growth (Brown, 2011), as well as the origin and development of the individual's personality within the family, school, and neighborhood (Savickas, 2005).

With respect to careers, during the growth stage the individual begins to form a vocational self-concept (Savickas, 2002), develops the attitudes, behaviors, and experiences that will frame future self-concepts and occupational choices (Brown, 2011), and the individual's vocational personality gradually begins to emerge in the form of work-related abilities, needs, values, and interests (Savickas, 2002, 2005).

Savickas uses the psychodynamic conception of "developmental lines" (Freud, 1965, 1989) to organize the extant bodies of career scholarship within this developmental phase and explain the "four major tasks of vocational developmental that society imposes on children" (Savickas, 2002, p. 168; Savickas, 2005). Accordingly, developmental lines, "in the sense here used, are historical realities, which when assembled, convey a convincing picture of an individual child's personal achievements or, on the other hand, of his failures in personality development" (Freud, 1989, p. 64). Specifically, Savickas (2002) suggests that the accumulation of investigations by career researchers regarding developmental continuity and change of vocational behaviors during this stage can be organized into four developmental lines, which he calls *concern*, *control*, *curiosity*, and *confidence*.

Progress along these developmental lines promotes the formation of basic attitudes, beliefs, and competencies. Each developmental line produces its own unique

“syndrome” (Savickas, 2002, p. 167) of these basic ABC building blocks, which the individual brings forward into adolescence and are critical for shaping how the individual chooses occupations and constructs their career (Savickas, 2002; Savickas, 1993; Super, 1990). Notably, these developmental tasks are the same dimensions that characterize the adaptive fitness of one’s attitudes, beliefs, and competencies and frame one’s readiness and resources for coping with current and anticipated vocational development tasks, also known as career adaptability (See Figure 9).

Table 6.1
Career Adaptability Dimensions

Adaptability Dimension	Attitudes and Beliefs	Competence	Coping Behaviors	Career Problem
Concern	Planful	Planning	Aware Involved Preparing	Indifference
Control	Decisive	Decision making	Assertive Disciplined Willful	Indecision
Curiosity	Inquisitive	Exploring	Experimenting Risk taking Inquiring	Unrealism
Confidence	Efficacious	Problem solving	Persistent Striving Industrious	Inhibition

Figure 9. Dimensions of career adaptability (Savickas, 2012)

The four developmental lines are aligned with Erikson’s (1963) model of psychosocial development, thereby illustrating CCT’s belief that one’s broader psychosocial development supports development within the individual work role. Savickas (2002) describes each developmental line in Eriksonian terms, conceptualizing the psychological crises, which arise due to conflict between biological and sociocultural

factors, and the intrapersonal virtues that the individual earns and learns as a function of successful negotiation these crises (Erikson, 1963).

Described below is each developmental line, task, or dimension that emerges during the growth stage to constitute the construct of career adaptability. Each dimension is described in detail below including, the syndrome of attitudes, beliefs, and competencies respective to each developmental task, line, or dimension, as well as the broader psychosocial developmental lines in which they are rooted.

Career concern describes an individual's conception of the vocational future and addresses the basic career question, "Do I have a future?" (Savickas, 2005). Career concern is synonymous in many ways with having a future orientation and is cultivated by attitudes that favor planning and optimism, as well as awareness and anticipation of future vocational development tasks, transitions, and choices. Consistent with longitudinal and subjective assumptions implicit in the construct of "career," career concern relies on beliefs in continuity and encourages the individual to integrate vocational considerations of the past, present, and anticipated future as a reflection of the self across the lifespan. Attitudes and beliefs favoring planfulness and continuity, respectively, prompt individuals to seek experiences that enable the development of planning competencies. Together, these planful attitudes, continuity beliefs, and planning competencies enable the individual to structure and sequence tasks and activities across time from present to future.

From a psychosocial development perspective, career concern is a developmental line focused on one's dependence on caretakers and corresponds to Erikson's

psychosocial crisis of trust versus mistrust and the attainment of the basic virtue of hope (Savickas, 2002). From this perspective, career concern is “plotted by the coordinates of interpersonal trust and intrapersonal hope” (Savickas, 2002, p. 168). CCT suggests that these elements of career concern are rooted in the broader development of one’s attachment style to caregivers (Savickas, 2002). Drawing on relational theories of vocational development, CCT assumes that early attachment experiences with caregivers provide the foundation for the individual’s conception of self and others. These conceptions serve as an “internal working model” (Savickas, 2002, p. 168) of relationships and guide the individual’s orientation to the world, broadly (Ainsworth, 1973; Bowlby, 1969), and to their occupational life, specifically, as they imagine and explore the world of work (Blustein, 2001; Flum, 2001).

Generally consistent with the attachment styles purported by Ainsworth (1973) CCT proposes four attachment styles that are more or less adaptive with respect to the individual’s orientation toward exploring and navigating the world of work and thereby describe the manner by which one maintains concern about their vocational future: 1) secure, 2) preoccupied, 3) dismissive, and 4) fearful. The secure style produces positive conceptions of self and others and allows the individual to feel secure in exploring the world of work and envisioning themselves within it. During childhood, this secure style promotes a future orientation and optimism about the self and one’s future. The secure style promotes positive future orientations and attitudes toward anticipating and planning to achieve career development tasks across the remainder of the lifespan, including forming and maintaining relationships with colleagues or mentors, committing to an

occupation, and stabilizing oneself within the occupation.

Insecure attachments provide negative relational schema about the self and others. The *preoccupied* style is characterized by a negative view of self and positive view of others and produces anxiety and ambivalence with respect to career development tasks. The *dismissive* style employs a positive view of self and a negative view of others, which produces a dissocial orientation to career development tasks. Finally, the *fearful* style is constituted by a negative view of self and others and encourages indifference and avoidance toward career development tasks.

Career concern therefore describes the orientation that one holds toward their career and vocational development tasks, which is influenced largely by the attachment style and relational schema that are constructed in early interactions with caregivers. Accordingly, the development of interpersonal trust and intrapersonal hope shapes the extent to which the individual envisions possible selves and alternative futures within the world of work. Career concern also provides the foresight to anticipate, plan, and achieve vocational development tasks necessary to translate these imagined selves into reality.

Career control is the second most important aspect of career adaptability. Once the individual is confronted with and responds to the hypothetical prospect of a future, the individual contemplates the consequent career question, “Who owns my future?” (Savickas, 2005). Career control is the conviction that the individual is responsible and in control of constructing their career and vocational future. Savickas suggests that for the individual, “the belief that they own their own future and should construct it by choosing rather than chancing leads individuals to sense that they are responsible for their lives”

(Savickas, 2005, p. 54). Attitudes and beliefs regarding assertiveness and personal responsibility, respectively, prompt individuals to engage in activities and seek out experiences that stimulate decisiveness and decision-making competencies. The perception of control, based on dispositions favoring assertiveness and personal responsibility, coupled with the necessary decision-making competencies compel the individual to maintain a proactive stance in engaging with and navigating, rather than avoiding, career development tasks and transitions. Thus, career control describes one's assertiveness, beliefs regarding the locus of responsibility for career decision-making, and readiness to cope with decision-making responsibilities and related tasks. A lack of career control, by contrast, is referred to as career indecision.

From a psychosocial development perspective, career control is associated with Erikson's psychological crisis of interpersonal autonomy versus shame and the basic virtue of intrapersonal willpower. Accordingly, one's experiences throughout childhood shape the extent to which one "views individuals as producers of their own development" (Savickas, 2002, p. 169). Savickas suggests that childhood offers opportunities to practice "making decisions, delaying gratification, negotiating, and asserting one's rights," which contribute toward the individual's experience and beliefs regarding "interpersonal autonomy and personal agency" (Savickas, 2002, p. 169). Over the course of childhood, accumulation of these experiences and behaviors promotes decisiveness and decision-making competencies and orients one toward personal responsibility for career construction.

Career Curiosity. CCT suggests that contemplations regarding whether one has a future and who owns that future leads to the basic career question, “What do I want to do with my future?” (Savickas, 2005). In other words, development of career concern and control consequently cultivate a motivation for exploration and learning about the types of work and occupational roles that the individual might be drawn to. Career curiosity therefore “refers to inquisitiveness about and exploration of the fit between self and the work world” and describes developmental efforts to respond to this key question (Savickas, 2005, p. 55).

Career curiosity relies on attitudes of inquisitiveness, which prompt the individual to search for opportunities to learn more about the self and work situations. With respect to beliefs, career curiosity benefits from values of openness toward new experiences, various possible selves, and alternative work roles, which incline individuals to try new things. Attitudes that promote exploration and beliefs that favor openness promote competence in accumulating knowledge and information about oneself and occupations.

Behaviors in service of exploration and information seeking are likely to expand the individual’s fund of knowledge regarding the self and occupations, which can subsequently be used to fit one’s self to work situations and occupational roles. Exploration can occur across contexts and might be systematic, intended exploratory behaviors or “random,” unplanned exploratory experiences. Greater exploration of oneself, the broader environment, and the world of work, expands one’s knowledge about personal abilities, interests, and values, as well as the “requirements, routines, and rewards” of occupations (Savickas, 2005, p. 55). Increased attitudes, beliefs, and

competencies favoring exploration and information of self, situation, and the career construction process are thought to promote realism and objectivity when engaging in career development tasks, choices, and construction. By contrast, a lack of career curiosity can leave individuals with naive conceptions about themselves and the world of work, which can negatively impact later development and career construction.

Career curiosity was formerly conceived as *career conviction* (Savickas, 1993; Super, Savickas, & Super, 1996) within Super's theory of vocational development and as *career conception* (Savickas, 2002) in earlier iterations of CCT. These constructs are unified within the developmental line associated with interpersonal interdependence and Erikson's psychosocial crisis of interpersonal initiative versus guilt and the basic virtue of intrapersonal purpose. The through line of these three related constructs is exploration and learning of information about self, situation, and the career construction process. According to CCT, curiosity motivates children to explore the self, the environment, and begin contemplating one's purpose in life and how life ought to be lived. As such, the individual begins to explore, learn, and critically appraise how the career choice process is conceptualized within the family and broader social culture. These elements of curiosity prompt experiences that shape the conceptions, considerations, and convictions to form the basic scripts and schema that guide the individual's understanding of the process of career choice and construction. Curiosity that promotes adaptive attitudes, beliefs, and competencies regarding knowledge about the self, world of work, and career construction process prompt individuals to make "suitable and viable" career choices across the lifespan (Savickas, 2002, p. 170).

Career Confidence. As the individual continues to develop the concern, control, and curiosity necessary to construct their career, the individual is confronted with the fundamental question, “Can I do it?” (Savickas, 2005). Career confidence “denotes feelings of self-efficacy concerning the individual’s ability to successfully execute a course of action needed to make and implement suitable educational and vocational choices” (Savickas, 2002, p. 171; Savickas, 2005, p. 56). Career confidence involves attitudes and beliefs that reflect a sense of self-efficacy toward engaging with and mastering developmental tasks. This sense of confidence is hypothesized to dispose the individual toward engaging in experiences that build competencies in problem solving.

From a psychosocial development perspective, *career confidence* is the line of development rooted in feelings and perceptions of equality with others and is associated with Erikson’s psychosocial crisis of interpersonal industry versus inferiority and the basic virtue of intrapersonal competence. Career confidence is situated more broadly in the psychosocial construct of self-confidence, which concerns the individual’s anticipation of successfully encountering and surmounting obstacles and challenges (Savickas, 2002). Confidence develops from opportunities to successfully solve problems in daily life such as chores, schoolwork, and hobbies (Savickas, 2002, 2005). The development of confidence allows one to transition from imaginary acting and play to real goal setting and actualizing imagined roles. Opportunities to experience and reflect on one’s usefulness and productivity in such tasks promotes feelings of increased self-acceptance and self-worth. Together, these experiences and behaviors engender confidence about one’s ability and facilitate the performance required to accomplish,

solve, and master the complex problems inherent within career development tasks and career construction.

In sum, the primary career questions that the individual is confronted with during the growth phase are “Do I have a future?” “Who owns my future?” “What do I want to do with my future?” and “Can I do it?” In response to these questions, the four major tasks of vocational development during the growth phase of childhood are to become *concerned* about one’s future as a worker, develop a sense of *control* over vocational activities, develop *curiosity* regarding how educational and vocational choices are made, and build *confidence* in one’s ability to make and implement career choices (Savickas, 2002). Children progress along these developmental lines, tasks, or dimensions through daily experiences. Development along these lines promotes a syndrome of attitudes, beliefs, and competencies that determine the adaptive fitness of one’s readiness and resources to cope with career development tasks, transitions, and traumas throughout the career construction process. Ideally, the four developmental lines coalesce at the end of childhood in the form of attitudes, beliefs, and competencies that prepare individuals to approach adolescence and the exploration stage with “a concern for the future, a sense of control over it, the curiosity to experiment with possible selves and explore social opportunities, and the confidence to engage in designing their occupational future and executing plans to make it real” (Savickas, 2005, p. 56).

Exploration (Adolescence, ages 14–24). Following childhood and the growth stage in which the individual develops the resources to cope with career development tasks, continues to discover their vocational personality, and begins constructing their

vocational self-concept, adolescence and the exploration stage bring a new set of developmental tasks and expectations imposed by society (Savickas, 2002, 2005, 2012; Super, Savickas, & Super, 1996). The exploration stage spans roughly from ages 14 to 24 and entails the recognition of societal expectations to choose an occupation. CCT conceptualizes the choice process as “fitting oneself into society in a way that unifies one’s inner and outer worlds” (Savickas, 2002, p. 172). The developmental resources emergent in the growth stage incline the individual to begin moving conceptions of possible selves and roles from daydreams to a “publicly recognized vocational identity” (Super, Savickas, & Super, 1996, p. 132).

During this stage, the individual engages in exploratory activities that increase the fund of personal and occupational knowledge used to make well-fitting educational and vocational choices (Savickas, 2005). Thus, the “chief coping behavior” during the exploration stage is exploration in the form of efforts to gather information about one’s self and occupations to begin making choices that enable one to construct a career within the world of work (Savickas, 2002, p. 172). CCT suggests that exploratory behaviors prepare the individual for the three vocational identity development tasks within the exploration phase: *crystallization*, *specification*, and *actualization*.

Crystallization entails in-breadth exploration of self and situation, which fertilizes the attitudes, beliefs, and competencies necessary to crystallize one’s vocational self-concept. Exploratory experiences ignite a process of differentiation filled with newly discovered distinctions between one’s attributes and those of occupations within the world of work. Crystallization is therefore a process which that prompts “the unification

of self-percepts into a vocational self-concept and the unification of occupations into a cognitive map,” followed by attempts to navigate this map and envision a match between self and situation in which the self-concept is fit into an occupational role (Savickas, 2002, p. 173).

Exploration of the self encourages further development of the self-concept. Increased opportunities to examine one’s self-concept promotes an expanded recognition of the scope and abstractness of self-percepts employed by the individual in self-description. Continued exploration ultimately encourages differentiation of these self-percepts that become integrated into a stable and consistent structure of the self. Exploration and crystallization of occupational perceptions entails a similar process. Through exploration and reflection, the adolescent begins to differentiate and organize occupations by characteristics such as their “requirements, routines, and rewards” and begins to encode occupations onto their cognitive map according to field of interests and/or ability level (Savickas, 2002, p. 173). This process of differentiation and cognitive mapping enables the individual to construct schema and locate occupations in a shared social space, which facilitates synthesis and interpretation of occupational information.

With increasing differentiation and clarity about the self and the world of work, the individual can begin to imagine fitting the vocational self-concept into occupations on the cognitive map and envision these trial matches as possible selves. These “occupational daydreams” move from random attempts at matching to more systematic matching and more attractive possible selves garner increased attention, exploration, focus, and sensitivity to feedback. Ultimately, these visions of possible selves facilitate

reality testing, the formation of emergent preferences for clusters of occupations, and the courage needed to implement these selves in the adult world.

Specification. Crystallization requires in-breadth exploration, differentiation, and clarification of one's self and situation, as well as the fitting of possible selves into possible occupations, thereby producing occupational preferences. By contrast, the second task within the exploration phase requires one to specify an occupational choice. Specification entails choosing a particular occupation to enter and making the commitment to do so. The latter point reflects a critical shift in emergent vocational identity formation, which occurs when the individual translates privately held vocational self-concepts into public occupations. This is consistent with Super's (1951) notion that "in expressing vocational preferences, individuals put into occupational terminology their ideas of the kinds of people they are," (Savickas, 2005, p. 44). Savickas reiterates that "the declaration of an occupational choice confirms who we are and wish to become" and that "choice announces the controlling idea for our working lives" (Savickas, 2002, p. 175).

As such, specification necessitates in-depth exploration to more deeply examine tentative preferences that emerge from crystallization. During in-depth exploration, the individual may seek additional formal education or training or explore the self and the world through less formal experiences. Specifying an occupation requires more than simple matching of self and occupation. The individual instead constructs a story in which they organize their various self-percepts into a cohesive self-concept, which then gets fit into society, consolidating how the individual views the relation between self and

the world. Within this story, one's vocational characteristics (e.g., abilities, interests, values) provide the content and the narrative theme that the individual employs to shape the story provides the meaning, continuity, and uniqueness of the story. The theme therefore provides a narrative structure that organizes the individual's choices, unifies the self, and completes the self-concept by declaring and detailing the ways in which the occupational choice resembles a translation of self into profession. The career story at large establishes one's uniqueness from others, thereby illustrating one's potential contribution to society and motivating entry into the adult world of work.

CCT suggests that there are three patterns of dispositions (e.g., attitudes and behaviors) and competencies that represent behavioral strategies for constructing, maintaining and revising vocational identities. These strategies are drawn from Berzonsky's work on psychosocial identity styles and include the *informational*, *normative*, and *avoidant* styles (Savickas, 2002).

The *informational* style derives from secure attachment (positive self, positive others) in the growth stage and employs coping behaviors that are problem-focused and rely on exploration "to integrate role models into a cohesive and unitary whole and then make suitable and viable choices" (Savickas, 2002, p. 176). The informational style is suggested to prefigure identity achievement (Marcia, 1966). The *normative* style derives from a preoccupied (negative self, positive others) attachment in the growth stage and employs coping behaviors that conform to expectations of others and "preserve the existing identification" within the group (e.g., family; Savickas, 2002, p. 176). Accordingly, in order to protect the existent identification within the group, those

employing a normative style ascribe to occupational preferences prescribed by significant others and refrain from exploration of self. The normative style is suggested to prefigure foreclosed identity. Finally, the *avoidant* style derives from dismissive (positive self, negative others) or fearful (negative self, negative others) attachment styles in the growth stage and is therefore characterized by disrupted development with respect to dispositions and competencies that constitute coping behaviors. It is suggested that individuals characterized by an avoidant style employ emotionally focused coping behaviors, may lack role models necessary for integration into the self, and strive to ignore vocational problems and choices through delay and procrastination. The avoidant style is suggested to prefigure diffuse and disorganized identities, respectively, in accordance to the final two attachment styles and may lead to unstable occupational histories and difficulty with career construction.

Actualization is the final task of the Exploration period and entails the actualization of an occupational choice. This task requires the individual to translate occupational choices into observable actions. The individual may try out several jobs within the occupation that has been specified to evaluate the fit between self and situation. Through this process of reflection and revision, the individual employs coping behaviors that move the individual increasingly closer to the attainment of more congruent occupations and stable employment.

The coping behaviors required to facilitate this movement toward increased congruence between self and situation can be understood as a progression consisting of *developing skills, experimenting, and stabilizing*. Ideally, this progression begins with the

individual *developing skills* through continued education or training that prepares the individual for entry into the occupation. *Experimenting* occurs when the individual participates in a series of related jobs, which leads to the elimination of less congruent jobs in favor of the stable attainment of a more congruent position. *Stabilizing* occurs once the individual has identified a congruent position and begins to make that job secure.

Considering actualization in the context of its sequential positioning among the other tasks within the Exploration stage, difficulties with precedent developmental tasks may hamper actualization. Progress along the sequence of developing skills, experimenting, and stabilizing can be stifled by difficulties developing the adaptive attitudes, beliefs, and competencies required for crystallization. Further, maladaptive identity styles that disrupt the specification of an occupational choice would logically undermine the achievement of actualization. CCT characterizes several maladaptive or unsuccessful styles of actualization, which include “*drifting* from one unsuitable position to the next, *floundering* performance in a position, or *stagnating* in an inappropriate or blind-alley job” (Savickas, 2002, p. 177). These styles are largely supported empirically by the pioneering Career Pattern Study by Donald Super and colleagues (1967).

The actualization task typically occurs within the period defined as the school-to-work transition as the individual increasingly transitions out of formal education and matriculates into the world of work (Savickas, 2002). Importantly, during the school-to-work transition and actualization task, the implementation of quality coping behaviors is suggested to be more important than actual or objective success in trial jobs within the

specified occupation. Coping effectively with the developmental tasks within the Exploration stage should promote movement toward occupations that are increasingly congruent with the self and ultimately lead to establishment in such a position.

Establishment (Young Adulthood, ages 25–44). Within Super's vocational development theory and CCT, the establishment phase spans the period from ages twenty-five to forty-four and concerns the implementation of one's self concept in an occupational role (Savickas, 2002). Super's theory and CCT propose that within the establishment stage, the individual engage in three developmental tasks toward this end: *stabilization*, *consolidation*, and *advancement* (Super, Savickas, & Super, 1996; Savickas, 2002).

Following from the developmental tasks of the Exploration stage, *stabilization* involves finding and securing a position that provides a proper outlet for the expression of one's self-concept. As such, one continues to secure their position by succeeding in performing the required occupational duties and assimilating well into the organization and its culture. *Consolidation* describes the process of strengthening one's position by demonstrating positive attitudes, habits, and relationships with coworkers. At a deeper level, consolidation is a process of reflection and refinement of one's self-concept based on continued experience with implementation and learning based on internal and external feedback. Refinement allows the individual to reflect on previous experiences implementing self-concepts and discover newfound depth, substance, clarity, purpose, subtleties, imperfections, or unexplored potential. In other words, the individual gains a more coherent and nuanced portrait of the self within the work role. Finally, *advancement*

is the process of moving forward to new or different levels of achievement and responsibility, which occurs following consolidation efforts and a refinement of self-concept.

The establishment stage therefore reflects societal assumptions regarding how individuals ought to situate themselves within the work role and ultimately hold a job. The work role during this phase therefore serves as a means to synthesize the individual's inner and outer worlds and although the developmental tasks describe the process of securing an occupational role, "getting along," and "getting ahead" (Super, Savickas, & Super, 1996, p. 133), this stage also reflects the position that the individual's participation in the work role, "in addition to making a living, should contribute to making a life" (Savickas, 2002, p. 178).

Maintenance or Management (Adulthood, ages 45–65). At some point in the individual's middlescence, the individual begins to focus attention on maintaining, rather than advancing, what has been established. This life stage is referred to as Maintenance in Super's theory (Super, 1953) and Management (Savickas, 2002) in CCT. Upon entering the Maintenance/Management stage, the individual is confronted with the question, "Do I want to do this for the next twenty-five years?" Essentially, they ask themselves and their family and friends if they should hold on or let go." (Savickas, 2002, p. 179; Super, Savickas, & Super, 1996, p. 134). If the individual opts to change organizations, occupations, or fields, "they must recycle through Exploration and Establishment by crystallizing and specifying a different choice" (Savickas, 2002, p. 179; Super, Savickas, & Super, 1996, p. 134) and then secure, stabilize, or advance in the new role (Williams &

Savickas, 1990). In the event that the individual remains in the occupational role, they enter into the maintenance stage (Savickas, 2002, 2005; Super, Savickas, & Super, 1996).

Unlike earlier stages, the focus is not on achieving or coping with a sequence of age-related tasks, but rather on preserving the self-concept in the work role (Savickas, 2002). Workers during this stage can engage in three positive styles of maintenance: *holding*, *updating*, and *innovating* (Savickas, 2002, 2005; Super, Savickas, & Super, 1996). *Holding* refers to a style characterized by continuing to meet demands by performing as they have in the past and continuing to perform well in response to competition, changing technology, increasing demands from other social roles, and waning stamina. A detrimental alternative to *holding* is stagnating, a negative style in which the individual attempts to hang on until retirement, employing little effort to remain proactive in maintaining the occupational role. *Updating* expands beyond strategies to conserve the work role through sustained performance and describes efforts to maintain by renewing skills and knowledge to keep current with the changing demands and developments of the occupation and field. *Innovating* describes the maintenance style in which the individual seeks to discover new means of completing tasks, setting sights on novel tasks, or striving to discover new challenges and tasks.

Thus, from Super's vantage point, the individual maintains the self-concept and occupational role by holding on, updating, or innovating. Savickas' (2002) reconceptualized the Maintenance stage as the Management stage, explaining that Maintenance reflects a narrow and somewhat antiquated social expectation reserved for careers within bureaucratic organizations "wherein the worker, once stabilized, was

expected to put in thirty years and retire” (Savickas, 2002, p. 180). Savickas (Savickas, 2002) cites a revised psychological contract (Rousseau, 1989) between organizations and workers, coinciding with the demise of the hierarchical and linear “grand career narrative” (Savickas, 2002, 2012) and the emergence of protean (Hall & Mirvis, 1995) and boundaryless (Arthur & Rousseau, 1996) career patterns characteristic of post-industrial information societies. This shift in the nature of careers provides the rationale for abandoning models of maintenance and self-concept preservation in favor of a Management perspective that underscores resilience and recycling (Savickas, 2002). Thus, CCT emphasizes the ways in which individuals in information societies are constantly confronted with change and required to consistently cope with transitions by engaging in minicycles of re-exploration and re-establishment in new roles as they progress through the maxicycle.

Disengagement (65+). Disengagement follows a long period of maintenance or management and brings with it the tasks of *decelerating*, *retirement planning*, and *retirement living* (Savickas, 2002, 2005; Super, Savickas, & Super, 1996). Super’s theory and CCT conceptualize *decelerating* as a vocational task concerned with reorienting the vocational self-concept, slowing down, turning tasks over to others, and considering retirement. With respect to the mini-cycle, this may mean disengagement from a previously maintained occupational role and reorienting the vocational self-concept to another occupation or field (Savickas, 2005). *Retirement planning* concerns disengaging the vocational self-concept and separating from the occupational role. Ultimately, *retirement living* is a process of “organizing a new life structure and different lifestyle”

(Savickas, 2002, p. 182; Super, Savickas, & Super, 1996, p. 134) reflecting on the vocational self-concept and engaging in one's life review.

With respect to progress through the maxicycle, Savickas (2002) explains that “maybe no one person lived all of it” (p. 183). However, the lifespan career stages represent the constructivist concept of *habitus* and the way in which the grand career narrative and maxicycle provides the structure of socially imposed expectations that the individual references in the process of organizing the meaning making processes of the subjective career in career construction.

Alignment between CCT and developmental systems theories. Among the many theories of career development, CCT is perhaps best aligned with the conceptual framework set forth by the Process-Relational paradigm offered by modern developmental science. CCT explicitly identifies its situation within developmental-contextualism, although the explication of the influences of the process-relational paradigm could arguably be better specified.

Firstly, CCT's concepts of the objective and subjective career are constructs that can be unified through the relationist paradigm and the notion of holism (Overton, 2013). From the perspective of relationism, the synthesis point for the objective and subjective career is the living system, the person. As such, the person coordinates the tension between the objective career, viewed by society as a pattern of occupational roles successively enacted across the lifespan, and the subjective career, as privately narrated, imbued with meaning, and articulated by the individual.

Second, CCT offers a perspective on the career construction of the developing

individual that is well aligned with the broader assumptions of relational developmental systems theories. The reconceptualization of Super's original theory through the lens of developmental-contextualism provides a vision of career development as driven by the process of integration between person and environment in which individual↔context relations are the drivers of career development. In fact, Savickas goes on to say,

"Viewing career construction as a series of attempts to implement a self-concept focuses attention on the sequence of matching decision.

Accordingly, career construction theory focuses on neither the person nor the environment in the famous P-E symbol; instead it focuses on the dash (-), asserting that building a career is a psychosocial activity, one that synthesizes self and society. More accurately, the theory focuses not on a dash but on the series of dashes that build a career. With a changing self (P) and changing situations (E), the matching process is never really completed. The series of changing preferences should progress through successive approximations, toward a better fit between worker (P) and work (E). The overriding goal toward which career adaptation moves is a situation in which the occupational role substantiates and validates the individual's self-concept" (Savickas, 2005, p. 45).

Further, the many stages of the maxicycle detail instances of proximal processes between the developing person and context, which give rise to the individual's capacity to complete career development tasks. Salient examples are found in (1) the growth stage and explication of the developmental lines along which career adaptability derive, (2) the

negotiation, crystallization, and specification of self-percepts and ultimately the articulation and actualization of these private self-concepts through a vocational identity that characterizes the extension of self-concepts into the environmental contextual space, and (3) the unique and nuanced ways in which identity and adaptability together serve as meta-competencies for negotiating person↔context relations within the work role in pursuit of various developmental tasks respective to each stage of the maxicycle.

Savickas (2012) explicitly frames CCT as an update intended to reconcile the dissolution of the conventional, linear, grand career narrative of the 20th century and the demand for a framework applicable to the changing nature of career development and vocational behavior in a 21st century information-society. This point illustrates attention to life course (Elder, 1996, 1998) principles, which encourage attention to the historical and social shifts that shape developmental differences across generations and cohorts of developing individuals. With respect to Ecological Systems models, Savickas model implies the notion that the individual↔context relations occur at varying levels of proximity to the individual. The growth stage and developmental lines that frame the construct of career adaptability offer strong examples of proximal processes consistent with Bronfenbrenner's (1977; Bronfenbrenner & Morris, 2006) model.

Although CCT is explicitly situated in a developmental-contextualist perspective, it could benefit from a stronger infusion of the ICE perspective offered by PVEST. CCT is strikingly well aligned with the PVEST model in its focus on self-processes and constructivist meaning making in person↔environment integration across the lifespan, the unique coping styles required to accomplish normative developmental tasks, and the

influence of identity as the driver of future behavior. CCT, however, falls somewhat short in explicating the cultural groundings that shape the phenomenological experience of career development and by which stressors, coping styles, and identity promote negotiation of individual↔context relations. In particular, CCT's constructs of adaptability and identity illustrate career-specific expressions of PVEST's *reactive coping strategies* and *emergent identities*, however, it does not comment as explicitly on the role of vulnerability, stress engagement, and the phenomenological, cultural, and ecological influences on identity development. CCT has endeavored to improve the cross-cultural relevance of the model relative to Super's original theory, however, the general absence of explicit articulation of the theory's application to diverse populations is a notable and acknowledged critique of the theory (Savickas, 2012).

Thus, although CCT provides features that are well aligned with developmental systems theories, primarily through its emphasis on shifting historical and social structures (e.g., Life Course Theory) and the role of adaptability and identity (e.g., PVEST), it could benefit from a stronger grounding in cultural and ecological perspectives. When considered together, the PWT complements CCT's lacking contextual emphasis, whereas CCT complements the PWT lacking developmental emphasis, thereby making them well suited for integration within a broader developmental framework, such as PVEST.

Integrating the Psychology of Working Theory and Career Construction Theory: A Career-Specific Expression of PVEST

The proposed integration of the PWT and CCT suggests that the needs and

strengths of each theory are well aligned to complement one another as a career-specific expression of Spencer's PVEST model to explain the school-to-work transition of risk-immersed young people from an identity-focused cultural ecological (ICE) perspective. As described, the PWT provides a strong contextual perspective with a structural model that is well aligned with Spencer's PVEST model. Despite this strong contextual framing, the inclusion of an identity construct in the PWT would provide a missing developmental link outlined by the PVEST model. Career Construction Theory, as an identity-focused lifespan model of career development offers just such an identity construct, which can be integrated into the PWT as a central construct to replace, or precede, *decent work* when examining the model with non-working populations.

The hypothesized model (see Figure 1) illustrates the integrative structural model that represents the theoretical integration of PWT and CCT within a PVEST framework. The first component of Spencer's PVEST model, *net vulnerability*, is not explicitly included in the model but is implied by virtue of the model's focus on risk-immersed young people. Spencer's second component, *net stress engagement*, is represented in the integrated structural model by the PWT's original contextual predictors, *marginalization* and *economic constraints*. Together, these predictors represent the actual experiences that risk-immersed young people have encountered with various forms of social marginalization as well as the economic constraints imposed by socioeconomic status.

The third component of PVEST, *reacting coping strategies*, is represented by the PWT's mediating variables, *career adaptability* and *work volition*. *Work volition* represents the individual's perceived degree of choice over occupations despite

environmental barriers (Duffy et al., 2012). *Career adaptability* represents the psychosocial resources that the developing individual possesses for coping with career development tasks, transitions, and traumas (Savickas, 2012). As they are positioned in the PWT structural model as mediators, these variables collectively represent the individual's perception of the impact of contextual constraints on (1) the occupational options available to be explored, committed to, and considered (or reconsidered) in the process of vocational identity formation, as well as (2) the coping resources available to be employed in response to the contextual constraints that impact identity development.

Spencer's fourth component specifies the way in which such coping styles become translated into increasingly stable and enduring emergent identities. As the PWT does not explicitly include an identity construct, the vocational identity construct of CCT is proposed as the career-specific expression of PVEST's *emergent identities* construct. Importantly, both PWT and CCT include the construct of career adaptability, lending further evidence of the alignment between these two theories. In the present model, the positioning of career adaptability as an antecedent of vocational identity development is consistent with CCT, as adaptability resources are theorized to emerge in the *growth* stage and precede identity development, which occurs in the *exploration* stage (Savickas, 2002).

Of particular note in the proposed integrative model is the omission of Spencer's fifth and final outcome component, *stage specific coping outcomes* (Spencer, 2006). Conceptually, the PWT's central construct of *decent work* might constitute an appropriate representation of a productive stage-specific outcome of the school-to-work transition,

thereby constituting the fifth component of the PVEST model. The omission of this construct in the present study is intentional as the present study focuses on non-working individuals (e.g., non-working risk-immersed youth, Opportunity Youth, etc.) who are not currently participating in a work role that could plausibly be appraised from the perspective of decent work. As such, evaluating decent work is less relevant to the unique and immediate career developmental circumstances of non-working youth in the present study. However, decent work attainment remains highly relevant to individuals completing the school-to-work transition, particularly regarding whether youth ultimately secure entry into an occupational role that constitutes decent work. Although the stage specific coping outcome of decent work is not examined in this study and therefore not represented in the proposed structural model, the conceptual rationale provided in the current study provides a theoretical basis for more complete expressions of the proposed PWT ICE model in which vocational identity (e.g., fourth component) precedes and predicts decent work outcomes (e.g., fifth component). This matter will be further considered in the discussion.

In summary the proposed structural model represents an integration of the PWT and CCT under the rubric of Spencer's (2006) PVEST model. The PWT and CCT offer vocational psychology frameworks with complementary developmental and contextual foci that are well-suited to collectively portray a career-specific expression of PVEST's model of developmental processes. Incorporating constructs from the PWT with CCT according to the PVEST framework provides an ICE perspective from which to understand and examine the career identity processes unfolding during the school-to-

work transition of risk-immersed young people. This ICE perspective provides a useful approach to adapting the PWT as a model of career choice for non-working populations and advances vocational psychology's efforts to develop more inclusive and developmental approaches to studying work and career development.

CHAPTER THREE: METHODOLOGY

The following section details the methodology of the present study. This chapter includes a review of the research method, research questions and hypotheses, sample, procedure, measures, and statistical analysis plan.

Research Method

The present study investigates the career identity of risk-immersed young people struggling with the school-to-work transition. Using a correlational, cross-sectional, quantitative research design, this study specifically assesses a structural model of vocational identity development processes that includes contextual constraints (socioeconomic status and marginalization) as predictors and psychosocial assets (work volition and career adaptability) as mediators.

The present study uses a structural equation modeling (SEM) latent variable analysis to test the hypothesized relationships among variables in the hypothesized conceptual model (see Figure 1). Latent variable analyses are a family of statistical techniques including factor analysis, path analysis, and structural equation modeling (SEM; Bentler, 1980; Loehlin & Beaujean, 2016). SEM is an approach to testing multivariate models, which combines elements of both factor analysis and path analysis (Kline, 2005; Weston & Gore, 2006). SEM holds several advantages over other linear modeling approaches to testing complex mediation and moderation models (Baron & Kenny, 1986; Fassinger, 1987; Martens, 2005a). The primary advantage of SEM is that it allows researchers to estimate and test complex relationships among both manifest (observed) variables and latent (unobserved) variables, while also accounting for

measurement error (Martens & Hasse, 2006; Weston & Gore, 2006; Worthington & Whittaker, 2006).

Manifest variables are defined as variables that are directly measured or observed within the sample data (Weston & Gore, 2006). Latent variables are commonly characterized as hypothetical or unobserved constructs hypothesized to underlie or describe the relationship among multiple related observed variables (Loehlin, 1998; Bollen, 2002; Weston & Gore, 2006; Martens & Hasse, 2006; Worthington & Whittaker, 2006). Bollen (2002) suggests, however, that the utility, comprehensiveness, and accuracy of competing definitions and properties of latent variables are contingent upon their application and behavior within particular classes of analyses. As such, he offers a broad, yet succinct definition of a latent variable, suitable for both factor analysis and SEM, as one “for which there is no sample realization for at least some observations in a given sample” (Bollen, 2002). Alternatively, a definition that is suitable for these analytic approaches and perhaps more interpretable, if also more restrictive (Bollen, 2002), is a variable that cannot be expressed solely as a function of manifest variables alone (Bentler, 1982).

In the present study, cross-sectional survey data is used to examine a hypothesized model specifying relationships among one manifest variable and nine latent variables to answer the previously described research questions. The lone manifest variable is a single-item variable representing economic constraints (predictor). Latent variables include marginalization, career adaptability, work volition, and six latent constructs representing vocational identity development processes (see Figure 10). In

addition to the hypothesized structural model, several alternative structural models are tested to identify the most parsimonious, best fitting model. These analyses are conducted to examine the following research questions.

Research Questions and Hypotheses

- 1) To what degree do contextual constraints predict identity development among risk-immersed young people?

Hypothesis 1: Economic constraints will significantly predict dimensions of vocational identity.

Hypothesis 2: Marginalization will significantly predict dimensions of vocational identity.

- 2) To what degree is the relationship between contextual constraints and vocational identity development mediated by psychosocial career development variables of work volition and career adaptability?

Hypothesis 3: Economic constraints will have a significant indirect effect on vocational identity dimensions via work volition and career adaptability.

Hypothesis 4: Marginalization will have a significant indirect effect on vocational identity dimensions via work volition and career adaptability.

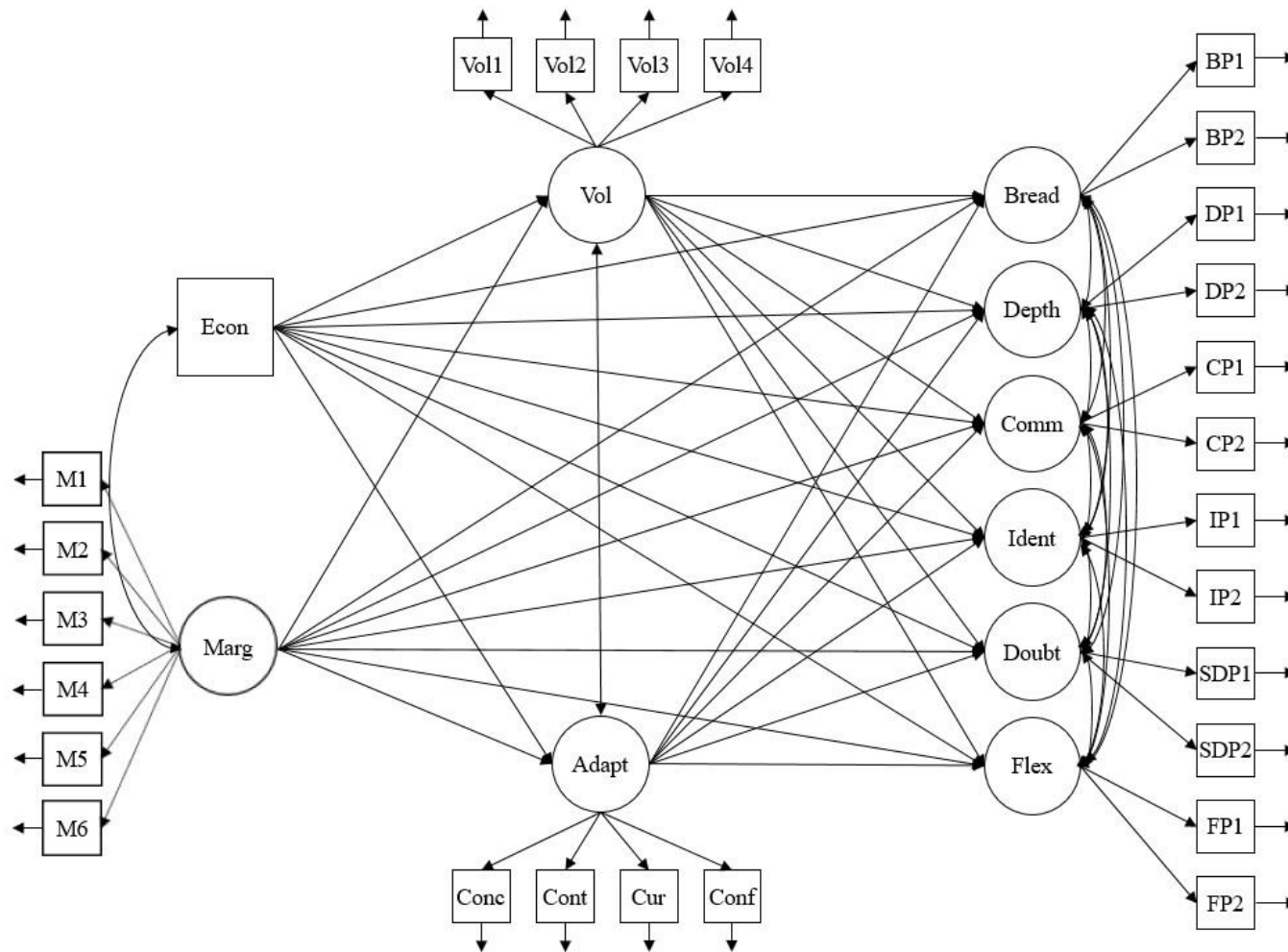


Figure 10. Hypothesized partial mediation model

Note: Econ = Economic Constraints; Marg = Marginalization; Vol = Work Volition; Conc = Career Concern; Cont = Career Control; Cur = Career Curiosity; Conf = Career Confidence; Bread = In-breadth Exploration; Depth = In-depth Exploration; Comm = Career Commitment Making; Ident = Identification with Career Commitment; Doubt = Self-doubt; Flex = Flexibility

Sample

The study included two subsamples, a first sample of young people participating in career pathways programs and a second sample from Amazon's Mechanical Turk. These samples were combined to provide a sufficient sample size to examine the proposed research questions. The desired sample size was calculated according to the approach recommended by MacCallum, Browne, and Sugawara (1996), which relies on the model degrees of freedom (e.g., Kline, 2015) to estimate a minimum sample size required to achieve .80 power to detect significant effects when conducting model fit tests. The second sample was also collected to provide a more diverse range of participants within the umbrella of risk-immersed youth with respect to age (slightly older), employment (more likely to hold some form of part-time employment), and enrollment status (less likely to be enrolled).

The first sample consisted of 265 participants recruited from eight career pathways programs in four major US cities. Programs included in the present study provide young people with the necessary skills and competencies required to compete in a 21st century information-based economy. All programs serve young people ages 16 to 28 years of age who have been deemed at-risk for struggling with the school-to-work transition due to environmental barriers. At least some of the youth have become disconnected from school and work. Although the programs operate independently from each other, each strives to provide relationally-informed approaches of working with risk-immersed young adults to promote workforce readiness, academic re-engagement or persistence, and, ultimately, encourage successful progress along positive career

pathways. Young people were recruited from these programs, because of their likelihood of experiencing significant risk-factors and adversity that can impede career development.

The second sample consisted of 278 participants recruited from Amazon's Mechanical Turk (MTurk). MTurk is an online human intelligence platform that is widely used as a sampling marketplace for survey research. As MTurk's popularity as a data collection tool grows, examinations of the quality, validity, and generalizability have emerged in the literature. Findings suggest that MTurk samples are as reliable as community and student samples (Goodman, Cryder, & Cheema, 2013) and tend to be as, if not more, representative of the general population than traditional undergraduate, community, or internet samples (Buhrmester, Kwang, & Gosling, 2011; Paolacci, Chandler, & Ipeirotis, 2010). Moreover, there is growing precedent of MTurk use in career development research, including studies that combine MTurk along with other data sources (Brown & Segrist, 2016; Connors-Kellgren, 2017; Duffy, Autin, & Bott, 2015). MTurk has been identified as an effective approach for sampling "hard-to-reach" populations, such as risk-immersed young people (Smith, Sabat, Martinez, Weaver, & Xu, 2015).

In recruiting the MTurk sample, the author imposed strict screening criteria to ensure that the second sample resembles the same population of risk-immersed youth as the first sample. To do so, the MTurk recruitment abided by a more traditional definition of Opportunity Youth, which provided a more conservative assurance that the sample fell within the target population of risk-immersed youth. To meet inclusion criteria, MTurk

participants must have been:

- U.S. residents;
- Between the ages of 18–26¹;
- Lacking a meaningful postsecondary degree (e.g., associates, bachelors, advanced); and
- neither enrolled in school full-time nor employed full-time

This definition is consistent with the risk-immersed/Opportunity youth population recruited and served by many career pathways programs, like those from which the first sample was drawn.

Based on the inclusion/exclusion criteria applied to each sample, the final combined sample was composed of U.S. residents who:

- Were between the ages of 16–26;
- Lacked a meaningful postsecondary degree (e.g., associates, bachelors, advanced); and
- Were deemed at risk of disruption along the school-to-work pathway as indicated by either (a) participation in a workforce development program for at-risk youth or (b) by virtue of being neither enrolled in school full-time nor employed full-time

The first sample consisted of 265 participants. Initially, 347 participants were surveyed and 68 cases were removed due to duplicate responses or excessive proportions

¹ Note that Amazon does not permit recruitment of minors, which precluded the sampling of participants under 18 years old.

of incomplete data. In addition, 14 responses were removed due to participant ages falling outside of the 16–26 year-old range. The remaining sample of 265 participants was (see Table 1) composed of participants from ages 16 to 25 years of age ($M = 17.80$, $SD = 2.45$), and was composed of 49.8% ($n = 132$) females, 48.4% ($n = 131$) males, 0.4% ($n = 1$) transgender, and 0.4% ($n = 1$) who self-identified as *other*. Racially/ethnically, the sample was 49.8% Hispanic/Latinx ($n = 132$), 34.0% Black/African American ($n = 90$), 6.4% Asian ($n = 17$), 4.9% Multiracial ($n = 13$), 2.6% White ($n = 7$), 1.5% Pacific Islander/Native Hawaiian ($n = 4$), and 0.8% American Indian/Alaska Native ($n = 2$). Participant education level was reported as follows: 10.9% ($n = 29$) Some college (< Associate's degree), 24.6% HS or GED ($n = 65$), and 64.5% had less than a high school degree. Most participants were currently enrolled in school (77%, $n = 204$). Regarding employment status, most were not employed (54.7%, $n = 204$), while 37.7% ($n = 100$) were employed part-time, 6.4% ($n = 17$) full-time, and 1.2% ($n = 3$) were employed but part/full-time status was unspecified.

Table 1
First Sample (Career Program Participants) Demographic Characteristics (n = 265)

<u>Variable</u>	<u>Group</u>	<u>n</u>	<u>Percentage</u>
Gender	Female	132	49.8
	Male	131	49.4
	Transgender	1	0.4
	Other	1	0.4
Race	American Indian/Alaska Native	2	0.8
	Asian	17	6.4
	Black/African American	90	34.0
	Hispanic/Latinx	132	49.8
	Pacific Islander/Native Hawaiian	4	1.5
	White	7	2.6
	Multiracial	13	4.9
Employment Status	Not employed	145	54.7
	Part-time	100	37.7
	Full-time	17	6.4
	Employed (part/full-time unspecified)	3	1.2
Enrollment Status	Not enrolled	61	23.0
	Enrolled (part/full-time unspecified)	204	77.0
Highest Level of Education	Less than HS	171	64.5
	High School or GED	65	24.6
	Some College (< Associate's degree)	29	10.9

The MTurk sample consisted of 278 participants (see Table 2). Initially, 11,037 participants were screened and 10,572 were excluded based on failure to meet inclusion-screening criteria due to their age, residency (non-U.S. resident), education level (e.g., Associate's degree or higher), enrollment status (e.g., full-time), and/or employment status (e.g., full-time). The remaining 465 met the inclusion criteria, with 294 cases ultimately completing the survey. Eleven cases were removed due to either having submitted duplicate responses or failure to complete the survey. Upon closer

examination, despite the application of a strict age filter at the screening survey stage, five additional cases fell just outside of the 18–26 age range and were therefore removed from the sample prior to analyses. Thus, the final MTurk sample consisted of 278 youth.

Table 2
Second Sample (Mechanical Turk) Demographic Characteristics (n = 278)

<u>Variable</u>	<u>Group</u>	<u>n</u>	<u>Percentage</u>
Gender	Female	179	64.4
	Male	95	34.2
	Transgender	3	1.5
	Other	4	0.4
Race	American Indian/Alaska Native	2	0.7
	Asian	7	2.5
	Black/African American	39	14.0
	Hispanic/Latinx	40	14.4
	Pacific Islander/Native Hawaiian	2	0.7
	White	183	65.8
	Multiracial	5	1.8
Employment Status	Not employed	175	62.9
	Employed (Part-time)	103	37.1
Enrollment Status	Not enrolled	213	76.6
	Part-time	65	23.4
Highest Level of Education	Less than HS	7	2.5
	High School or GED	107	38.5
	Some College (< Associate's degree)	164	59.0

The supplementary MTurk sample was (see Table 2) composed of participants from age 18 to 26 ($M = 22.88$, $SD = 2.41$), and with 64.4% of participants ($n = 179$) identifying as female, 34.2% ($n = 95$) as male, 1.1% ($n = 3$) as transgender, and 0.4% ($n = 1$) as other. Racially/ethnically, the sample was 65.8% White ($n = 183$), 14.4% Hispanic/Latinx ($n = 40$), 14.0% Black/African American ($n = 39$), 1.8% Multiracial ($n =$

5), 2.5% Asian ($n = 7$), 0.7% American Indian/Alaska Native ($n = 2$), and 0.7% Pacific Islander/Native Hawaiian ($n = 2$). Participant education level was reported as follows: 59% ($n = 164$) Some college (< Associate's degree), 38.5% ($n = 107$) HS or GED, and 2.5% ($n = 7$) had less than a high school degree. Most participants were not currently enrolled in school (76.6%, $n = 213$) whereas 23.4% ($n = 65$) were enrolled part-time. With regard to employment status, most were not employed (62.9%, $n = 175$), while 37.1% ($n = 103$) were employed part-time.

Examination of the proportions of demographic groups across the two samples indicated several significant differences. The average age of participants differed significantly across the samples ($t = -24.62$, $df = 541$, $p = .000$) such that participants in the MTurk sample ($M = 22.88$, $SD = 2.37$) were significantly older than those in the program sample ($M = 17.80$, $SD = 2.45$). Analyses further indicated gender differences such that the program sample had significantly more male participants and fewer female participants than the MTurk sample ($\chi^2 = 13.53$, $df = 3$, $p = .004$). The program sample had significantly more Asian and Black/African American participants and fewer White participants than the MTurk sample ($\chi^2 = 49.28$, $df = 5$, $p = .000$). Analyses indicated that the program sample had significantly more participants that identified as Hispanic, Latinx, or Spanish, whereas the MTurk sample had significantly more participants that identified as non-Hispanic, Latinx, or Spanish ($\chi^2 = 78.66$, $df = 1$, $p = .000$). The MTurk sample had significantly more participants with some college attainment or a high school degree, whereas the program sample was comprised of significantly more participants with less than a high school degree or equivalent ($\chi^2 = 255.62$, $df = 2$, $p = .000$). There

were nearly, but non-significant, differences in employment versus not employed across samples ($\chi^2 = 3.80$, $df = 1$, $p = .051$). Finally, the program sample had higher proportions of participants enrolled in school ($\chi^2 = 155.93$, $df = 1$, $p = .000$).

The demographics for the final combined sample of ($n = 543$) used in all analyses are presented in Table 3. The final combined sample of 543 participants was composed of participants from age 16 to 26 ($M = 20.40$, $SD = 3.50$), and was composed of 57.3% ($n = 311$) females, 41.6% ($n = 226$) males, 0.7% ($n = 4$) transgender participants, and 0.4% ($n = 2$) participants who self-identified as other. Racially/ethnically, the sample was 35.0% White ($n = 190$), 31.7% Hispanic/Latinx ($n = 172$), 23.8% Black/African American ($n = 129$), 4.4% Asian ($n = 24$), 3.3% Multiracial ($n = 18$), 1.1% Pacific Islander/Native Hawaiian ($n = 6$), and 0.7% American Indian/Alaska Native ($n = 4$). Participant education level was reported as follows: 35.5% ($n = 193$) Some college (< Associate's degree), 31.7% ($n = 172$) HS or GED, and 32.8% ($n = 178$) had less than a high school degree. Most participants were not currently enrolled in school (50.5%, $n = 274$) whereas 12.0% ($n = 65$) were enrolled part-time, and 37.5% ($n = 204$) were currently enrolled but part/full-time status was unspecified; the latter of whom were all recruited through the career pathways programs and therefore do not violate the inclusion criteria on the basis of school enrollment. With regard to employment status, most were not employed (58.9%, $n = 320$), while 37.4% ($n = 203$) were employed part-time, 3.1% ($n = 17$) were employed full-time, and 0.6% ($n = 3$) were employed, but with part/full-time status unspecified; the latter two groups of whom were all recruited through the career pathways programs and therefore do not violate the inclusion criteria.

Table 3
Combined Sample Demographic Characteristics (n = 543)

<u>Variable</u>	<u>Group</u>	<u>n</u>	<u>Percentage</u>
Gender	Female	311	57.3
	Male	226	41.6
	Transgender	4	0.7
	Other	2	0.4
Race	American Indian/Alaska Native	4	0.7
	Asian	24	4.4
	Black/African American	129	23.8
	Hispanic/Latinx	172	31.7
	Pacific Islander/Native Hawaiian	6	1.1
	White	190	35.0
	Multiracial	18	3.3
Employment Status	Not employed	320	58.9
	Part-time	203	37.4
	Full-time	17	3.1
	Employed (part/full-time unspecified)	3	0.6
Enrollment Status	Not enrolled	274	50.5
	Part-time	65	12.0
	Enrolled (part/full-time unspecified)	204	37.6
Highest Level of Education	Less than HS	178	32.8
	High School or GED	172	31.7
	Some College (< Associate's degree)	193	35.5

Procedure

A web-based survey was designed using Qualtrics and included the measures described below. To ensure face validity of the items, the survey was audited by a research faculty member, a postdoctoral research fellow, several doctoral research assistants, as well as staff from the research lab at the author's university and the participating workforce development programs.

The program sample was collected as part of a broader study of the role of relationships and social support in workforce development programs for risk-immersed youth. Youth in participating programs attended a single workshop intended to promote the value of social support and relationships within the career and workforce development process. The survey was administered to participants prior to the beginning of the training and participants were provided computer access to complete the online survey. The survey administration process was directly facilitated by program staff and members of the research team. Participants were not directly compensated for their participation in the survey administration.

The MTurk sample was collected by posting the same survey, with additional/modified screening questions to reflect the inclusion/exclusion criteria, to the Amazon MTurk marketplace. MTurk participants were compensated \$.01 for completing the demographic screening survey and \$1.75 for completing the remainder of the survey.

Measures

The following section details the measures that were used to assess the theoretical model of career identity development.

Demographic Covariates

Demographic information, including age, gender, ethnicity, race, participant education level, employment status, enrollment status, and sample source are described above for each sample and the combined sample. Subgroups of adequate size for gender, race/ethnicity, and participant education level were included in analyses as dichotomous dummy-coded covariate variables. Similarly, employment status (0 = no, 1 = yes),

enrollment status (0 = no, 1 = yes), and sample source (0 = Program, 1 = MTurk) were coded and included in analyses as dummy variables.

Economic Constraints

Economic constraints were proxied by socioeconomic status, which was measured by parent level of educational attainment. Parental education level is a commonly used indicator of SES used in research employing youth-report measurement of SES (Crosnoe, 2009; Diemer & Ali, 2009; Diemer & Li, 2011; Diemer, Mistry, Wadsworth, Lopez, & Reimers, 2013) and has been demonstrated to be a strong predictor of developmental outcomes (Bradley & Corwyn, 2002; Diemer et al., 2013; Mercy & Steelman, 1982; Scarr & Weinberg, 1978; White, 1982). Further, youth reports of parent education level are typically less biased than youth reports of household income, wealth, or parental occupational prestige (Diemer et al., 2013). Parent education level was assessed by two items asking respondents to indicate up to two parents' or caregivers' highest level of education. Eleven response options ranged from *less than high school* to *advanced degree (masters, doctorate)*. Among those that indicated two parent education-levels, the highest of the two was selected and used for modeling. SES responses were collapsed to form five parent education levels representing the highest level of parent education: 1) less than or some high school, 2) high school diploma or equivalent, 3) some college, 4) bachelor's degree, and 5) advanced degree. Scores were then reverse coded so that higher scores (e.g., lower parent education) indicate higher levels of economic constraints.

Marginalization

Marginalization was measured using the Discrimination items from the Panel Study of Income Dynamics' Transition into Adulthood Study (Hill, 1992; The Institute for Social Research, 2015, Section K1). The Discrimination and Peer Influence Measure includes six total items and assesses the frequency of experiencing discrimination in one's day-to-day social environment. The six items assess the frequency of having experienced marginalization within one's day-to-day life and begins with a general prompt, "Now I would like to talk about things that can happen in your day-to-day life. In your day-to-day life, how often have any of the following things happened to you?" Sample items include, "People act as if they're better than you are" and "You are treated with less respect than other people." Items are answered on a six-point Likert Scale ranging from *Never* to *Almost every day*. Higher scores indicate more frequent experiences of marginalization. Cronbach's alpha for the scale was (.90)

Vocational Identity

Vocational identity was measured using the Vocational Identity Status Assessment (Porfeli, Lee, Vondracek, & Weigold, 2011). The VISA is a 30-item measure assessing career development processes suggested to indicate progress toward a work identity. Items are answered on a five-point Likert scale ranging from *strongly disagree* to *strongly agree*. The VISA is composed of three dimensions (10 items each), including *Career Exploration*, *Career Commitment*, and *Reconsideration*. Each of the dimensions consists of two subscales (5 items each).

The Commitment dimension is composed of *Career Commitment Making* and

Identification with a Career Commitment subscales, which assess the degree to which participants have committed to an occupation and identify with that commitment, respectively. Higher scores indicate higher levels of commitment making and identification with that commitment. Sample items include, “No one will change my mind about the career I have chosen” and “Becoming a worker in my chosen career will allow me to become the person I dream to be,” respectively.

The Exploration dimension assesses the extent to which participants have engaged in experiences of *in-breadth career exploration* and *in-depth career exploration* with higher scores indicating higher levels of exploration. Items on the exploration dimension begin with a general prompt, “When you explore careers, to what extent do you agree with the following statements? Right now I am...” Sample items include, “Thinking about how I could fit into many different careers” and “Learning as much as I can about the particular educational requirements of the career that interests me most.”

The Reconsideration Dimension is composed of the *career self-doubt* and *career commitment flexibility* subscales. *Self-doubt* reflects worry, skepticism, and uneasiness regarding one’s career choice and a perception that others share this doubt. The subscale of *flexibility* measures participants’ consideration of other career options and their openness or expectation of change in their career choice, interests, or values. Taken together, self-doubt reflects a possible negative byproduct of progressing toward commitment, whereas flexibility reflects a potentially more positive justification for not committing to a career. Sample items include, “I doubt I will find a career that suits me” and “I will probably change my career goals,” respectively.

VISA subscales can be used to measure identity processes described by each subscale (e.g., exploration, commitment) or to indicate identity statuses consistent with Marcia's (1996) model of identity. Porfeli and colleagues (2011) found evidence of strong internal reliability in a high school and university sample, respectively, across subscales of *commitment making* (.84, .82), *commitment identification* (.76, .79), *in-depth exploration* (.77, .79), *in-breadth exploration* (.83, .82), *self-doubt* (.79, .81), and *commitment flexibility* (.83, .81). In a previous study, a cluster analysis indicated six identity statuses, which correlated with measures of wellbeing (e.g., core self-evaluations, depression, anxiety, and stress) and work valence (e.g., positive or negative work experiences and affect) across high school and university student samples (Porfeli et al., 2011). Further, VISA subscales construed as processes were correlated with career adaptability (Porfeli & Savickas, 2012).

Consistent with the former approach, the present study examined VISA subscales as processes rather than identity statuses. Subscale scores for manifest variable analyses are computed as mean scores of the indicator items for each subscale. Cronbach's alphas for the present study were as follows: *in-breadth exploration* (.86), *in-depth exploration* (.83), *commitment making* (.80), *commitment identification* (.78), *self-doubt* (.83), and *commitment flexibility* (.87).

Work Volition

Work volition was measured using volition subscale of the Work Volition Scale (WVS; Duffy, Diemer, Perry, Laurenzi, & Torrey, 2012). The volition subscale is a 4-item measure that assesses an individual's perceived capacity to make occupational

choices despite environmental constraints. Items are answered on a 7-point Likert-type scale ranging from *strongly disagree* to *strongly agree*. Sample items include, “I can do the kind of work I want, despite external barriers” and “I feel total control over my job choices”.

Duffy et al. (2012) found evidence of strong internal consistency for the WVS volition subscale (.78). Cronbach’s alpha for the present study was (.86). The WVS has been found to correlate with work locus of control, job satisfaction, and discrimination (Duffy et al., 2012). Moreover, there is precedent for using only the volition subscale in career development SEM research, as was done in the present study, to reduce survey burden imposed by lengthy measures (Douglass, Velez, Conlin, Duffy, & England, 2017).

Career Adaptability

Career adaptability was measured using the Career Adapt-Abilities Scale-Short Form (CAAS-SF; Maggiori, Rossier, & Savickas, 2017; Porfeli & Savickas, 2012). The CAAS is a 12-item measure assessing an individual’s psychosocial resources and self-regulation capacities for coping with current and future developmental tasks, work transitions, and occupational traumas associated with career development and work.

The CAAS-SF consists of four subscales composed of three items each, describing four key adaptability resources including concern, control, curiosity, and confidence. Items are preceded by a general prompt: “No one is good at everything, each of us emphasizes some strengths more than others. Please rate how strongly you have developed each of the following abilities using the scale below” (Porfeli & Savickas,

2012, p. 664). Sample items include, “Becoming aware of the educational and career choices I must make” (concern), “Counting on myself” (control), “Investigating options before making a choice” (curiosity), and “Learning new skills” (confidence). Participants responded to items on a five-point Likert-type scale ranging from *not strong* to *strongest* describing how strongly the one perceives oneself to have developed a variety of relevant abilities. Higher scores on this measure indicate greater perceptions of psychosocial resources.

The CAAS-SF is a shortened version of the Career Adapt-abilities Scale (CAAS-USA; Porfeli & Savickas, 2012) and measurement studies indicate strong convergence between the two forms. Porfeli and Savickas (2012) found internal consistency estimates, among a sample of 460 10th and 11th grade students, ranging from good to excellent for the CAAS-USA total scale (.94), as well as subscales of concern (.82), control (.80), curiosity (.84), and confidence (.90). The higher order construct of adaptability has been found to be positively and significantly correlated to vocational identity dimensions of commitment and exploration and significantly negatively associated with the reconsideration dimension subscale of self-doubt (Porfeli & Savickas, 2012). In the present study, the Cronbach’s alphas were good for the total scale (.92), concern (.82), control (.80), curiosity (.79), and confidence (.85) subscales.

Statistical Analysis

Descriptive and Preliminary Analysis

SEM is similar to other general linear models in that valid statistical analyses rely on a number of assumptions regarding multicollinearity, distribution normality, outliers,

and missing data (Weston & Gore, 2006). Multicollinearity occurs when measured variables are highly related and reflect redundancy, which can be problematic if redundant measures are used as indicators of the same latent construct (Weston & Gore, 2006). Normality reflects the assumption that sample values for a given variable (univariate) or set of variables (multivariate) are distributed along a normal distribution. Normality is critical to ensure that inferential statistical tests are accurate as many rely on the properties and assumptions of the normal distribution. Outliers, either univariate or multivariate, represent extreme scores that may adversely impact parameter estimates. Further, the assumption that data is missing at random refers to whether there are systematic and identifiable influences on missing data that may contribute to biased estimates and compromise the representativeness of the sample data. Thus, the data was screened for outliers and missing data, and descriptive statistics including means, standard deviations, correlations, skewness, and kurtosis were calculated. Multivariate analysis of the variance (MANOVA) was conducted to examine differences in measured variables across demographic groups. Additionally, preliminary multiple regression analyses were performed to examine relationships among observed variables.

Data screening. Missing data across cases were examined to determine if patterns of data loss were considered random or whether missing data was due to some systematic influence (Not Missing At Random; Weston & Gore, 2006), the latter of which can pose problems to producing generalizable results (Kline, 2005). Data can be assumed to be missing completely at random (MCAR) or missing at random (MAR). Missing completely at random (MCAR) suggests that cases of missing data differ from observed

cases only by chance (Kline, 2005) and that missingness is not related to other variables in the data set (Kline, 2015). The MCAR approach is considered to be largely theoretical, unrealistic within social science research, and current perspectives suggest that this assumption is not a prerequisite for unbiased estimation in larger samples (Muthén, Kaplan, & Hollis, 1987). Nonetheless, data will be examined to determine if the MCAR assumption is violated. In the event that it is violated, data will be examined to determine if it is MAR.

The MAR assumption reflects that missing data are not completely random. Importantly, MAR assumes that the probability of a missing data point may be related to another variable in the sample but is unrelated to the missing variable of interest itself (Allison, 2001). To test for MAR, one can create a dummy variable with two values, missing and not missing and conduct a basic bivariate correlation and series of independent samples t-tests to examine the relation between the dummy variable and other measured variables in the data set. If the dummy variable is significantly associated with other variables in the data set, but not with the missing variable of interest itself, data can be considered MAR (Schlomer, Bauman, & Card, 2010). Although it is not possible to conclude definitively that data are Not Missing at Random (NMAR), researchers conventionally assume MAR when there are no indications to the contrary (Schlomer et al., 2010).

Missing data was handled using multiple imputation for all preliminary analyses and was handled using full-information maximum likelihood (FIML) for all structural equation modeling. Full Information Maximum Likelihood uses all existing data points to

estimate parameter values that would be most likely to produce estimates observed in the sample data, rather than traditional approaches to deleting cases pairwise or listwise (Allison, 2003; Muthén & Muthén, 2017). Accurate estimation under the ML approach is also attainable under less restrictive assumptions, such as MAR, and ML approaches that ignore missing data produce valid estimations (Rubin, 1976).

Distribution of variables. Valid estimations using SEM rely on assumptions of multivariate normality (Kline, 2005; Weston & Gore, 2006). Descriptive statistics and histograms of each measured variable were inspected to examine normality and outliers. The mean, standard deviation, skewness, and kurtosis of each of the measured variables was calculated and presented. Skewness refers to the degree of asymmetry in a variable's distribution compared to the normal distribution (e.g., many scores on one tail; Kline, 2005; Weston & Gore, 2006). Kurtosis refers to the degree of pitch and thickness of the tails in the distribution (Kline, 2005). Skewness and kurtosis were evaluated according to values and histograms (Chou & Bentler, 1995; Kline, 2005).

Univariate outliers were examined by inspecting the distribution of z-scores for each measured variable to identify cases with scores three standard deviations or more from the mean (Kline, 2005). Multivariate outliers are cases with extreme scores on two or more measured variables or for whom the entire pattern of scores are unusual. The Mahalanobis Distance statistic examines multivariate normality by calculating the distance in standard deviation units between a set of scores for a given case and the sample means for all measured variables (Kline, 2005). A significant Mahalanobis Distance statistic ($p < .001$) suggests that it is unlikely that the case was drawn from the

same population as the sample and therefore represents a multivariate outlier that may threaten the normality of the distribution.

Descriptive statistics and correlations between measured variables.

Descriptive statistics, including means and standard deviations were calculated and correlations were examined prior to inferential statistical analysis. Bivariate correlations among measured variables were conducted to examine relationships among variables and examine multicollinearity and examine potentially redundant variables. Variables with correlations higher than $r = .85$ may indicate redundancy, which can be problematic in measurement and structural model testing (Kline, 2005).

Measurement Models

As the first step of SEM, measurement models (see Figure 11) should be estimated and examined prior to analysis of the full structural model (Kline, 2015; Weston & Gore, 2006). It is important to test the fit of the measurement models because these are foundational to the fit of the full structural model—poor measurement models might produce poor or untrustworthy structural model findings even if the model is theoretically/conceptually accurate (Martens, 2005a). Thus, the first step in SEM (Weston & Gore, 2006) is to estimate the measurement models for each of the multi-indicator latent variables: marginalization, work volition, career adaptability, and vocational identity.

Confirmatory Factor Analysis was used to confirm that the hypothesized factor structure was a good fit to the observed data (Kahn, 2006). In light of the high number of individual items on many scales, subscale means and/or parcels of individual items were

used as indicators to construct several latent variables as a means of preserving power. Confirmatory factor analyses were conducted to determine whether subscale means appropriately measure the indicator explained by the underlying latent construct and whether the indicators subsequently load on specific latent variables as proposed.

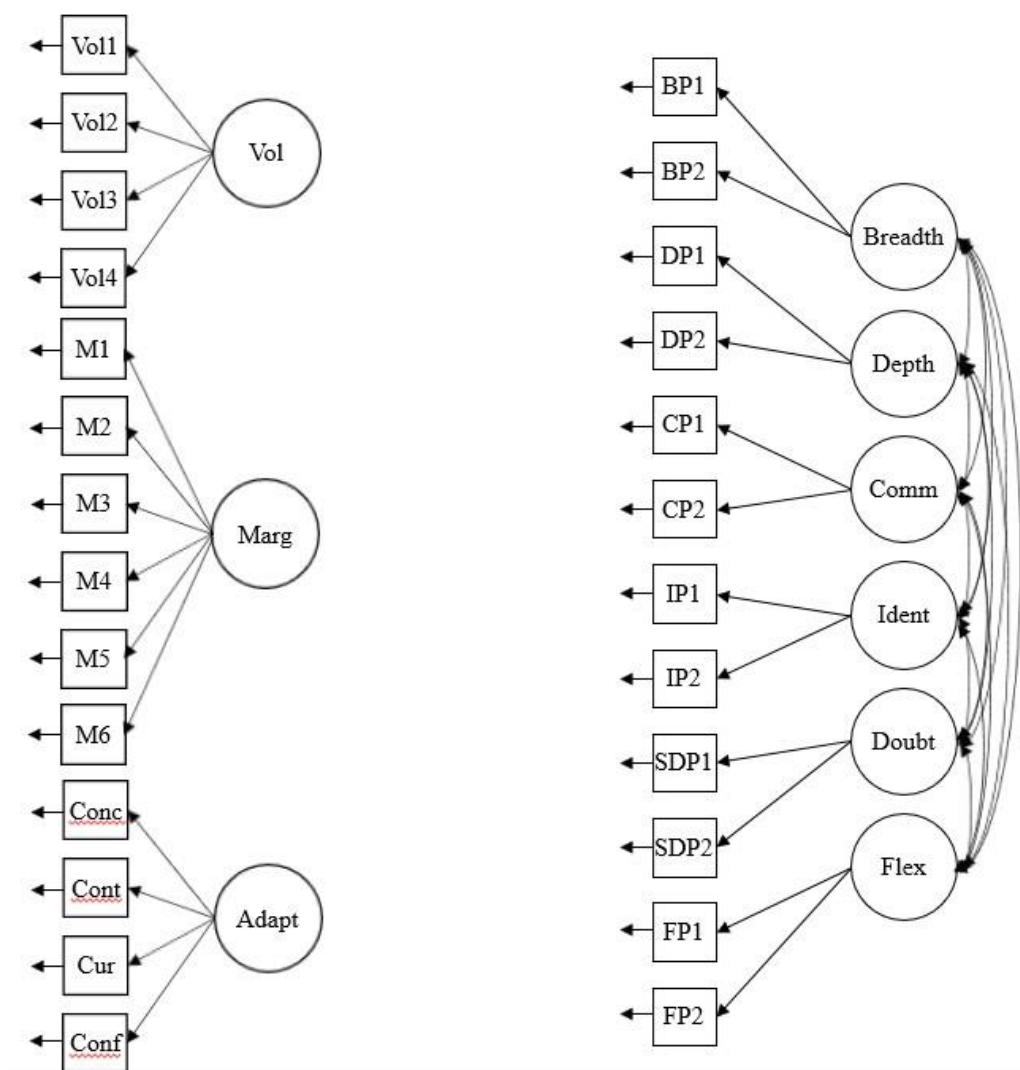


Figure 11. Measurement models of latent variables

Note: Vocational Identity Status Assessment (Porfeli et al., 2011) subscales modeled as single-order, six-factor latent model of vocational identity processes

The measurement models in the present study were analyzed using MPlus version 8.3 (Muthén & Muthén, 2017) and estimated using the Maximum Likelihood (ML) approach, which assumes multivariate normality but is robust to moderate violations of normality (Kline, 2015). Fit indices of relevance to both the measurement and structural models include χ^2 , Comparative Fit Index (CFI; Bentler, 1990), Root Mean Square Error Adjusted (RMSEA; Steiger, 1990; Steiger & Lind, 1980), and Standardized Root Mean Square Residual (SRMR; Hu & Hu & Bentler, 1995).

The χ^2 reflects the difference between the covariances produced by the model and those observed in the sample data. Larger differences between model and observed covariances produce larger χ^2 and significant χ^2 indicates poor model fit; a significant difference between the model and observed data (Kahn, 2006). Importantly, χ^2 is sensitive to sample size, suggesting that other fit indices should be consulted in the event of a significant χ^2 (Hoe, 2008; Kahn, 2006; Kline, 2015; Martens, 2005a; Weston & Gore, 2006). As large samples are required for CFA, significant χ^2 are not uncommon even among well-fitting models (Kahn, 2006; Weston & Gore, 2006). Thus, it is prudent to examine additional fit indices, including the CFI, RMSEA, and SRMR.

The CFI is an incremental fit index comparing the fit of the hypothesized model to a more restricted null model specifying no relationships among variables (Weston & Gore, 2006; Kahn, 2006). The CFI statistic ranges from 0 to 1.0 and values closer to 1.0 indicate stronger fit. CFI values greater than .90 indicate acceptable fit, whereas values greater than .95 indicate good model fit (Hu & Bentler, 1995, 1999).

The RMSEA is a fit index that corrects for model complexity such that, among

equally well-fitting models, simpler models are indicated by more favorable RMSEA values. Smaller values indicate better fit, with a RMSEA value of .00 indicating exact fit of the model to the data (Weston & Gore, 2006). Generally, a RMSEA smaller than .08 indicates acceptable fit and a RMSEA smaller than .05 indicates well-fitting models (Brown & Cudeck, 1993; McDonald & Ho, 2002).

The SRMR index is a fit statistic evaluating covariance residuals and the average difference (i.e., error) between the model and the observed data, which is modeled as the absolute mean value of differences between all observed and modeled correlations (Kline, 2015; Weston & Gore, 2006). An SRMR of .00 indicates exact or perfect fit and suggests the mean difference between model implied correlations and observed correlations in the sample data was effectively zero. SRMR less than .08 indicate a well-fitting model (Weston & Gore, 2006).

Structural Models

Estimating the Hypothesized Structural Model. Once the model has been specified and identified, data has been collected, cleaned, and screened, and measurement models have been examined, the full structural model can be estimated (Weston & Gore, 2006). The structural models in the present study were analyzed using MPlus version 8.3 (Muthén & Muthén, 2017) to examine the fit of the proposed models to the data. Models were estimated using the Maximum Likelihood (ML) approach, which assumes multivariate normality but is robust to moderate violations of normality (Anderson & Gerbing, 1984; Kline, 2015; Weston & Gore, 2006).

Model fit was evaluated using the aforementioned fit indices, as best practices

suggest examination and reporting of several test statistics and fit indices (Hoyle & Panter, 1995) in evaluating relationships among constructs and overall model fit (Martens, 2005a; Weston & Gore, 2006).

In addition to model fit indices, specific parameter estimates were considered. Parameter estimates ought to be considered along with fit indices based on the rationale that a well-fitting model with few statistically significant parameters offers a somewhat meaningless model qualitatively (Weston & Gore, 2006). Parameter estimates are interpreted similarly to regression coefficients (Weston & Gore, 2006). As such, standardized estimates, or path coefficients, reflect the strength of association between variables implicated in the particular path and allow for comparison across paths within the model. The total explained variance for a particular pathway is represented as R^2 and derived as a function of 1 minus the squared disturbance (i.e., error associated with the dependent latent variable; $R^2 = 1 - D^2$).

Following Holmbeck's (1997) approach, testing mediation requires three steps. First, prior to testing the hypothesized partial mediation model (see Figure 10), a more parsimonious baseline model examining direct effects of predictors on the outcome variables was tested (see Figure 12). If significant relationships among the predictors and outcomes are not observed, no subsequent mediation effect should be expected. The second step, after examining significant direct relationships between the predictors and outcome variables in the baseline model, was to enter the latent variables of work volition and career adaptability into the model to examine the mediating (indirect) effects on vocational identity dimensions (see Figure 10).

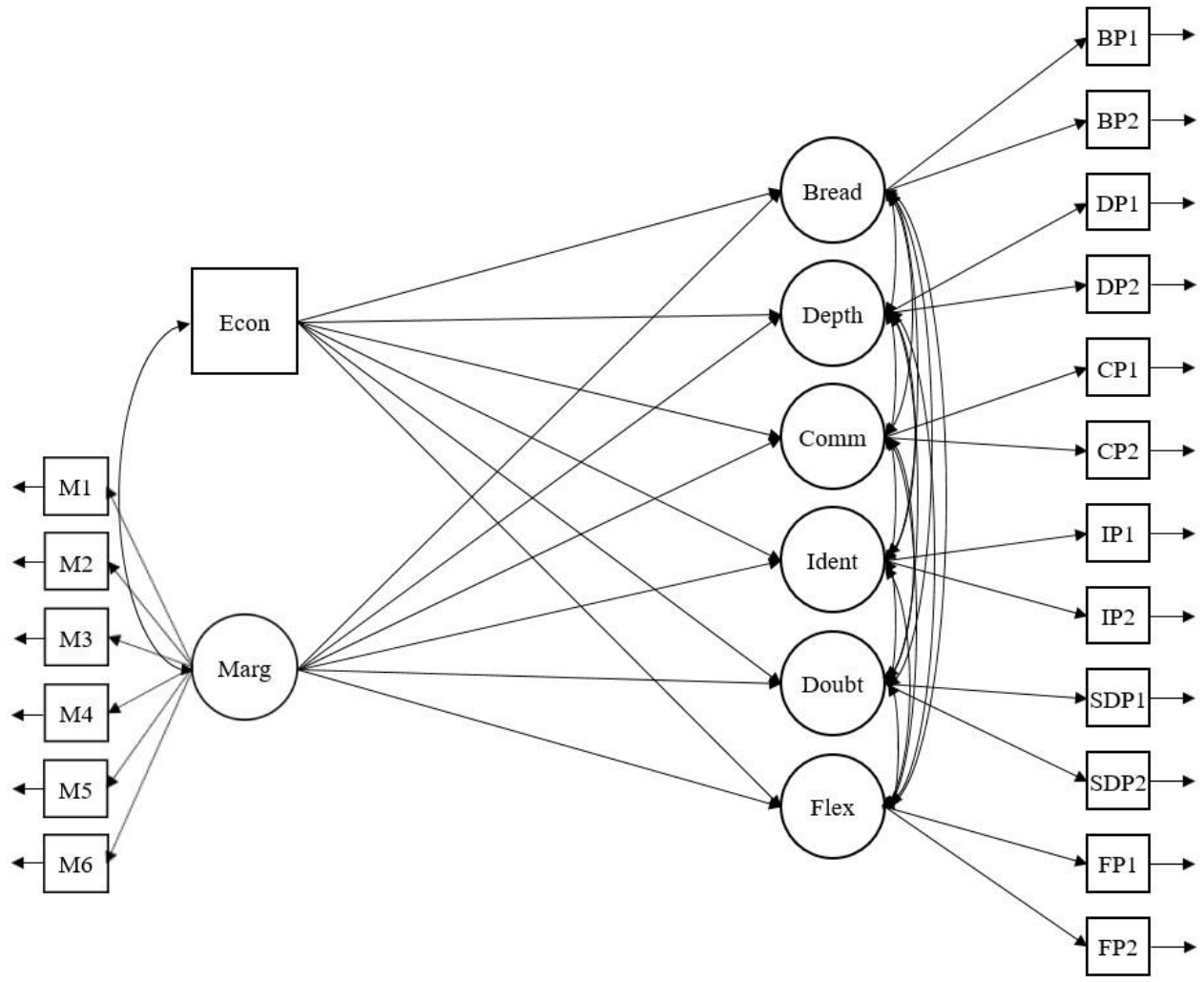


Figure 12. Baseline hypothesized model of direct effects of predictors on outcome variables

Note: Econ = Economic Constraints; Marg = Marginalization; Bread = In-breadth Exploration; Depth = In-depth Exploration; Comm = Career Commitment Making; Ident = Identification with Career Commitment; Doubt = Self-doubt; Flex = Flexibility

The path loadings and indirect effects between variables (i.e., predictors, mediators, and outcomes) were estimated using a bootstrapping approach based on 10,000 bootstrapped samples (Preacher & Hayes, 2004). The bootstrapping method estimates parameters (i.e., path loadings between predictors, mediators, outcome) by repeatedly randomly sampling observations using a replacement method. Each resampling therefore produces an estimate of the parameter of interest. Producing the resampled estimate over thousands of iterations produces an approximated sampling distribution of the parameter estimate of interest. The approximated sampling distribution of the parameter estimate can be used to calculate an estimate and 95% confidence interval for the parameter of interest, which can be examined to determine significance. If the p-value is less than .05 and the confidence interval excludes zero, the conclusion is that a significant mediation effect exists.

The third step is to examine an alternative model in which full mediation is specified and compared to the partial mediation model to determine the best fitting model (Holmbeck, 1997). The examination of the fully mediated alternative model is described in further detail below.

Alternative Models. In most multivariate data sets, relationships among variables can be explained by multiple alternative theoretical models (McDonald & Ho, 2002). Most researchers are interested in testing a particular theoretical model of interest, however, testing multiple theoretically-predicated alternative structural models that are specified a priori is recommended (Martens, 2005a; MacCallum & Austin, 2000; McDonald & Ho, 2002; Kahn, 2006).

Alternative models can be nested or non-nested (McDonald & Ho, 2002). Nested models are those in which a theoretically and structurally similar model that is less restricted (more paths specified to be estimated) is situated or nested within a model that is more restricted (fewer paths estimated) yet otherwise theoretically and structurally identical (Weston & Gore, 2006). Non-nested models are models that are equally theoretically plausible, yet distinctly different in structure or theoretical conceptualization of the relationships among variables (McDonald & Ho, 2002; Martens, 2005a).

When testing alternative models, it is prudent that such alternative models are theoretically predicated, as alternative models may demonstrate better fit to the sample data than the hypothesized model, yet possess little, or weaker, theoretical rationale to explain the observed relationships within the alternative model (Martens, 2005a, 2005b). Thus, researchers may test multiple models with little or no theoretical rationale and select the best fitting model, thereby producing findings of statistical significance but somewhat arbitrary clinical significance (Betz, 2005; Martens, 2005a, 2005b). Relatedly, alternative models should be specified a priori (prior to testing), as post-hoc model modification poses the risk of identifying models that are well-fitting but unique to the sample data (MacCallum, Wegener, Uchino, & Fabrigar, 1993; Hoyle & Panter, 1995; Boomsma, 2000; McDonald & Ho, 2002).

As such, testing multiple (nested or non-nested) theoretically predicated alternative models that are specified a priori is advantageous as it protects against confirmation bias implicit in testing only the hypothesized model that the researcher is most interested in and allows researchers to test whether alternative theoretically

proposed models provide a better fit than the hypothesized theoretical model (Martens, 2005a, 2005b). Thus, testing theoretically plausible alternative models that are specified a priori has the potential to provide additional support to the theoretical and empirical strength of one's hypothesized model (Martens, 2005a).

In the present study, the primary hypothesized model specifies a partial mediation model in which work volition and career adaptability are hypothesized to partially mediate the relationships between marginalization, economic constraints and vocational identity dimensions (see Figure 10). Otherwise stated, it is hypothesized that the predictors (i.e., marginalization and economic constraints) will have both direct effects on vocational identity and indirect effects mediated by work volition and career adaptability.

By contrast a specified alternative model will examine a fully mediated version of this model (see Figure 13), which is more restricted (i.e., it estimates fewer paths) and suggests that there is no direct effect between predictors (i.e., marginalization and socioeconomic constraints) and the outcome of vocational identity. Instead, the full mediated model specifies that volition and adaptability fully explain the relationship between the predictor and outcome. In this way, the author first tests the less restricted hypothesized partial mediation model (more pathways estimated), which is nested in the more restricted fully mediated model (fewer pathways estimated). Several additional alternative models will also be examined for comparison.

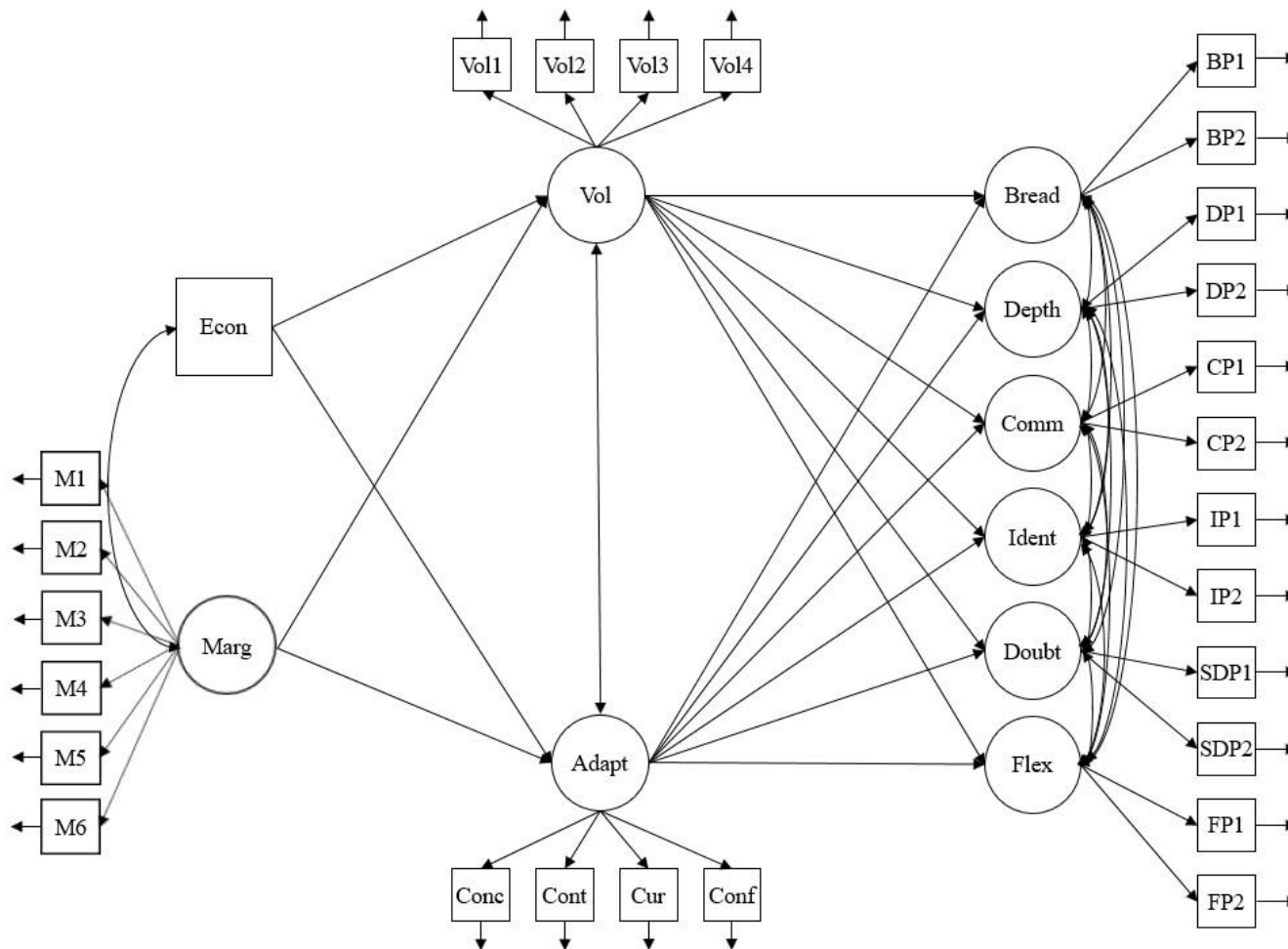


Figure 13. Alternative hypothesized full mediation model

Note: Econ = Economic Constraints; Marg = Marginalization; Vol = Work Volition; Conc = Career Concern; Cont = Career Control; Cur = Career Curiosity; Conf = Career Confidence; Bread = In-breadth Exploration; Depth = In-depth Exploration; Comm = Career Commitment Making; Ident = Identification with Career Commitment; Doubt = Self-doubt; Flex = Flexibility

Choosing between alternative models is largely a matter of model fit improvement determined by examining differences in previously described model fit statistics. Weston & Gore (2006) suggest comparing the fit of the alternative model with the originally hypothesized model along three dimensions. First, one can begin by examining differences in significance of parameter estimates along paths in the model to determine which model provides more pathways of significance. Second, one should examine the change in explained variance with respect to the dependent variable predicted in the model to determine which model explains more variation in the outcome of interest. Third, the chi-square difference test can examine significant improvement in model fit (e.g., non-significant χ^2 indicating a better fit). As with regular model interpretation, the χ^2 should be considered along with the RMSEA, CFI, and SRMR to evaluate improvements in these fit indices in addition to any changes in the χ^2 statistic.

CHAPTER FOUR: RESULTS

Preliminary Analyses

Data Screening

Missing data analyses demonstrated that all measured variables in the present data were subject to missing values, ranging from 0.6% to 2.9% across variables.

Approximately 6.45% ($n = 35$) of cases included at least one missing value on measured variables and a relatively small portion of the total dataset of measured variables (1.26%) was missing, indicating acceptable levels (e.g., $< 5\%$) of missingness (Kline, 2015).

Little's MCAR test (Little & Rubin, 2002) suggested a nonsignificant result ($\chi^2 = 170.342$, $df = 142$, $p = .053$) indicating that data were missing completely at random.

Missing data was handled using multiple imputation for preliminary analyses and using full-information maximum likelihood (FIML) method for structural equation modeling. The low levels of missing data and the random nature of missingness suggest that these distinct methods of handling missing values should produce estimates that are not significantly different (Allison, 2003). Consistent with established suggestions for efficient and accurate imputation of missing information, five imputed datasets were created (Schafer & Olsen, 1998). All reported estimates in the preliminary analyses are pooled values based on the aggregation of the original and five imputed data sets.

Distribution of Variables

Means, standard deviations, skewness, and kurtosis for measured variables were computed and are presented in Table 4. The descriptive statistics reported were calculated based on the pooled values of the multiply imputed dataset of 543 participants.

Kim (2013) suggests that for samples greater than 300, histograms and absolute values of skewness and kurtosis are the most reliable indication of normality. Methods that rely on the standard error of skewness or kurtosis (e.g., ratios) may be more likely to falsely reject the null hypothesis of normality in large samples ($n > 300$). This is based on a recognition that as sample sizes increase, standard errors decrease, thereby making it more likely that z-tests of normality, and other ratios that rely on standard error, falsely reject the null hypothesis as a function of sample size, rather than normality of the data itself.

Table 4
Descriptive Statistics of Measured Variables (n = 543)

<u>Variable</u>	<u>Mean</u>	<u>SD</u>	<u>Skewness</u>	<u>Kurtosis</u>
Econ	3.085	1.402	-0.274	-1.221
Marg	2.977	1.240	0.187	-0.709
Breadth	3.732	0.783	-0.967	1.746
Depth	3.850	0.760	-0.881	1.662
Comm	3.353	0.841	-0.094	-0.199
Ident	3.857	0.716	-0.630	0.844
Doubt	2.973	0.954	0.051	-0.574
Flex	3.387	0.887	-0.540	0.215
Vol	4.085	1.247	-0.607	-0.192
Conc	3.572	1.054	-0.372	-0.621
Cont	3.795	0.968	-0.616	-0.288
Curios	3.821	0.946	-0.573	-0.162
Conf	3.787	0.954	-0.519	-0.233

Note: N = 543. All values based on pooled estimates across five imputations and original data. Econ = Economic constraints; Marg = Marginalization; Vol = Work Volition; Conc = Career Concern; Cont = Career Control; Curios = Career Curiosity; Conf = Career Confidence; Bread = In-breadth Exploration; Depth = In-depth Exploration; Comm = Career Commitment Making; Ident = Identification with Career Commitment; Doubt = Self-doubt; Flex = Flexibility.

Given the sample size for the current study, normality criteria were defined as an absolute skew value larger than two and an absolute kurtosis value larger than seven

(Kim, 2013; West et al., 1995). The value for kurtosis is based on the kurtosis ‘proper’ value, which assumes a kurtosis value of three in a normal distribution. Packages such as SPSS, which was used for data screening in the present study, report a value of ‘excess kurtosis,’ which subtracts three from proper kurtosis to account for the expected value (e.g., three) in a normal distribution. Accordingly, an absolute value of excess kurtosis greater than four would indicate significant kurtosis.

Values for skewness and kurtosis ranged from -0.967 to 0.187 and -1.221 to 1.746, respectively. The standard error for skewness was .105 and the standard error for kurtosis was .210. All values in the present study, therefore, fell within the range of ± 1 for skewness and ± 2 for kurtosis, indicating relative normality. Given these findings, no additional transformations of the data were performed. Moreover, the preliminary analytic approaches (e.g., regression analyses), as well as the maximum likelihood (ML) estimation approach employed in the SEM model testing are robust to moderate violations of non-normality (Anderson & Gerbing, 1984; Kline, 2015; Mertler & Vannatta, 2005; Weston & Gore, 2006).

Correlations Between Measured Variables

Correlations ranged from non-significant to strongly correlated (see Table 5). Relationships among variables are discussed below with emphasis on the degree to which significant relationships are consistent with the hypothesized structural mode.

Among predictor variables, economic constraints were weakly negatively correlated with marginalization ($r = -.139, p < .01$) suggesting that higher levels of economic constraints (lower parent education level) is associated with lower levels of

perceived social marginalization, which was a somewhat unexpected direction of relationship. One might expect that economic constraints would be positively associated with increased levels of social marginalization related to issues of classism and poverty. Economic constraints were not significantly related to any of the identity outcome variables and was negatively associated with just one mediator indicator, curiosity ($r = -.102, p < .05$), suggesting that higher economic constraints are associated with lower career curiosity.

Table 5.
Correlations of Measured Variables (n = 543)

Measure	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Econ	-												
2. Marg	-.139**	-											
3. Bread	.024	.030	-										
4. Depth	-.037	-.021	.560**	-									
5. Comm	-.032	-.044	.123**	.434**	-								
6. Ident	-.054	-.118**	.296**	.516**	.607**	-							
7. Doubt	.036	.282**	.078	-.131**	-.149**	-.229**	-						
8. Flex	.039	.113**	.311**	.029	-.251**	-.074	.522**	-					
9. Vol	.060	-.153**	.225**	.306**	.341**	.272**	-.272**	.028	-				
10. Conc	-.006	-.083	.230**	.423**	.351**	.288**	-.229**	-.027	.492**	-			
11. Cont	.010	-.085*	.232**	.360**	.346**	.280**	-.230**	-.055	.402**	.601**	-		
12. Curios	-.102*	-.010	.328**	.452**	.260**	.249**	-.141**	.020	.335**	.615**	.651**	-	
13. Conf	-.006	-.082	.305**	.440**	.277**	.296**	-.221**	-.039	.406**	.622**	.641**	.691**	-

Note: *p < .05, **p < .01. N = 543. All values based on pooled estimates across five imputations and original data. Econ = Economic constraints; Marg = Marginalization; Vol = Work Volition; Conc = Career Concern; Cont = Career Control; Curios = Career Curiosity; Conf = Career Confidence; Bread = In-breadth Exploration; Depth = In-depth Exploration; Comm = Career Commitment Making; Ident = Identification with Career Commitment; Doubt = Self-doubt; Flex = Flexibility

Marginalization was modestly negatively associated with identification with career commitment ($r = -.118, p < .01$) and positively associated with self-doubt ($r = .282, p < .01$) and flexibility ($r = .113, p < .01$); the relationship with self-doubt was somewhat more robust. These relationships are consistent with the hypothesized structural model and suggest that higher levels of marginalization are associated with lower levels of identification with one's career choice but higher levels of self-doubt and flexibility toward one's career commitment. Marginalization was not significantly related to identity variables of in-breadth exploration, in-depth exploration, or career commitment. Among mediators, marginalization was modestly significantly related to volition ($r = -.153, p < .01$) and weakly, but significantly related to only one of the career adaptability indicators, control ($r = -.085, p = .050$), suggesting that higher levels of marginalization are associated with lower levels of perceived control and volition over career choice. Relationships were weak to moderate in strength, overall.

Most indicators of vocational identity were weakly to moderately correlated with one another, although there were several non-significant relationships. Identity variables appeared to correlate most strongly with the corresponding subscale forming their higher order factor (e.g., Exploration, Commitment, Reconsideration). For example, in-breadth exploration was most strongly correlated with in-depth exploration ($r = .560, p < .01$), commitment making and identification with career commitment ($r = .607, p < .01$), and self-doubt and flexibility ($r = -.522, p < .01$). Significant relationships between a given identity dimension and other identity subscales were slightly lower, in the weak to moderate range, as expected. Notably, there was no significant relationship between in-

breadth exploration and self-doubt, in-depth exploration and flexibility, or identification with career commitment and flexibility. As expected, career commitment was negatively related to both self-doubt ($r = -.149, p < .01$) and flexibility in one's career commitment ($r = -.251, p < .01$), the latter of which was somewhat more robust. Moreover, identification with career commitment was negatively associated with self-doubt ($r = -.229, p < .01$). These findings are consistent with those found by Porfeli and colleagues (2011) suggesting that increases in career commitment processes are associated with lower levels of reconsideration processes.

Exploration and commitment identity variables were weakly to moderately positively correlated with volition (r 's ranging from .225 to .341, $p < .01$). There was a modest negative correlation between self-doubt and volition ($r = -.272, p < .01$) and no significant relationship between flexibility and volition. Together, these findings suggest that higher levels of exploration and commitment are associated with higher levels of volition, whereas higher levels of self-doubt are associated with lower levels of volition. With the exception of flexibility, identity dimensions were correlated in expected directions with all dimensions of career adaptability, indicating that higher levels of positive vocational identity development are associated with higher levels of career adaptability.

Work volition was moderately positively associated with all career adaptability variables (r 's ranging from .335 to .492, $p < .01$). As noted, volition was significantly associated with all vocational identity variables, except for flexibility, in expected directions, with correlations ranging from small to moderate. Volition was also

negatively associated with marginalization ($r = -.153, p < .01$). These relationships suggest that higher levels of work volition are associated with higher levels of vocational identity development and career adaptability and with lower levels of marginalization.

Adaptability dimensions of career concern, control, curiosity, and confidence were all strongly correlated ($r = .601-.691, p < .01$) with one another, which is to be expected given their hypothesized explanation by the underlying latent construct of career adaptability. Again, with regard to predictor variables, only career curiosity was significantly associated with economic constraints ($r = -.102, p < .05$) and only career control was significantly associated with marginalization ($r = -.085, p = .050$), both in expected directions, and both fairly weak associations, indicating that higher levels of contextual constraints are associated with lower levels of career adaptability. Adaptability dimensions were significantly related in expected directions with work volition (r 's = .335 to .492, $p < .01$) and all identity variables, except for flexibility. These relationships suggest that higher levels of adaptability are associated with higher levels of work volition and identity development.

In summary, economic constraints were significantly associated with only two measured variables, marginalization, which is another hypothesized model predictor, and one dimension of the mediator career adaptability, curiosity. By contrast, marginalization was significantly associated with three of the six identity outcome variables, work volition, and one of the career adaptability dimensions. Vocational identity outcome variables were, with several exceptions, weakly to strongly correlated with one another and correlations were strongest among subscales that shared a common dimension (e.g.,

in-breadth with in-depth exploration). Identity variables were related only to one of the hypothesized predictors, marginalization. All identity variables, except for flexibility, were related to all dimensions of adaptability and to volition, indicating good associations between mediators and outcome variables. Flexibility was unrelated to any of the mediating variables. Overall, the direction and nature of relationships among variables was as expected and congruent with the hypothesized conceptual model. Significant relationships among variables ranged from weak to quite robust in strength, indicating a reasonable foundation for conducting more advanced inferential analyses.

Associations Between Measured Variables and Demographic Variables

A MANOVA was conducted to examine possible group differences in scores on measured variables by demographic variables, including gender, race/ethnicity, employment status, enrollment status, and sample source (e.g., program v. MTurk sample). Race and participant education, demographic variables with more than two levels each, were treated differently within the MANOVA due to differences in the degree to which each satisfied required assumptions for conducting MANOVA.

In addition to requirements related to normality assumptions of generalized linear models, MANOVA relies on independent variable (sub)group sizes that are (a) at least as large as the number of dependent variables entered in the model (Finch, 2005; Tabachnick & Fidell, 1996; VanVoorhis & Morgan, 2007) and (b) that group sizes are roughly equivalent to one another (Field, 2013; Glass, 1972; Wilcox, 2011). Due to two race subgroups, which were substantially smaller than others and had fewer participants than dependent variables in the model, race was not entered into the MANOVA as a

single independent variable with multiple levels. Instead, race groups of adequate size (i.e., Asian, Black/African American, Hispanic/Latinx, Multiracial, White) were entered into the model as a series of dummy variables (Field, 2013). By contrast, the participant education variable met necessary criteria related to group sizes and was therefore entered into the model as a single independent variable with three levels: less than high school, high school or equivalent, some college.

Multivariate statistics are reported to examine the presence of group (demographic) differences in the set of dependent variables, while adjusting for existing relationships among dependent variables and controlling for inflated probability of Type 1 error resulting from multiple comparisons (Field, 2013). Multivariate statistics are reported below for significant differences according to the Pillai's Trace statistic, which is most robust to violations of MANOVA assumptions (Finch, 2005; Olson, 1979; Tabachnick & Fidell, 1996). Univariate statistics indicating the unique measured variable(s) for which demographic differences exist are also presented below in Table 6.

For significant univariate findings with dichotomous independent variables, the direction of group differences can be easily deduced by looking at the means of the respective two groups on a given dependent variable. Post-hoc analyses of participant education, the sole independent variable treated as a single variable with more than two levels, were conducted using Tukey's HSD to more closely examine the nature of any group differences identified by the univariate statistics. Tukey's HSD is preferred when examining univariate differences across equal sized groups as it adjusts for inflated probability of Type 1 error resulting from multiple mean comparisons while retaining

good power to detect significant differences (Field, 2013; Toothaker, 1993).

Multivariate analyses suggested significant group differences for several demographic variables including, gender (Pillai's Trace = .084, $F = 2.555$, $df = 18, 514$, $p = .000$), Hispanic/Latinx race/ethnicity (Pillai's Trace = .069, $F = 2.070$, $df = 18, 514$, $p = .009$), participant education (Pillai's Trace = .165, $F = 2.528$, $df = 36, 1030$, $p = .000$), school enrollment status (Pillai's Trace = .111, $F = 3.513$, $df = 18, 514$, $p = .000$), and the sample source (Pillai's Trace = .064, $F = 1.912$, $df = 18, 514$, $p = .015$). No significant differences were found for race/ethnicity variables (other than Hispanic/Latinx) or employment status. Results of univariate analyses indicating specific dependent variables for which differences exist are discussed below and presented in Table 6.

Table 6
MANOVA Between-Subjects Effects of Demographic on Measured Variables

<u>Demographic Variable</u>	<u>Measured Variables</u>	<u>Groups</u>	<u>Mean</u>	<u>Std. Error</u>	<u>Upper Bound</u>	<u>Lower Bound</u>	<u>Sum of Squares</u>	<u>df</u>	<u>Mean Square</u>	<u>F</u>	<u>Sig.</u>
Gender	Econ	Else	2.829	0.356	2.132	3.526	0.963	1	0.963	0.620	0.436
		Female	2.918	0.356	2.221	3.615					
	Marg	Else	3.398	0.364	2.682	4.114	1.153	1	1.153	0.770	0.386
		Female	3.301	0.367	2.579	4.023					
	Bread	Else	3.541	0.221	3.107	3.976	0.543	1	0.543	0.908	0.347
		Female	3.610	0.222	3.175	4.044					
	Depth	Else	3.650	0.215	3.228	4.072	0.129	1	0.129	0.231	0.637
		Female	3.683	0.215	3.261	4.105					
	Comm	Else	3.182	0.239	2.715	3.650	1.184	1	1.184	1.739	0.191
		Female	3.083	0.239	2.615	3.551					
	Ident	Else	3.628	0.204	3.228	4.029	0.058	1	0.058	0.118	0.748
		Female	3.646	0.204	3.245	4.047					
	Doubt	Else	3.168	0.279	2.620	3.715	3.596	1	3.596	3.991	0.047*
		Female	2.999	0.280	2.450	3.549					
	Flex	Else	3.414	0.260	2.905	3.924	0.050	1	0.050	0.063	0.818
		Female	3.435	0.260	2.926	3.945					
	Vol	Else	4.302	0.323	3.670	4.934	1.492	1	1.492	1.177	0.289
		Female	4.199	0.323	3.567	4.832					
	Conc	Else	3.581	0.298	2.997	4.166	1.320	1	1.320	1.293	0.265
		Female	3.688	0.300	3.100	4.277					
Cont	Else	4.058	0.278	3.512	4.604	2.507	1	2.507	2.743	0.099	
	Female	3.917	0.278	3.371	4.463						
Curios	Else	3.766	0.270	3.236	4.295	4.090	1	4.090	4.663	0.032*	
	Female	3.948	0.271	3.418	4.478						
Conf	Else	3.656	0.276	3.115	4.198	0.847	1	0.847	0.945	0.332	
	Female	3.739	0.276	3.197	4.282						
Hisp/Latinx	Econ	Non-Hisp	2.579	0.344	1.904	3.254	23.973	1	23.973	15.441	0.000**

		Hisp	3.168	0.373	2.437	3.899					
	Marg	Non-Hisp	3.553	0.355	2.854	4.251	11.963	1	11.963	7.990	0.005**
		Hisp	3.146	0.382	2.397	3.895					
	Bread	Non-Hisp	3.566	0.214	3.146	3.986	0.023	1	0.023	0.039	0.858
		Hisp	3.585	0.232	3.130	4.040					
	Depth	Non-Hisp	3.615	0.208	3.207	4.024	0.752	1	0.752	1.348	0.247
		Hisp	3.717	0.226	3.275	4.159					
	Comm	Non-Hisp	3.110	0.231	2.657	3.563	0.131	1	0.131	0.193	0.671
		Hisp	3.155	0.250	2.665	3.646					
	Ident	Non-Hisp	3.605	0.197	3.218	3.992	0.289	1	0.289	0.587	0.454
		Hisp	3.670	0.215	3.249	4.091					
	Doubt	Non-Hisp	3.140	0.270	2.610	3.670	1.016	1	1.016	1.129	0.297
		Hisp	3.027	0.293	2.452	3.603					
	Flex	Non-Hisp	3.419	0.251	2.927	3.911	0.030	1	0.030	0.038	0.876
		Hisp	3.431	0.273	2.896	3.966					
	Vol	Non-Hisp	4.125	0.313	3.512	4.738	4.648	1	4.648	3.656	0.057
		Hisp	4.376	0.338	3.714	5.038					
	Conc	Non-Hisp	3.616	0.289	3.050	4.183	0.147	1	0.147	0.145	0.723
		Hisp	3.653	0.313	3.038	4.269					
	Cont	Non-Hisp	3.978	0.269	3.451	4.505	0.041	1	0.041	0.044	0.850
		Hisp	3.998	0.292	3.424	4.571					
	Curios	Non-Hisp	3.866	0.261	3.354	4.379	0.026	1	0.026	0.030	0.878
		Hisp	3.847	0.284	3.291	4.403					
	Conf	Non-Hisp	3.607	0.267	3.084	4.130	2.294	1	2.294	2.558	0.114
		Hisp	3.789	0.290	3.219	4.358					
Asian	Econ	Else	2.963	0.196	2.578	3.348	0.353	1	0.353	0.227	0.646
		Asian	2.784	0.535	1.736	3.832					
	Marg	Else	3.202	0.202	2.805	3.599	0.801	1	0.801	0.534	0.541
		Asian	3.497	0.548	2.421	4.573					
	Bread	Else	3.665	0.123	3.424	3.905	0.301	1	0.301	0.504	0.484
		Asian	3.487	0.332	2.835	4.138					

Depth	Else	3.709	0.119	3.476	3.943	0.068	1	0.068	0.123	0.759
	Asian	3.623	0.323	2.991	4.256					
Comm	Else	3.257	0.132	2.999	3.516	0.616	1	0.616	0.903	0.351
	Asian	3.008	0.358	2.306	3.711					
Ident	Else	3.692	0.112	3.473	3.912	0.120	1	0.120	0.244	0.680
	Asian	3.582	0.308	2.978	4.185					
Doubt	Else	3.000	0.154	2.699	3.301	0.273	1	0.273	0.301	0.627
	Asian	3.167	0.420	2.343	3.991					
Flex	Else	3.354	0.143	3.073	3.635	0.222	1	0.222	0.280	0.617
	Asian	3.495	0.390	2.731	4.260					
Vol	Else	4.182	0.179	3.831	4.532	0.314	1	0.314	0.249	0.647
	Asian	4.320	0.484	3.371	5.268					
Conc	Else	3.688	0.165	3.364	4.011	0.134	1	0.134	0.131	0.761
	Asian	3.582	0.448	2.703	4.461					
Cont	Else	3.940	0.153	3.639	4.241	0.118	1	0.118	0.129	0.746
	Asian	4.036	0.418	3.217	4.855					
Curios	Else	3.947	0.149	3.655	4.240	0.289	1	0.289	0.329	0.614
	Asian	3.766	0.406	2.971	4.561					
Conf	Else	3.777	0.152	3.479	4.076	0.250	1	0.250	0.279	0.623
	Asian	3.618	0.415	2.805	4.432					
Black/ African American						0.701	1	0.701	0.452	0.513
	Econ	Else	2.988	0.230	2.538	3.438				
Marg	Black/AA	2.759	0.495	1.789	3.729					
	Else	3.222	0.231	2.769	3.674	0.990	1	0.990	0.662	0.470
Bread	Black/AA	3.477	0.514	2.467	4.487					
	Else	3.708	0.142	3.429	3.987	1.011	1	1.011	1.691	0.198
Depth	Black/AA	3.443	0.309	2.838	4.048					
	Else	3.783	0.138	3.514	4.053	0.811	1	0.811	1.456	0.236
Comm	Black/AA	3.550	0.301	2.960	4.139					
	Else	3.153	0.153	2.854	3.452	0.034	1	0.034	0.050	0.852

Multiracial	Ident	Black/AA	3.112	0.333	2.459	3.766					
		Else	3.757	0.131	3.499	4.015	0.810	1	0.810	1.647	0.214
	Doubt	Black/AA	3.517	0.285	2.959	4.075					
		Else	3.015	0.178	2.666	3.365	0.343	1	0.343	0.381	0.565
	Flex	Black/AA	3.152	0.390	2.386	3.918					
		Else	3.502	0.166	3.177	3.827	0.335	1	0.335	0.420	0.555
	Vol	Black/AA	3.348	0.363	2.636	4.060					
		Else	4.117	0.207	3.711	4.523	1.163	1	1.163	0.916	0.343
	Conc	Black/AA	4.384	0.450	3.502	5.266					
		Else	3.472	0.190	3.100	3.844	1.580	1	1.580	1.548	0.235
	Cont	Black/AA	3.798	0.418	2.976	4.619					
		Else	3.841	0.178	3.493	4.189	1.171	1	1.171	1.279	0.296
	Curios	Black/AA	4.135	0.389	3.372	4.898					
		Else	3.762	0.173	3.423	4.101	0.555	1	0.555	0.633	0.435
	Conf	Black/AA	3.952	0.377	3.212	4.691					
		Else	3.676	0.177	3.330	4.022	0.067	1	0.067	0.075	0.811
	Econ	Black/AA	3.720	0.386	2.963	4.476					
		Else	3.086	0.217	2.662	3.511	1.943	1	1.943	1.252	0.270
	Marg	Multiracial	2.660	0.516	1.648	3.672					
		Else	3.043	0.217	2.617	3.469	4.295	1	4.295	2.870	0.107
	Bread	Multiracial	3.656	0.535	2.604	4.708					
		Else	3.629	0.134	3.367	3.892	0.131	1	0.131	0.219	0.644
	Depth	Multiracial	3.522	0.322	2.890	4.153					
		Else	3.835	0.130	3.580	4.090	1.286	1	1.286	2.308	0.133
Comm	Multiracial	3.498	0.313	2.884	4.112						
	Else	3.300	0.145	3.017	3.584	1.207	1	1.207	1.769	0.195	
Ident	Multiracial	2.965	0.347	2.285	3.645						
	Else	3.811	0.125	3.567	4.055	1.310	1	1.310	2.664	0.111	
Doubt	Multiracial	3.463	0.296	2.883	4.044						
	Else	3.035	0.169	2.703	3.366	0.181	1	0.181	0.202	0.692	
		Multiracial	3.132	0.406	2.336	3.929					

White	Flex	Else	3.421	0.156	3.115	3.727	0.028	1	0.028	0.035	0.852
		Multiracial	3.429	0.379	2.686	4.171					
	Vol	Else	4.301	0.195	3.918	4.683	0.101	1	0.101	0.079	0.796
		Multiracial	4.201	0.470	3.280	5.121					
	Conc	Else	3.612	0.179	3.260	3.964	0.058	1	0.058	0.056	0.859
		Multiracial	3.658	0.435	2.804	4.511					
	Cont	Else	3.906	0.168	3.577	4.235	0.279	1	0.279	0.305	0.624
		Multiracial	4.070	0.405	3.275	4.864					
	Curios	Else	3.741	0.163	3.421	4.061	0.596	1	0.596	0.678	0.419
		Multiracial	3.973	0.393	3.201	4.744					
	Conf	Else	3.769	0.166	3.443	4.095	0.239	1	0.239	0.267	0.627
		Multiracial	3.626	0.402	2.837	4.415					
	Econ	Else	2.859	0.240	2.388	3.329	0.040	1	0.040	0.025	0.893
		White	2.888	0.486	1.936	3.840					
	Marg	Else	3.296	0.240	2.825	3.767	0.318	1	0.318	0.213	0.669
		White	3.403	0.506	2.407	4.399					
	Bread	Else	3.805	0.148	3.514	4.096	3.343	1	3.343	5.591	0.020*
		White	3.347	0.303	2.752	3.941					
	Depth	Else	3.903	0.144	3.621	4.186	3.600	1	3.600	6.460	0.012*
		White	3.429	0.295	2.851	4.007					
	Comm	Else	3.244	0.160	2.930	3.558	0.752	1	0.752	1.102	0.311
		White	3.021	0.327	2.381	3.662					
	Ident	Else	3.755	0.137	3.485	4.025	0.843	1	0.843	1.713	0.205
		White	3.519	0.279	2.972	4.067					
	Doubt	Else	2.910	0.187	2.544	3.276	2.077	1	2.077	2.307	0.140
		White	3.257	0.383	2.505	4.009					
	Flex	Else	3.447	0.173	3.108	3.786	0.059	1	0.059	0.074	0.845
		White	3.402	0.357	2.702	4.102					
Vol	Else	4.328	0.217	3.903	4.752	0.344	1	0.344	0.269	0.618	
	White	4.174	0.442	3.308	5.039						
Conc	Else	3.679	0.198	3.291	4.068	0.183	1	0.183	0.180	0.723	

Participant Edu.	Cont	White	3.590	0.411	2.784	4.397					
		Else	3.958	0.186	3.593	4.322	0.078	1	0.078	0.086	0.809
	Curios	White	4.018	0.382	3.269	4.767					
		Else	3.879	0.181	3.525	4.234	0.053	1	0.053	0.061	0.833
	Conf	White	3.835	0.370	3.108	4.561					
		Else	3.781	0.184	3.420	4.142	0.456	1	0.456	0.509	0.498
			White	3.614	0.379	2.871	4.358				
							69.481	2	34.741	22.355	0.000**
	Econ	Less than HS	3.371	0.368	2.651	4.092					
		HS	3.003	0.367	2.283	3.723					
		Some Coll.	2.246	0.360	1.541	2.951					
	Marg	Less than HS	3.461	0.373	2.729	4.193	1.539	2	0.770	0.514	0.601
		HS	3.311	0.380	2.563	4.059					
		Some Coll.	3.276	0.370	2.548	4.004					
	Bread	Less than HS	3.488	0.228	3.040	3.935	1.074	2	0.537	0.900	0.423
		HS	3.611	0.229	3.162	4.061					
		Some Coll.	3.628	0.225	3.188	4.068					
	Depth	Less than HS	3.497	0.223	3.060	3.933	3.474	2	1.737	3.119	0.046*
		HS	3.750	0.222	3.314	4.186					
		Some Coll.	3.752	0.218	3.326	4.179					
	Comm	Less than HS	2.939	0.247	2.454	3.424	6.015	2	3.008	4.418	0.014*
		HS	3.293	0.246	2.811	3.776					
		Some Coll.	3.166	0.241	2.693	3.639					
	Ident	Less than HS	3.345	0.211	2.931	3.758	9.664	2	4.832	9.833	0.000**
		HS	3.781	0.211	3.367	4.196					
		Some Coll.	3.786	0.207	3.380	4.191					
	Doubt	Less than HS	3.146	0.289	2.578	3.714	1.025	2	0.513	0.566	0.578
HS		3.101	0.288	2.535	3.666						
Some Coll.		3.004	0.282	2.450	3.558						
Flex	Less than HS	3.336	0.266	2.814	3.858	1.030	2	0.515	0.647	0.530	
	HS	3.462	0.269	2.935	3.989						

		Some Coll.	3.476	0.264	2.959	3.994					
	Vol	Less than HS	4.229	0.333	3.577	4.881	0.117	2	0.058	0.046	0.955
		HS	4.267	0.334	3.612	4.921					
		Some Coll.	4.256	0.327	3.616	4.897					
	Conc	Less than HS	3.623	0.306	3.023	4.222	1.068	2	0.534	0.525	0.601
		HS	3.693	0.311	3.083	4.303					
		Some Coll.	3.589	0.303	2.995	4.183					
	Cont	Less than HS	3.980	0.286	3.420	4.541	0.442	2	0.221	0.241	0.788
		HS	3.952	0.288	3.388	4.516					
		Some Coll.	4.031	0.283	3.476	4.586					
	Curios	Less than HS	3.773	0.278	3.228	4.319	2.127	2	1.063	1.212	0.300
		HS	3.829	0.280	3.281	4.377					
		Some Coll.	3.968	0.274	3.431	4.506					
	Conf	Less than HS	3.655	0.283	3.100	4.210	0.256	2	0.128	0.143	0.868
		HS	3.711	0.287	3.149	4.273					
		Some Coll.	3.728	0.280	3.178	4.278					
Employment Status	Econ	No	2.906	0.352	2.215	3.597	0.558	1	0.558	0.358	0.555
		Yes	2.841	0.359	2.137	3.545					
	Marg	No	3.428	0.363	2.716	4.140	2.959	1	2.959	1.975	0.161
		Yes	3.271	0.369	2.546	3.996					
	Bread	No	3.625	0.220	3.194	4.055	1.168	1	1.168	1.955	0.164
		Yes	3.526	0.224	3.088	3.964					
	Depth	No	3.689	0.214	3.270	4.108	0.231	1	0.231	0.415	0.534
		Yes	3.644	0.217	3.218	4.069					
	Comm	No	3.090	0.237	2.626	3.555	0.932	1	0.932	1.372	0.246
		Yes	3.175	0.241	2.703	3.647					
	Ident	No	3.597	0.203	3.200	3.995	0.803	1	0.803	1.638	0.203
		Yes	3.677	0.206	3.273	4.081					
	Doubt	No	3.084	0.278	2.539	3.629	0.078	1	0.078	0.088	0.873
		Yes	3.083	0.281	2.531	3.635					

Enrollment Status	Flex	No	3.415	0.258	2.908	3.921	0.048	1	0.048	0.061	0.816
		Yes	3.435	0.262	2.922	3.948					
	Vol	No	4.222	0.320	3.594	4.849	0.642	1	0.642	0.509	0.514
		Yes	4.280	0.325	3.642	4.917					
	Conc	No	3.631	0.298	3.047	4.216	0.026	1	0.026	0.025	0.902
		Yes	3.638	0.300	3.049	4.227					
	Cont	No	3.997	0.277	3.454	4.539	0.065	1	0.065	0.072	0.805
		Yes	3.979	0.281	3.429	4.529					
	Curios	No	3.938	0.269	3.412	4.465	2.978	1	2.978	3.390	0.074
		Yes	3.775	0.272	3.241	4.309					
	Conf	No	3.751	0.274	3.213	4.289	1.287	1	1.287	1.434	0.238
		Yes	3.644	0.279	3.098	4.191					
							0.692	1	0.692	0.446	0.508
	Econ	No	2.921	0.364	2.208	3.633					
		Yes	2.826	0.352	2.135	3.517					
	Marg	No	3.276	0.375	2.540	4.013	1.752	1	1.752	1.170	0.285
		Yes	3.423	0.361	2.713	4.132					
	Bread	No	3.556	0.227	3.112	4.000	0.151	1	0.151	0.253	0.625
		Yes	3.595	0.219	3.165	4.025					
	Depth	No	3.631	0.220	3.200	4.063	0.406	1	0.406	0.728	0.395
		Yes	3.701	0.213	3.283	4.119					
	Comm	No	3.092	0.244	2.613	3.571	0.567	1	0.567	0.834	0.363
		Yes	3.174	0.236	2.711	3.637					
	Ident	No	3.544	0.209	3.134	3.954	2.706	1	2.706	5.506	0.021*
	Yes	3.731	0.202	3.334	4.127						
Doubt	No	3.091	0.287	2.529	3.654	0.042	1	0.042	0.047	0.853	
	Yes	3.076	0.276	2.534	3.617						
Flex	No	3.414	0.266	2.892	3.935	0.039	1	0.039	0.049	0.833	
	Yes	3.436	0.257	2.932	3.939						
Vol	No	4.093	0.330	3.447	4.740	8.359	1	8.359	6.578	0.012*	
	Yes	4.408	0.320	3.781	5.035						

Sample Source	Conc	No	3.358	0.305	2.759	3.957	25.365	1	25.365	24.888	0.000**
		Yes	3.912	0.296	3.331	4.493					
	Cont	No	4.004	0.285	3.446	4.563	0.084	1	0.084	0.092	0.763
		Yes	3.971	0.276	3.430	4.512					
	Curios	No	3.836	0.276	3.294	4.378	0.195	1	0.195	0.224	0.652
		Yes	3.878	0.268	3.352	4.403					
	Conf	No	3.617	0.283	3.063	4.172	2.203	1	2.203	2.463	0.119
		Yes	3.778	0.273	3.242	4.314					
	Econ	Program	2.933	0.358	2.231	3.635					
		MTurk	2.814	0.367	2.094	3.534					
	Marg	Program	3.227	0.370	2.499	3.955	2.728	1	2.728	1.821	0.181
		MTurk	3.472	0.374	2.737	4.207					
	Bread	Program	3.647	0.224	3.209	4.086	0.968	1	0.968	1.619	0.205
		MTurk	3.504	0.228	3.057	3.951					
	Depth	Program	3.738	0.217	3.313	4.163	0.909	1	0.909	1.630	0.209
		MTurk	3.595	0.222	3.159	4.030					
	Comm	Program	3.238	0.240	2.767	3.709	1.946	1	1.946	2.853	0.102
		MTurk	3.027	0.247	2.544	3.511					
	Ident	Program	3.696	0.206	3.293	4.100	0.590	1	0.590	1.199	0.292
		MTurk	3.578	0.211	3.165	3.992					
	Doubt	Program	3.040	0.281	2.490	3.591	0.356	1	0.356	0.394	0.540
		MTurk	3.127	0.289	2.560	3.694					
	Flex	Program	3.484	0.262	2.970	3.997	0.588	1	0.588	0.739	0.401
		MTurk	3.366	0.267	2.842	3.890					
	Vol	Program	4.572	0.325	3.934	5.209	18.765	1	18.765	14.735	0.000**
		MTurk	3.930	0.333	3.277	4.582					
	Conc	Program	3.627	0.301	3.036	4.219	0.033	1	0.033	0.033	0.885
	MTurk	3.642	0.307	3.039	4.245						
Cont	Program	4.123	0.281	3.572	4.673	3.347	1	3.347	3.660	0.057	
	MTurk	3.853	0.286	3.291	4.415						

Curios	Program	3.935	0.273	3.401	4.470	1.040	1	1.040	1.182	0.294
	MTurk	3.778	0.279	3.232	4.325					
Conf	Program	3.744	0.279	3.197	4.290	0.358	1	0.358	0.399	0.535
	MTurk	3.652	0.284	3.094	4.210					

Note: *p < .05, **p < .01. N = 543. All values based on pooled estimates across five imputations and original data. Means values are marginal means. Econ = Economic constraints; Marg = Marginalization; Vol = Work Volition; Conc = Career Concern; Cont = Career Control; Curios = Career Curiosity; Conf = Career Confidence; Bread = In-breadth Exploration; Depth = In-depth Exploration; Comm = Career Commitment Making; Ident = Identification with Career Commitment; Doubt = Self-doubt; Flex = Flexibility

Univariate tests of gender differences indicated that female participants endorsed lower levels of self-doubt ($F = 3.596$, $df = 1$, $p = .047$) and higher levels of curiosity ($F = 4.090$, $df = 1$, $p = .032$). Significant differences by race/ethnicity were also found with Hispanic/Latinx participants endorsing higher levels of economic constraints ($F = 23.973$, $df = 1$, $p = .000$) but lower levels of social marginalization ($F = 11.963$, $df = 1$, $p = .005$). Differences in volition by Hispanic/Latinx race/ethnicity were nearly, but not quite, significant with Hispanic/Latinx participants reporting higher levels of work volition ($F = 4.648$, $df = 1$, $p = .057$). Differences by school enrollment status (e.g., enrolled v. not enrolled) were significant with currently enrolled students endorsing higher levels of identification with career commitment ($F = 2.706$, $df = 1$, $p = .021$), work volition ($F = 8.359$, $df = 1$, $p = .012$), and career concern ($F = 25.365$, $df = 1$, $p = .000$). Differences by sample source (e.g., MTurk v. program sample) were significant with MTurk participants endorsing lower levels of work volition ($F = 18.765$, $df = 1$, $p = .000$) compared to participants sampled from career pathways programs.

For participant education level, univariate statistics indicated significant differences in economic constraints ($F = 69.481$, $df = 2$, $p = .000$), in-depth exploration ($F = 3.474$, $df = 2$, $p = .046$), career commitment making ($F = 6.015$, $df = 2$, $p = .014$), and identification with career commitment ($F = 9.664$, $df = 2$, $p = .000$). Post-hoc analyses of differences in economic constraints by participant education level indicated significant differences between all comparisons. Participants with the lowest educational attainment (less than a high school) endorsed higher levels of economic constraints than both participants with a high school degree ($p < .001$) or some college ($p < .001$).

Similarly, participants with the highest educational attainment (some college) endorsed significantly lower levels of economic constraints than both other subgroups ($p < .001$). With regard to identification with career commitment, participants with the lowest educational attainment indicated significantly lower identification with career commitment than both participants with a high school degree ($p = .015$) or some college ($p = .011$).

Notably, there were several discrepancies between univariate tests and post-hoc tests for participant education. For example, although the univariate test statistic indicated significant differences by participant education in in-depth exploration and career commitment making, post-hoc analyses indicated no such differences in in-depth exploration (p 's range from .334-.785 across group comparisons) or career commitment making (p 's range from .075 - .992 across group comparisons). These discrepancies may reflect differences in how univariate and post-hoc statistics are calculated. Unlike most post-hoc tests, univariate statistics do not adjust for inflated probabilities for Type 1 errors resulting from multiple comparisons. Post-hoc tests, such as Tukey's HSD, intentionally penalize or adjust p -values to account for inflated values resulting from multiple comparisons (e.g., familywise error rate) and maintain a .05 Type 1 error rate across all group comparisons (Field, 2013). The significant univariate findings in the absence of any meaningful post-hoc differences may therefore reflect spurious findings resulting from Type 1 errors on these two dependent variables.

For the purposes of the present study, the examination of demographic group differences was primarily conducted to determine the necessity of including any given

demographic variable as a covariate in the structural equation modeling. Despite inconclusive results regarding participant education on two dependent variables (in-depth exploration and commitment making), findings from multivariate, univariate, and post-hoc statistics showed consistently significant results suggesting differences by participant education on two other dependent variables (economic constraints and identification with career commitment). Participant education was therefore included as a covariate.

Additionally, despite the non-significant multivariate result for the White race/ethnicity variable, Table 6 indicates two significant univariate results for White participants compared to other race groups. For example, multivariate statistics indicated no significant differences between White participants and participants of color (Pillai's Trace = .031, $F = 0.901$, $df = 18, 514$, $p = .579$), however, univariate statistics suggested significant differences on in-breadth exploration ($F = 3.343$, $df = 1$, $p = .020$) and in-depth exploration ($F = 3.600$, $df = 1$, $p = .012$) subscales of vocational identity. For similar reasons as discussed above, the univariate findings alone may reflect increased probability of Type 1 error resulting from multiple comparisons. The multivariate statistic, by contrast, accounts for relationships among dependent variables and better controls for inflated probability of Type 1 error resulting from multiple comparisons. Typically, observing a significant multivariate result is a prerequisite to considering any univariate findings. In this case, the lack of significant finding on the multivariate statistic suggests that the two univariate findings on exploration subscales are best ignored.

In summary, the MANOVA analysis indicated significant group differences across demographic variables of gender, race/ethnicity, participant education level,

school enrollment status, and sample source. Based on these results, these demographic variables, as well as age, were included in subsequent structural models.

Regression of Measured Variables

A review of analyses conducted up to this point includes: screening and handling of missing data, calculation of basic descriptive and sample statistics, calculation of bivariate correlations to evaluate the presence of significant associations, and multivariate analysis of the variance of scores on measured variables by demographic group. As a next step in the progression of analyses, linear regression models were conducted based on the hypothesized structural model to allow for a more detailed examination of the relationships between measured variables representing predictors, mediating variables, and dependent variables as specified in the hypothesized structural model. Model results are presented in Tables 7 and 8 and reported below.

Mediator and outcome variables regressed on predictors. As a first step (see Table 7), indicators comprising the outcome (vocational identity dimensions: in-breadth exploration, in-depth exploration, commitment making, identification with commitment, self-doubt, and flexibility) and mediating variables (work volition and career adaptability dimensions: curiosity, concern, control, confidence) were regressed on predictor variables (economic constraints, marginalization), to examine the relationships between the predictors and dependent variables in the hypothesized structural model. Predictors were entered in steps to examine the unique contribution of each to the overall explained variance in each of the indicators.

Table 7

Outcome and Mediator Variables Regressed on Predictors

Model	<u>Bread</u>		<u>Depth</u>		<u>Comm</u>		<u>Ident</u>		<u>Doubt</u>		<u>Flex</u>	
	<u>Adj.</u> <u>R²</u>	<u>R²Δ</u>	<u>Adj.</u> <u>R²</u>	<u>R²Δ</u>	<u>Adj.</u> <u>R²</u>	<u>R²Δ</u>	<u>Adj.</u> <u>R²</u>	<u>R²Δ</u>	<u>Adj.</u> <u>R²</u>	<u>R²Δ</u>	<u>Adj.</u> <u>R²</u>	<u>R²Δ</u>
1 Econ	-.001	.001	-.001	.001	-.001	.001	.001	.003	.000	.002	.000	.002
2 Econ	-.002	.001	-.002	.001	.000	.003	.016	.017**	.081	.083**	.012	.014**
Marg												

Note: *p < .05, **p < .01. N = 543. All values based on pooled estimates across five imputations and original data. Econ = Economic constraints; Marg = Marginalization; Vol = Work Volition; Conc = Career Concern; Cont = Career Control; Curios = Career Curiosity; Conf = Career Confidence; Bread = In-breadth Exploration; Depth = In-depth Exploration; Comm = Career Commitment Making; Ident = Identification with Career Commitment; Doubt = Self-doubt; Flex = Flexibility.

Table 7 Continued

Outcome and Mediator Variables Regressed on Predictors

Model	<u>Vol</u>		<u>Conc</u>		<u>Cont</u>		<u>Curios</u>		<u>Conf</u>	
	<u>Adj.</u> <u>R²</u>	<u>R²Δ</u>	<u>Adj.</u> <u>R²</u>	<u>R²Δ</u>	<u>Adj.</u> <u>R²</u>	<u>R²Δ</u>	<u>Adj.</u> <u>R²</u>	<u>R²Δ</u>	<u>Adj.</u> <u>R²</u>	<u>R²Δ</u>
1 Econ	.002	.004	-.002	.000	-.002	.000	.009	.011*	-.002	.000
2 Econ	.022	.022**	.004	.007	.003	.007	.007	.001	.003	.007
Marg										

Note: *p < .05, **p < .01. N = 543. All values based on pooled estimates across five imputations and original data. Econ = Economic constraints; Marg = Marginalization; Vol = Work Volition; Conc = Career Concern; Cont = Career Control; Curios = Career Curiosity; Conf = Career Confidence; Bread = In-breadth Exploration; Depth = In-depth Exploration; Comm = Career Commitment Making; Ident = Identification with Career Commitment; Doubt = Self-doubt; Flex = Flexibility.

Consistent with the previously reported bivariate correlations, results indicated that the first entered predictor variable, economic constraints, predicted only one measured variable, curiosity, which is an indicator of the mediating variable, career adaptability. Economic constraints predicted an extremely small amount (0.9%) of the variance in curiosity. Economic constraints alone did not predict any other of the measured variables comprising the outcome variable (vocational identity) or mediating variables (volition, career adaptability).

The addition of the second predictor, marginalization, significantly improved the model's ability to explain the variance among a number of additional measured variables. Marginalization accounted for a significant amount of additional variance explained for vocational identity dimensions of identification with career commitment ($R^2\Delta = 1.7\%$), self-doubt (8.3%), and flexibility (1.4%). Additionally, marginalization accounted for a significant amount of variance explained for the mediating variable volition (2.2%). Notably, marginalization did not significantly improve upon the explained variance for curiosity, or any other of the career adaptability indicators.

In summary, economic constraints predicted only one measured variable, marginalization predicted four distinct measured variables, and no measured mediator or outcome variable was predicted by both predictors independently. Together, the predictors explained at least one indicator of each mediator and outcome variable. Overall, the predictors together explained relatively modest proportions of the overall variance for identification with career commitment (Adjusted $R^2 = 1.6\%$), self-doubt (8.1%), flexibility (1.2%), volition (2.2%), and curiosity (0.7%).

Outcome variables regressed on predictors and mediators. As a second step (see Table 8), each of the indicators of the outcome variable (vocational identity dimensions in-breadth exploration, in-depth exploration, commitment making, identification with commitment, self-doubt, and flexibility) were regressed on the mediating variables (volition and career adaptability dimensions curiosity, concern, control, confidence). The set of predictors (economic constraints, marginalization) was entered first to control for significant variance explained by the predictors and mediating variables were entered in steps thereafter to examine the unique contribution of each mediator to the overall explained variance in each of the outcome variable indicators.

The addition of the first mediator variable, volition, significantly improved the amount of variance explained by the model for all identity dimensions, except for flexibility. Volition explained a significant additional proportion of the variance for in-breadth exploration ($R^2\Delta = 5.3\%$), in-depth (9.5%) exploration, commitment making (11.5%), identification with career commitment (6.8%), and self-doubt (5.7%).

This was also the case when the dimensions of the second mediating variable, career adaptability, were entered into the model. Adaptability dimensions appeared to explain a significant additional proportion of the variance for in-breadth exploration ($R^2\Delta = 8.1\%$), in-depth exploration (16.4%), commitment making (6.4%), identification with career commitment (5.0%), and self-doubt (2.4%). With regard to flexibility, the variance explained by the model was not significantly improved by the addition of adaptability dimensions. Notably, upon inspection of the individual coefficients for each adaptability dimension, curiosity alone was a significant predictor ($\beta = .128, p = .041$) of flexibility.

The contribution in terms of additional variance explained, however, did not warrant a statistically meaningful difference in the amount of total variance explained by the overall model ($R^2\Delta = .013, p = .144$).

In summary, the overall model, including both predictors and mediators, explained a significant proportion of the variance in each dimension of the dependent variable vocational identity. Adjusted R^2 values indicated that the overall model (predictors, both mediators) explained modest proportions of the variance in in-breadth exploration (12.4%), in-depth exploration (25.1%), commitment making (17.2%), identification with career commitment (12.5%), self-doubt (15.3%), and a much smaller proportion of the variance in flexibility (1.7%). A closer examination suggests that one outcome indicator (flexibility) was explained only by the predictors and additional variance explained by the mediators was non-significant. Three outcome indicators (in-breadth exploration, in-depth exploration, and commitment making) were explained only by both mediating variables but not by the predictor variables. Finally, two outcome indicators (identification with career commitment and self-doubt) were significantly explained by the predictors, as well as both mediating variables. Results of the regression analysis provide preliminary support for significant relationships consistent with the hypothesized structural model and support the continued progression toward testing the hypothesized structural equation models.

Table 8

Outcomes Variables Regressed on Mediators and Predictors

Model	<u>Bread</u>		<u>Depth</u>		<u>Comm</u>		<u>Ident</u>		<u>Doubt</u>		<u>Flex</u>	
	<u>Adj.</u> <u>R²</u>	<u>R²Δ</u>	<u>Adj.</u> <u>R²</u>	<u>R²Δ</u>	<u>Adj.</u> <u>R²</u>	<u>R²Δ</u>	<u>Adj.</u> <u>R²</u>	<u>R²Δ</u>	<u>Adj.</u> <u>R²</u>	<u>R²Δ</u>	<u>Adj.</u> <u>R²</u>	<u>R²Δ</u>
1 Econ Marg	-.002	.002	-.002	.002	.000	.004	.015	.019**	.080	.084**	.012	.015*
2 Econ Marg Vol	.049	.053**	.092	.095**	.113	.115**	.082	.068**	.136	.057**	.011	.002
3 Econ Marg Vol Conc Cont Curios Conf	.124	.081**	.251	.164**	.172	.064**	.125	.050**	.153	.024**	.017	.013

Note: **p < .01, *p < .05; Econ = Economic constraints; Marg = Marginalization; Vol = Work Volition; Conc = Career Concern; Cont = Career Control; Curious = Career Curiosity; Conf = Career Confidence; Bread = In-breadth Exploration; Depth = In-depth Exploration; Comm = Career Commitment Making; Ident = Identification with Career Commitment; Doubt = Self-doubt; Flex = Flexibility.

Measurement Models

Thus far, the data has been screened, missing data has been addressed, correlations among measured variables have been demonstrated, associations between measured variables and demographics have been evaluated, and a number of linear regression models were conducted to provide preliminary evidence of relationships specified in the hypothesized structural model. The final step before examining the structural models is to conduct measurement models (Kline, 2015; Weston & Gore, 2006). The fit of the measurement models is foundational to the interpretation of the full structural model. Unless it is determined that the measurement properties of the model are sound, any estimates within the structural model may not be trustworthy (Martens, 2005a).

Measurement models were therefore conducted to examine the psychometric properties of measured variables prior to testing the hypothesized structural model (Kline, 2015; Martens, 2005a; Weston & Gore, 2006). The hypothesized structural model in the present study includes four latent constructs: marginalization, vocational identity, work volition, and adaptability. Marginalization and volition are both hypothesized as first-order, single-factor, latent constructs modeled using scale items as indicators. The VISA is hypothesized as a first-order, six-factor construct and modeled using parceled scale items as indicators. Finally, career adaptability is specified as a first-order, single-factor construct modeled using subscale means as indicators.

Measurement models for each latent construct were first conducted separately to determine the measurement fit for each construct independently. A total measurement

model (see Figure 11) was then conducted in which all latent constructs were estimated simultaneously and allowed to correlate, as specified in the hypothesized structural model. For the purposes of the independent measurement models, career adaptability was examined as a second-order, four-factor measurement model to allow examination of both the fit of item-level indicators loading onto respective subscales (first order), as well as determine the fit of subscales as indicators of the higher order factor of adaptability (second order). This second-order model therefore allowed for a more detailed inspection of whether adaptability subscales possessed adequate properties to warrant use of subscale means as indicators in the subsequent analyses. In the total measurement model, adaptability was modeled more simply as a first-order, four-factor construct (see Figure 11) using the subscale means as indicators.

The measurement models in the present study were analyzed using MPlus version 8.3 (Muthén & Muthén, 2017) and estimated using the Maximum Likelihood (ML) approach, which assumes multivariate normality but is robust to moderate violations of normality (Kline, 2015). For all measurement and structural models, latent variables were scaled by setting a single indicator loading to 1.00, as is the default method employed in Mplus.

Fit indices for final measurement models are reported below in Table 9 and measurement modeling approaches are discussed below in further detail. The goodness of fit for measurement and structural models was evaluated according to accepted cut-offs for each fit index as follows: χ^2 goodness-of-fit = non-significant ($p > .05$), CFI $> .90$ (acceptable) with values $> .95$ indicating good fit (Hu & Bentler, 1995, 1999), RMSEA $<$

.08 (acceptable) with values $< .05$ indicating good fit (Brown & Cudeck, 1993; McDonald & Ho, 2002), and SRMR $< .08$ (Weston & Gore, 2006). The χ^2 goodness-of-fit statistic is highly sensitive to sample size, especially with samples larger than 200, thus it is quite common to observe significant χ^2 values even when the model is a good fit to the data (Hoe, 2008). For this reason, the range of fit indices will be considered together, along with the sample size, model complexity, and path coefficients, to determine the goodness of fit for each model (Weston & Gore, 2006).

Table 9
Measurement Model Fit Indices

<u>Model</u>	<u>χ^2</u>	<u>df</u>	<u>CFI</u>	<u>RMSEA</u>	<u>SRMR</u>
Marginalization	4.499	2	.997	.049	.010
VISA (parceled)	91.537**	39	.982	.050	.027
Volition	2.353	1	.999	.050	.007
Adaptability (second-order)	180.46**	50	.962	.070	.033
Total	458.461**	216	.963	.046	.039

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

Marginalization

A measurement model for the latent construct marginalization was conducted using the 6-items as indicators. The measurement model using all 6-items initially showed poor fit ($\chi^2 = 90.770$, $df = 9$, $p = .000$; RMSEA = .131; CFI = .942; SRMR = .039) despite moderate to strong loadings for each item (β s = .585 to .801).

Marginalization was measured using the Discrimination items from the Panel Study of Income Dynamics' (PSID) Transition into Adulthood Study (Hill, 1992; The Institute for Social Research, 2015, Section K1). According to auxiliary documentation produced by the University of Michigan's Institute for Social Research, the institution that founded and directs the PSID, scores for the measure are produced based on the average of all

non-missing responses to the six items and the scale may be constructed using fewer than the six items. Further documentation on the measurement properties and construction of the scale was unable to be located. As such, consistent with best practices, exploratory factor analysis was conducted to determine whether the items would indeed fit as indicators of a single latent construct representing marginalization (Hurley et al., 1997; Marsh et al., 2009). The full sample of 543 was split in half using randomization without replacement to form two adequately sized independent groups to explore and then confirm the measurement model. The first subsample ($n = 272$) was used to conduct an EFA on the six items and the second ($n = 271$) was used to confirm the results via CFA with a separate independent subsample.

Exploratory factor analysis. All six items were examined under both a 1-factor solution and 2-factor solution. Any factor structure exceeding two would lead to a just- or unidentified model and would not be analyzable due to the small number of scale items (Kline, 2015). Mplus's default Geomin rotation method (Muthén & Muthén, 2017), an oblique rotation technique, was used as it was expected that the two factors, if identified, would correlate.

The 1-factor solution appeared to be a poor fit to the data ($\chi^2 = 47.026$, $df = 9$, $p = .000$; RMSEA = .126; CFI = .942; SRMR = .041), despite adequate loadings (β 's = .545 to .812) and an indication from the scree plot that a 1-factor solution was the best fit to the data. Despite the scree plot's indication that a single factor solution was the best fit to the data, the 2-factor solution was conducted to allow items to freely load on either of two factors, (compared to a one-factor solution in which items are constrained to load

onto a single factor).

The two-factor solution showed some improvement on all fit indices ($\chi^2 = 13.782$, $df = 4$, $p = .008$; CFI = .985; RMSEA = .096; SRMR = .023) compared to the one-factor solution, however, the chi-square and RMSEA values indicated that the fit remained poor. Examination of the factor loadings showed that items (Items 3, 5, and 6) loaded strongly onto a single factor (β 's = .642 to .857). One item (Item 2) significantly loaded on a second factor ($\beta = .895$) and another item (Item 4) also appeared to load more strongly onto this second factor, although still fairly modestly ($\beta = .418$). Both Item 2 and 4 also showed extremely low loading onto the first factor ($\beta = -.002, .183$, respectively). Item 1 appeared to load modestly across both factors ($\beta = .333, .475$, respectively). The 2-factor solution did not appear to be a better fit to the data in light of the poor overall model fit statistics, the scree plot indication of a single-factor solution, and the somewhat mixed loadings from the 2-factor solution.

Examination of the factor loadings of the 2-factor exploration, however, did reveal that three items loaded strongly onto the same factor (Items 3, 5, and 6, β 's = .642 to .857) and two items (Items 2 and 4) loaded extremely low on this factor. Alternatively, only one item loaded strongly onto a second factor (Item 2), whereas two others (Items 1 and 4) loaded much more modestly. In light of these findings, factor 1, the factor with the three highest loading items (Items 3, 5, and 6) was retained, and the two lowest loading items (Items 2 and 4) were dropped. Despite loading modestly on both factors (although somewhat stronger on factor 2), Item 1, was retained to ensure that the scale have an adequate number of items (4) to conduct a confirmatory analysis and determine adequacy

for inclusion in subsequent analyses. Thus, a 4-item, single-factor solution was identified using items 1, 3, 5, and 6.

Confirmatory factor analyses were conducted using the second subsample ($n = 271$) to determine whether the 4-item single-factor measurement approach was a good fit to the data. First, a CFA of all six items was conducted to compare model fit to the 6-item, single-factor EFA solution. Consistent with the EFA, results indicated poor model fit based on the CFI and RMSEA values ($\chi^2 = 51.275$, $df = 9$, $p = .000$; CFI = .945; RMSEA = .134; SRMR = .040), with items 2 and 4 demonstrating the lowest loadings. Secondly, a two-factor solution was examined (Factor 1 = Items 3, 5, 6; Factor 2 = Items 1, 2, 4) to allow comparison with the two-factor EFA solution. Consistent with the EFA, results showed poor model fit based on the high RMSEA value ($\chi^2 = 43.446$, $df = 8$, $p = .000$; CFI = .954; RMSEA = .130; SRMR = .037).

Finally, based on the results of the EFA, a 4-item, single-factor CFA was conducted using items 1, 3, 5, and 6. Results indicated that the 4-item, single-factor approach was an excellent fit to the data ($\chi^2 = 3.177$, $df = 2$, $p = .204$; CFI = .998; RMSEA = .048; SRMR = .011) and path loadings ranged from .752 to .828. Finally, the 4-item, single-factor measurement model was examined with the full sample ($n = 543$) to determine measurement properties of the 4-item scale with the full sample. Results again indicated excellent fit ($\chi^2 = 4.499$, $df = 2$, $p = .106$; CFI = .997; RMSEA = .049; SRMR = .010) with strong path loadings (β 's = .737 to .817).

Vocational Identity

The measurement model for vocational identity was specified as a first-order, six-factor construct using item-parcels as indicators. Parceling is a technique that allows researchers to construct indicators by combining subsets of items from the same scale to form an aggregate or composite indicator (Kline, 2015; Little, 2013). Parceling offers the benefit of reducing the overall number of indicators to conserve power and performs similarly to item-level indicators in CFA if items comprising a scale have been demonstrated to represent a single underlying factor (Nasser-Abu Alhija & Wisenbaker, 2006). The parceling approach was taken in the present study to reduce the overall number of indicators and conserve power in light of the high number of individual items on the VISA (Porfeli et al., 2011). The parceling approach is consistent with the approach taken by Porfeli and colleagues (2011) in the measurement development of the VISA and has good precedent of use in counseling psychology and identity research (Porfeli et al., 2011; Weston & Gore, 2006).

In developing the VISA, Porfeli and colleagues (2011) compared the 6-factor model fit and measurement invariance for the item-level indicators and parceled indicators and reported good fit for both approaches, with slightly more favorable findings for the parceled approach. Separate measurement models using item-level indicators and parcels were conducted in the present study to compare model fit with one another, as well as with the models reported by Porfeli and colleagues (2011).

Consistent with the approach taken by Porfeli and colleagues, the five items for each subscale were assigned to one of two parcels comprised of two and three items each.

In the present study, the parcel assignment of the items was determined by the assignment method in the original measurement paper (Porfeli et al., 2011). Consistent with the measurement development paper, Table 10 reports items, parcel assignment, and standardized loadings for items and parcels. Table 11 reports model fit indices for item- and parcel-level measurement models for both the present study and those reported by Porfeli and colleagues (2011) in the original measure development for ease of comparison.

The item-level measurement model in the present study was a marginal fit to the data ($\chi^2 = 1168.6$, $df = 390$, $p < .01$; CFI = .894; RMSEA = .061, SRMR = .057). The present model compared similarly to, although slightly worse than, Porfeli and colleagues' (2011) item-level measurement model ($\chi^2 = 1132.2$, $df = 390$, $p < .01$; CFI = .919; RMSEA = .050, SRMR = .053). Standardized item loadings were generally equivalent, and in some instances stronger in the present study, compared to those reported in the original measurement study.

The parceled measurement model in the present study yielded much better results, demonstrating good fit ($\chi^2 = 91.537$, $df = 39$, $p < .01$; CFI = .982; RMSEA = .050, SRMR = .027) and strong indicator loadings for all factors (β 's = .71 to .96). Model fit for the parceled model was similar to that reported by Porfeli and colleagues (2011) in the original measurement paper ($\chi^2 = 81.4$, $df = 39$, $p < .01$; CFI = .991; RMSEA = .038, SRMR = .025). Based on these results, the parceled measurement model was retained for use in subsequent measurement and structural models.

Table 10
VISA Items, Parcel Assignment, and Standardized Loadings

<u>Construct</u>	<u>Items</u>	<u>Parcel</u>	<u>Item Loading (Std.)</u>		<u>Parcel Loading (Std.)</u>	
			Present study	Porfeli et al., 2011	Present study	Porfeli et al., 2011
<i>Career Exploration</i>						
In-Breadth Career Exploration						
	1. casually learning about careers that are unfamiliar to me in order to find a few to explore further.	1	.69	.66	.81	--
	2. trying to have many different experiences so that I can find several jobs that might suit me.	1	.70	.68		--
	3. thinking about how I could fit into many different careers.	2	.78	.75	.83	--
	4. learning about various jobs that I might like.	2	.82	.70		--
	5. keeping my options open as I learn about many different careers.	2	.71	.69		--
In-Depth Career Exploration						
	6. identifying my strongest talents as I think about careers.	1	.70	.65	.81	--
	7. learning as much as I can about the particular educational requirements of the career that interest me the most.	1	.74	.70		--
	8. learning what I can do to improve my chances of getting into my chosen career.	2	.81	.68	.87	--
	9. trying to find people that share my career interests.	2	.57	.54		--
	10. thinking about all the aspects of working that are important to me.	2	.72	.66		--
<i>Career Commitment</i>						
Career Commitment Making						
	11. I know what kind of work is best for me.	1	.57	.65	.73	--
	12. No other career is as appealing to me as the one I expect to enter.	1	.65	.72		--
	13. I have known for a long time what career is best for me.	2	.69	.69	.85	--
	14. No one will change my mind about the career I have chosen.	2	.75	.74		--
	15. I have invested a lot of energy into preparing for my chosen career.	2	.71	.70		--

Identification with Career Commitment					
16. My career will help me satisfy deeply personal goals.	1	.78	.65	.86	--
17. My family feels confident that I will enter my chosen career.	1	.46	.67		--
18. Becoming a worker in my chosen career will allow me to become the person I dream to be.	2	.73	.75	.71	--
19. I chose a career that will allow me to remain true to my values.	2	.73	.67		--
20. My career choice will permit me to have the kind of family life I wish to have.	2	.54	.48		--
<i>Career Reconsideration</i>					
Career Self-Doubt					
21. Thinking about choosing a career makes me feel uneasy.	1	.69	.58	.84	--
22. When I tell other people about my career plans, I feel like I am being a little dishonest.	1	.72	.78		--
23. People who really know me seem doubtful when I share my career plans with them.	2	.64	.66	.80	--
24. I doubt I will find a career that suits me.	2	.83	.78		--
25. I may not be able to get the job I really want.	2	.64	.55		--
Career Flexibility					
26. My work interests are likely to change in the near future.	1	.81	.81	.77	--
27. What I look for in a job will change in the future.	1	.79	.61		--
28. I will probably change my career goals.	2	.84	.80	.96	--
29. My career choice might turn out to be different than I expect.	2	.70	.60		--
30. I need to learn a lot more before I can make a career choice.	2	.69	.65		--

Note: Standardized loadings for parcels not reported by Porfeli et al., (2011).

Table 11

Comparison of VISA Model Fit Indices for Present Study and Porfeli et al., (2011)

<u>Model</u>	<u>Study</u>	χ^2	<i>df</i>	<u>CFI</u>	<u>RMSEA</u>	<u>SRMR</u>
Item indicators	Present study	1168.6*	390	.894	.061	.057
	Porfeli et al. (2011)	1132.2*	390	.919	.050	.053
Parcel indicators	Present study	91.5*	39	.982	.050	.027
	Porfeli et al. (2011)	81.4*	39	.991	.038	.025

Note: * $p < .01$

In an additional effort to reduce number of dimensions, and thereby reduce the complexity of the measurement and structural models to conserve power, several additional measurement models for the VISA were tested. First, a second-order factor structure was tested in which the item-level indicators load onto the six established identity factors, which load onto a single higher order factor of identity. This model showed poor fit to the data ($\chi^2 = 1591.442$, $df = 399$, $p = .000$; CFI = .838; RMSEA = .075, SRMR = .121). This model was also conducted using parcels as first-order indicators, which again showed poor fit ($\chi^2 = 569.227$, $df = 48$, $p = .000$; CFI = .822; RMSEA = .142, SRMR = .139). This model was then attempted as a first-order, single-factor structure using the subscale means as indicators of the latent construct vocational identity. This model is conceptually similar, yet simpler, approach to the previous two models as it eliminates the first-order item-level indicators. This approach was conducted to determine whether the poor fit for the previous second-order, single-factor model was perhaps due to low power necessary to test the hierarchical structure. This model indicated extremely poor fit ($\chi^2 = 446.788$, $df = 9$, $p = .000$; CFI = .546; RMSEA = .301, SRMR = .144).

As a second approach, a second-order, single-factor structure was tested in which the flexibility subscale and items are dropped from the model. In this approach, item-

level indicators for the other five subscales load onto the five remaining established identity factors, which load onto a single higher-order factor of identity. This approach is consistent with the original five-factor structure of the VISA prior to fairly recent additions of a sixth flexibility subscale, which was included based on advancements in identity research (Porfeli, 2009). This approach also showed poor overall model fit ($\chi^2 = 996.596$, $df = 270$, $p = .000$; CFI = .870; RMSEA = .071, SRMR = .084). This model was also conducted using parcels as first-order indicators, which again showed poor fit ($\chi^2 = 250.877$, $df = 30$, $p = .000$; CFI = .900; RMSEA = .117, SRMR = .085).

Finally, a second-order, three-factor structure was examined in which the item-level indicators load onto the six established identity factors, which load onto three second-order factors of exploration (in-breadth, in-depth), commitment (commitment making, identification with commitment), and reconsideration (self-doubt, flexibility). This factor structure was slightly better than the other item-level approaches, however, also demonstrated poor overall fit ($\chi^2 = 1289.583$, $df = 396$, $p = .000$; CFI = .878; RMSEA = .065, SRMR = .085). This model was also conducted using parcels as first-order indicators and again showed poor fit ($\chi^2 = 243.086$, $df = 45$, $p = .000$; CFI = .932; RMSEA = .090, SRMR = .083).

Overall, attempts to reduce the number of dimensions in the measurement model by identifying a higher-order structure were unsuccessful as alternative approaches yielded poor model fit. As such, the single-order, six-factor model of vocational identity using parcel indicators (see figure x for conceptual depiction) was retained as the best measurement approach ($\chi^2 = 91.537$, $df = 39$, $p < .01$; CFI = .982; RMSEA = .050,

SRMR = .027).

Volition

Volition was specified using the four subscale items as indicators. A first order CFA of volition indicated that the CFI and SRMR were well within the thresholds for acceptable fit. However, the significant chi-square value and an inflated RMSEA, which is marginally acceptable according to some previous thresholds (Brown & Cudeck, 1993), indicated poor overall model fit ($\chi^2 = 11.624$, $df = 2$, $p = .003$; CFI = .990; RMSEA = .095; SRMR = .016). In light of the small number of items, no substantive exploration of the factor structure could be conducted, nor could items be removed. As such, modification indices were consulted to determine whether any adjustments were indicated to improve model fit.

Modification indices indicated several adjustments to improve model fit. Any adjustments based on modification indices should be theoretically predicated and applied to all instances within the measurement model for which that theoretical assumption applies (Kline, 2015). Of the modification indices suggested in the present study, one made plausible sense—to correlate the error terms on two of the indicators. Modification indices suggested correlating error terms between items 3 and 4. Correlating error terms suggests that there is some commonality among the unexplained variances that is not explained by the latent construct to which they are related. This can happen due to multicollinearity, method effects, or similarity in item language. Items 3 (“I feel able to change jobs if I want to”) and 4 (“I feel total control over my job choices”), although not demonstrating correlations at levels indicating multicollinearity, do appear to use

particularly similar language. Item 3 appears to be somewhat of a specific logical corollary of item 4, as one who feels “total control” over job choice would logically therefore “feel able to change jobs” if desired. Given the similarity in the items, the error terms were permitted to correlate. Correlating the error terms among item 3 and 4 appeared to improve the model and produced excellent fit ($\chi^2 = 2.353$, $df = 1$, $p = .125$; CFI = .999; RMSEA = .050; SRMR = .007).

Career Adaptability

As mentioned, the independent measurement model for career adaptability was examined as a second-order, four-factor measurement model to allow examination of fit for both the item-level indicators loading onto respective subscales (first order), as well as the subscales as indicators of the higher order factor of adaptability (second order). This second-order model therefore allowed for a more detailed inspection of whether adaptability subscales possessed adequate properties to warrant use of subscale means as indicators in the subsequent analyses. The CFA of adaptability indicated acceptable fit, again with a significant chi-square ($\chi^2 = 180.46$, $df = 50$, $p = .000$; CFI = .962; RMSEA = .070; SRMR = .033) but with acceptable to good fit indices otherwise.

Total Measurement Model

Finally, after determining the fit for each latent construct independently, the measurement models were estimated simultaneously to determine the overall model fit (see Table 9). All constructs were modeled as determined by the independent measurement models and career adaptability was modeled more simply as a single-order, four factor construct using subscale means as indicators. Results indicated that, despite a

significant chi-square value, the model was an excellent fit to the data ($\chi^2 = 458.461$, $df = 216$, $p = .000$; CFI = .963; RMSEA = .046; SRMR = .039) and all loadings between latent constructs and their respective indicators were strong (β 's = .675 to .937).

Structural Models

Once well-fitting measurement models have been established, the full structural model can be estimated (Weston & Gore, 2006). Structural models are presented below and model building progresses from simplest to most complex models to examine model fit and findings at each stage. Structural models begin by fitting baseline models to establish relationships among predictors and outcomes. Subsequently, mediating variables are entered into the model to examine the presence of direct and indirect effects. Finally, alternative models are examined to identify the best fitting model for the data. Covariates including, gender, race/ethnicity, participant education, current enrollment, sample source, and age were included for each model. Subsequently, non-significant covariates were dropped from the model and models were re-estimated to conserve power and maintain good model fit. Fit indices and results for the final version of each model are discussed below with accompanying figures.

Baseline Model

Analyses began by fitting baseline structural models (see Figure 14) in which the six latent identity variables were regressed on the predictors to establish any direct effects. Results indicated that the model was an acceptable fit to the data ($\chi^2 = 353.163$, $df = 125$, $p = .000$; CFI = .943; RMSEA = .058; SRMR = .046). Associations between identity dimensions and predictors generally appeared to be in expected directions such

that, higher levels of contextual constraints (e.g., economic constraints and marginalization) were associated with lower levels of exploration and commitment but higher levels of reconsideration. Results indicated that economic constraints did not significantly predict any of the six identity outcomes. Of the six identity dimensions, three (identification with career commitment, self-doubt, flexibility) were significantly associated with marginalization.

Null findings suggested that neither dimension of career exploration was significantly associated with predictors (β 's = $-.057$ to $.030$, p 's $> .245$). Additionally, within the career commitment domain, career commitment making was not significantly associated with either economic constraints ($\beta = -.061$, $p = .226$) or marginalization ($\beta = -.067$, $p = .214$). These findings suggest no significant direct relationships between predictors and either dimension of career exploration and no significant relationship between predictors and the commitment making dimension of career commitment.

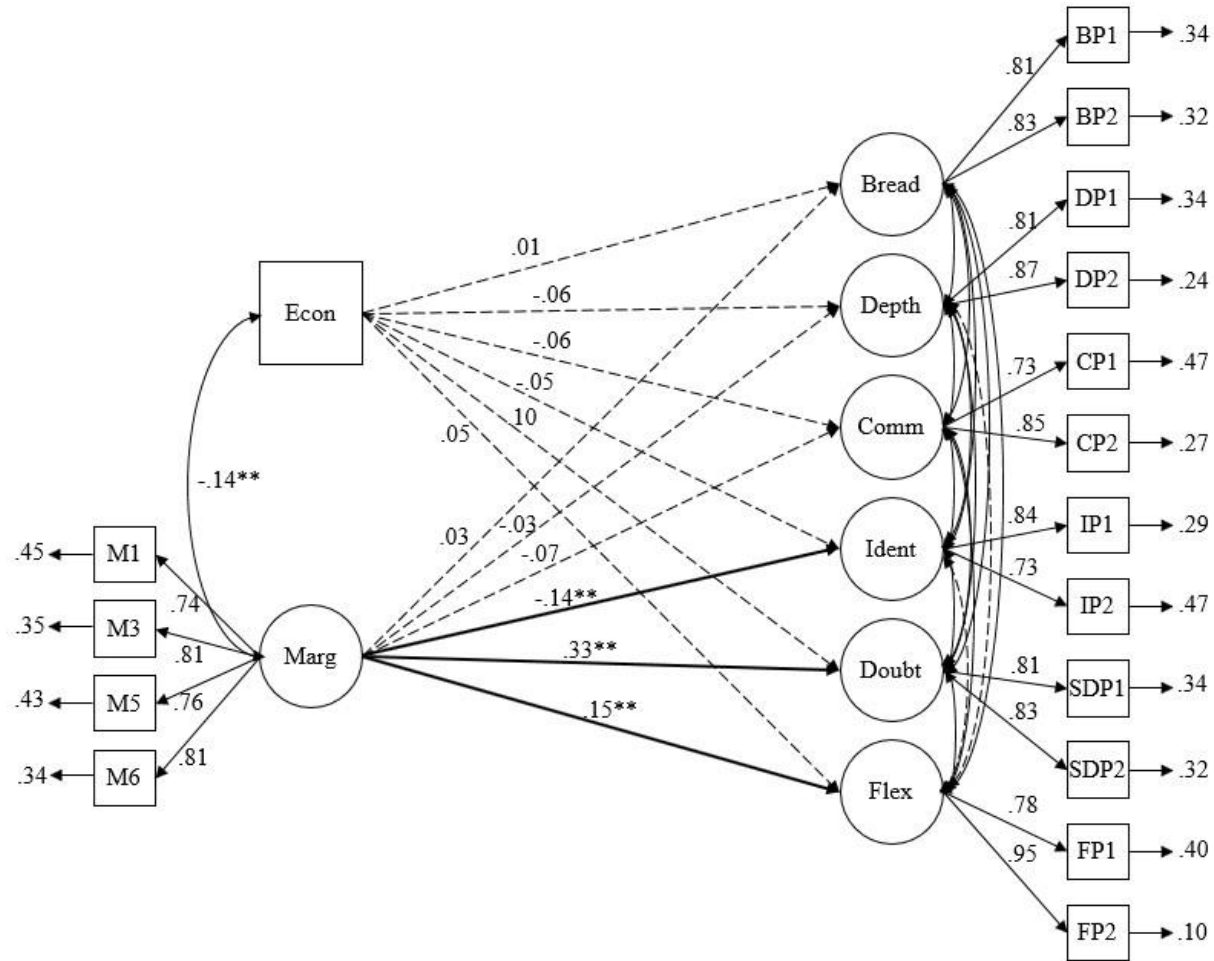


Figure 14. Baseline structural model of outcomes regressed on predictors

Note: $**p < .01$, $*p < .05$; $\chi^2 = 353.163$, $df = 125$, $p = .000$; CFI = .943; RMSEA = .058; SRMR = .046; Dashed lines = non-significant associations; Econ = Economic constraints; Marg = Marginalization; Bread = In-breadth Exploration; Depth = In-depth Exploration; Comm = Career Commitment Making; Ident = Identification with Career Commitment; Doubt = Self-doubt; Flex = Flexibility.

By contrast, findings indicated significant paths between marginalization and the three remaining identity dimensions, identification with career commitment, self-doubt, and flexibility. Results showed a modest significant negative association between identification with one's career commitment and marginalization ($\beta = -.140$, $SE = .053$, $p = .009$), suggesting that higher levels of marginalization are associated with lower levels of identifying with one's career choice. Self-doubt was significantly, positively, and fairly robustly, associated with marginalization ($\beta = .333$, $SE = .050$, $p = .000$), indicating that higher levels of marginalization predict higher levels of self-doubt. Finally, there was a significant, although weaker, positive association between marginalization and flexibility ($\beta = .153$, $SE = .050$, $p = .002$), indicating that higher levels of marginalization are associated with higher levels of flexibility in one's career commitment.

In summary, one dimension of career commitment (i.e., identification with career commitment) and both dimensions of reconsideration were significantly associated with marginalization. Findings of the baseline model therefore suggest mixed support for research question 1. Hypothesis 1 was not supported, as economic constraints did not significantly predict any of the six dimensions of vocational identity development. Hypothesis 2 was partially supported, as marginalization significantly predicted three of the six dimensions of vocational identity. Overall, the results suggest that marginalization negatively predicts one's level of identification with a career choice and positively predict one's attitudes toward reconsideration (e.g., self-doubt, flexibility) of a career choice.

Hypothesized Partial Mediation Model

As a second step to testing the hypothesized model, intervening variables were entered into the model (see Figure 15) to examine the presence of indirect effects of the predictors on outcome variables via mediating variables (i.e., career adaptability and work volition). In this first mediation model, indirect effects were examined only for the three identity outcome variables and one predictor that were significantly associated according to the baseline model. Economic constraints and dimensions of vocational identity that were not significantly associated in the baseline model were not included in the mediation model, as one would not expect to observe indirect effects among variables with no significant direct relationships. The path loadings, indirect effects, and 95% confidence intervals for estimates were based on 10,000 bootstrapped samples (Preacher & Hayes, 2004). Results of the partial mediation model indicated acceptable model fit ($\chi^2 = 366.520$, $df = 134$, $p = .000$; CFI = .950; RMSEA = .057; SRMR = .064). Findings are discussed below, including bootstrapped 95% confidence intervals for each reported estimate.

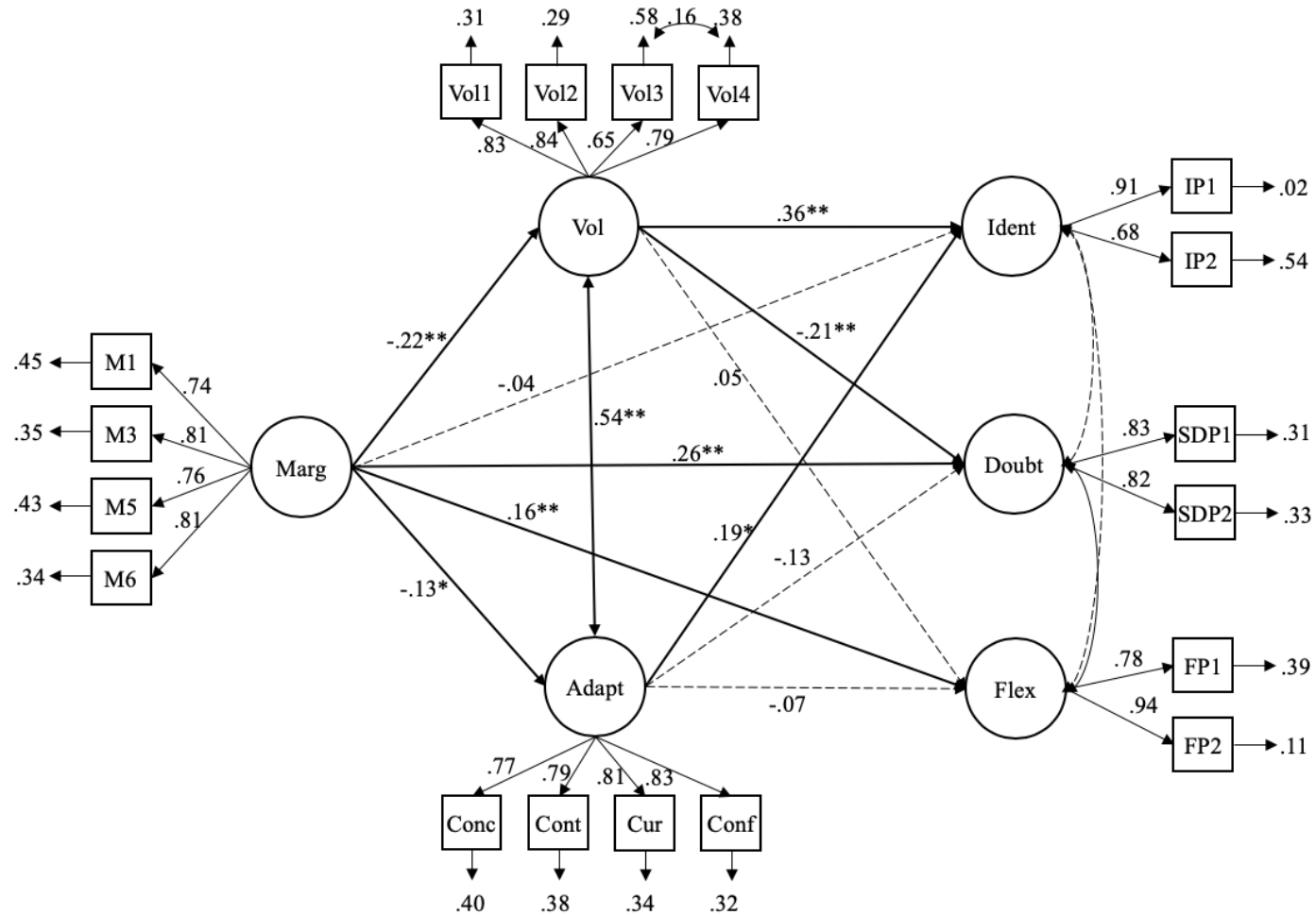


Figure 15. Partial mediation model including only predictors and outcomes indicated as significant in the baseline model
 Note: ** $p < .01$, * $p < .05$; $\chi^2 = 366.520$, $df = 134$, $p = .000$; CFI = .950; RMSEA = .057; SRMR = .064; Dashed lines = non-significant associations; Marg = Marginalization; Vol = Work Volition; Conc = Career Concern; Cont = Career Control; Cur = Career Curiosity; Conf = Career Confidence; Ident = Identification with Career Commitment; Doubt = Self-doubt; Flex = Flexibility.

Examination of the paths between the predictor and mediators indicated significant negative relationships between marginalization and adaptability ($\beta = -.129$, 95% CI = $-.239$ to $-.016$, SE = $.057$, $p = .024$), as well as marginalization and volition ($\beta = -.219$, 95% CI = $-.328$ to $-.104$, SE = $.057$, $p = .000$), suggesting that higher levels of marginalization are associated with lower levels of adaptability and work volition.

Examination of the paths between mediators and outcome variables indicated several significant path loadings. Volition was significantly positively associated with identification with career commitment ($\beta = .358$, 95% CI = $.218$ to $.484$, SE = $.069$, $p = .000$), as well as self-doubt ($\beta = -.210$, 95% CI = $-.360$ to $-.054$, SE = $.078$, $p = .007$). Adaptability was also significantly positively associated with identification with career commitment ($\beta = .185$, 95% CI = $.029$ to $.344$, SE = $.081$, $p = .022$) and nearly significantly associated with self-doubt ($\beta = -.129$, 95% CI = $-.254$ to $.005$, SE = $.066$, $p = .050$) Neither mediator was significantly associated with flexibility.

According to path coefficients, the results suggest that higher levels of marginalization are associated with lower levels of career adaptability and work volition. The findings also suggest that higher levels of work volition and adaptability are associated with higher levels of identification with one's career choice. Further, lower levels of volition significantly predicted higher levels of self-doubt about one's career choice.

Direct effects. Consistent with the baseline model, findings indicated significant direct effects of marginalization on self-doubt ($\beta = .256$, 95% CI = $.137$ to $.373$, SE = $.061$, $p = .000$) and flexibility ($\beta = .155$, 95% CI = $.043$ to $.263$, SE = $.057$, $p = .007$),

suggesting that higher levels of marginalization are associated with higher levels of self-doubt and flexibility in one's career commitment. The relationship between marginalization and self-doubt was somewhat more pronounced. Notably, the direct path between marginalization and identification with career commitment was no longer significant after the mediators were entered into the model ($\beta = -.044$, 95% CI = $-.140$ to $.052$, SE = $.049$, $p = .364$).

Indirect effects. Although many of the path coefficients indicated significant results among predictors, mediators, and outcomes, results indicated only two significant indirect effects. Marginalization had significant indirect effects on identification with career commitment (*Indirect effect* = $-.078$, 95% CI = $-.138$ to $-.036$, SE = $.025$, $p = .002$), as well as self-doubt (*Indirect effect* = $.046$, 95% CI = $.012$ to $.101$, SE = $.022$, $p = .036$), both occurring via the work volition mediation pathway. There were no significant effects on flexibility, which was expected given the non-significant pathways between mediators and flexibility. Indirect effects on identification with career commitment and self-doubt are discussed in detail below.

Marginalization had a significant indirect effect on identification with one's career commitment via work volition (*Indirect effect* = $-.078$, 95% CI = $-.138$ to $-.036$, SE = $.025$, $p = .002$). Closer examination indicates a significant negative pathway from marginalization to volition ($\beta = -.219$, 95% CI = $-.328$ to $-.104$, SE = $.057$, $p = .000$) and a more robust positive pathway from volition to identification with career commitment ($\beta = .358$, 95% CI = $.218$ to $.484$, SE = $.069$, $p = .000$). The direction of these relationships suggests that higher levels of marginalization are associated with lower levels of

identification with one's career commitment as a function of lower level of perceived work volition.

There was no significant indirect effect of marginalization on identification with career commitment via career adaptability (*Indirect effect* = -.024, 95% CI = -.067 to -.002, SE = .016, $p = .134$) according to the p-value. However, the bootstrapped 95% confidence interval for the overall indirect effect suggested a barely significant effect, as the confidence interval did not include zero. In the event of disagreement between the p-value and a bootstrapped confidence interval, it is generally more prudent to rely on the p-value, which suggested a non-significant relationship. The path coefficients suggest that higher levels of marginalization are associated with lower levels of career adaptability ($\beta = -.129$, 95% CI = -.239 to -.016, SE = .057, $p = .024$) and that lower levels of adaptability predict lower identification with one's career ($\beta = .185$, 95% CI = .029 to .344, SE = .081, $p = .022$). The overall indirect effect, however, was not significant.

Marginalization had a significant indirect effect on self-doubt via volition (*Indirect effect* = .046, 95% CI = .012 to .101, SE = .022, $p = .036$), suggesting that marginalization influences self-doubt, in part, as a function of one's level of perceived work volition. Closer examination indicates a significant negative pathway from marginalization to volition ($\beta = -.219$, 95% CI = -.328 to -.104, SE = .057, $p = .000$) and a more robust positive pathway from volition to self-doubt ($\beta = .210$, 95% CI = .054 to .366, SE = .078, $p = .007$). The direction of these relationships suggests that higher levels of marginalization are associated with higher levels of self-doubt as a function of

lower levels of perceived work volition. There was no indirect effect on self-doubt via adaptability (*Indirect effect* = .017, 95% CI = .001 to .048, SE = .011, $p = .147$), which is expected given that the path between adaptability and self-doubt was just barely non-significant ($\beta = -.129$, 95% CI = -.254 to .005, SE = .066, $p = .050$).

In sum, the overall model was a good fit to the data ($\chi^2 = 366.520$, $df = 134$, $p = .000$; CFI = .950; RMSEA = .057; SRMR = .064). A review of the path coefficients indicates a number of significant relationships among variables. There was a significant negative relationship between the predictor and both mediators, suggesting that higher levels of marginalization are associated with lower levels of career adaptability and work volition. There were also several significant relationships between mediators and outcome variables suggesting that higher levels of adaptability ($\beta = .185$, 95% CI = .029 to .344, SE = .081, $p = .022$) and volition ($\beta = .358$, 95% CI = .218 to .484, SE = .069, $p = .000$) were associated with higher career commitment identification, whereas lower levels of volition were associated with higher self-doubt ($\beta = -.210$, 95% CI = -.360 to -.054, SE = .078, $p = .007$).

Examination of direct effects indicated that marginalization had a direct effect on self-doubt ($\beta = .256$, 95% CI = .137 to .373, SE = .061, $p = .000$) and flexibility ($\beta = .155$, 95% CI = .043 to .263, SE = .057, $p = .007$), suggesting that higher levels of marginalization are associated with higher self-doubt and flexibility in one's career commitment. Indirect effects indicated a significant indirect effect of marginalization on career commitment identification via work volition (*Indirect effect* = -.066, 95% CI = -.118 to -.030, SE = .022, $p = .002$) and the direct effect of marginalization on

identification became non-significant ($\beta = -.057$, 95% CI = $-.151$ to $.033$, SE = $.046$, $p = .220$), suggesting a fully mediated relationship. Findings also indicated a significant indirect effect on self-doubt via work volition (*Indirect effect* = $.046$, 95% CI = $.012$ to $.101$, SE = $.022$, $p = .036$), however, the direct effect of marginalization on self-doubt remained ($\beta = .256$, 95% CI = $.137$ to $.373$, SE = $.061$, $p = .000$), suggesting a partially mediated relationship between marginalization and self-doubt.

The total effects were most robust for self-doubt (*Total effect* = $.319$, 95% CI = $.200$ to $.434$, SE = $.060$, $p = .000$), followed by more modest total effects for flexibility (*Total effect* = $.154$, 95% CI = $.043$ to $.258$, SE = $.055$, $p = .005$), and career commitment identification (*Total effect* = $-.147$, 95% CI = $-.259$ to $-.040$, SE = $.056$, $p = .008$).

Alternative Structural Models

Fully mediated model. As a third step to examining the hypothesized partial mediation model, two alternative models were estimated to determine which models fit the data best. First, a full-mediation model was conducted in which direct paths are constrained to 0 and only intervening pathways are allowed to estimate. Results indicated that the full mediation model (Figure 16) showed acceptable fit ($\chi^2 = 390.907$, $df = 137$, $p = .000$; CFI = $.945$; RMSEA = $.058$; SRMR = $.074$). Path loadings were similar between the full and partial mediation models. Comparison of the fit indices suggests that although both demonstrated acceptable model fit, the partial mediation model was a slightly better fit to the data ($\chi^2 = 366.520$, $df = 134$, $p = .000$; CFI = $.950$; RMSEA = $.057$; SRMR = $.064$). The partial mediation model was retained as the preferred model due to the similar path coefficients and slightly better model fit indices.

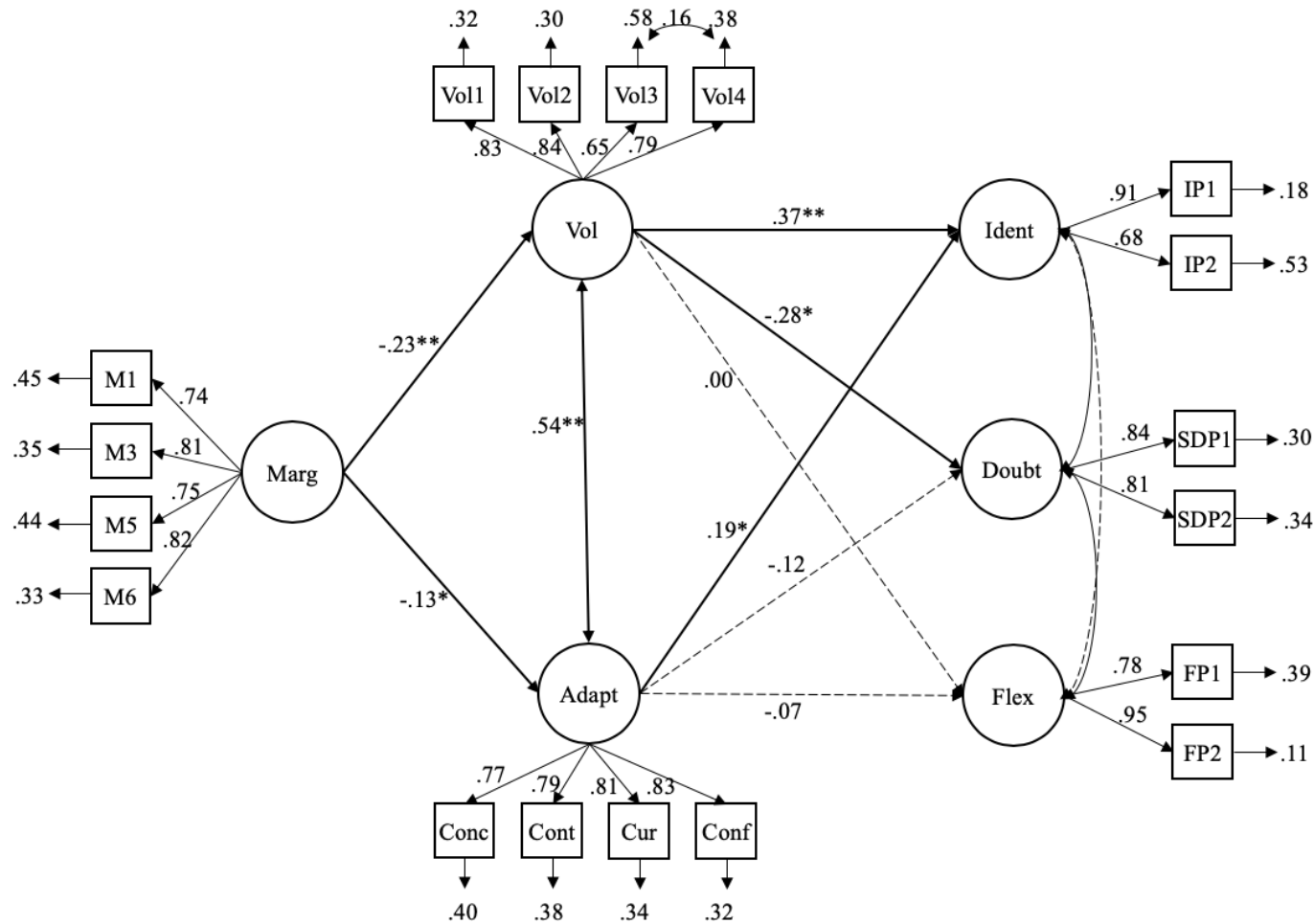


Figure 16. Full mediation model including only predictors and outcomes indicated as significant according to baseline model Note: **p < .01, *p < .05; $\chi^2 = 390.907$, $df = 137$, $p = .000$.; CFI = .945.; RMSEA = .058; SRMR = .074; Dashed lines = non-significant associations; Marg = Marginalization; Vol = Work Volition; Conc = Career Concern; Cont = Career Control; Cur = Career Curiosity; Conf = Career Confidence; Ident = Identification with Career Commitment; Doubt = Self-doubt; Flex = Flexibility.

Hypothesized partial mediation model including all identity outcomes. In addition to the full mediation model, an alternative partial mediation model (see Figure 17) was conducted in which all six vocational identity outcomes were included to determine whether additional significant direct relationships might exist between mediating variables (i.e. adaptability, volition) and the remaining identity outcome variables that were excluded from the previous partial mediation analyses (i.e., in-breadth exploration, in-depth exploration, commitment making). The alternative model was specified in which all identity outcome variables were entered into the model and regressed on both mediators and predictors. This alternative model allowed for both examination of possible direct paths from adaptability and volition on the remaining identity variables, as well as inspection of whether the previously established direct and indirect effects were maintained when accounting for all identity variables. In addition, economic constraints were reentered into the model to determine any significant relationships between this predictor and the mediating variables. In essence, a more complete expression of the originally hypothesized partial mediation model was examined with all variables and predictors and compared to the first partial mediation model, which included only significant identity variables.

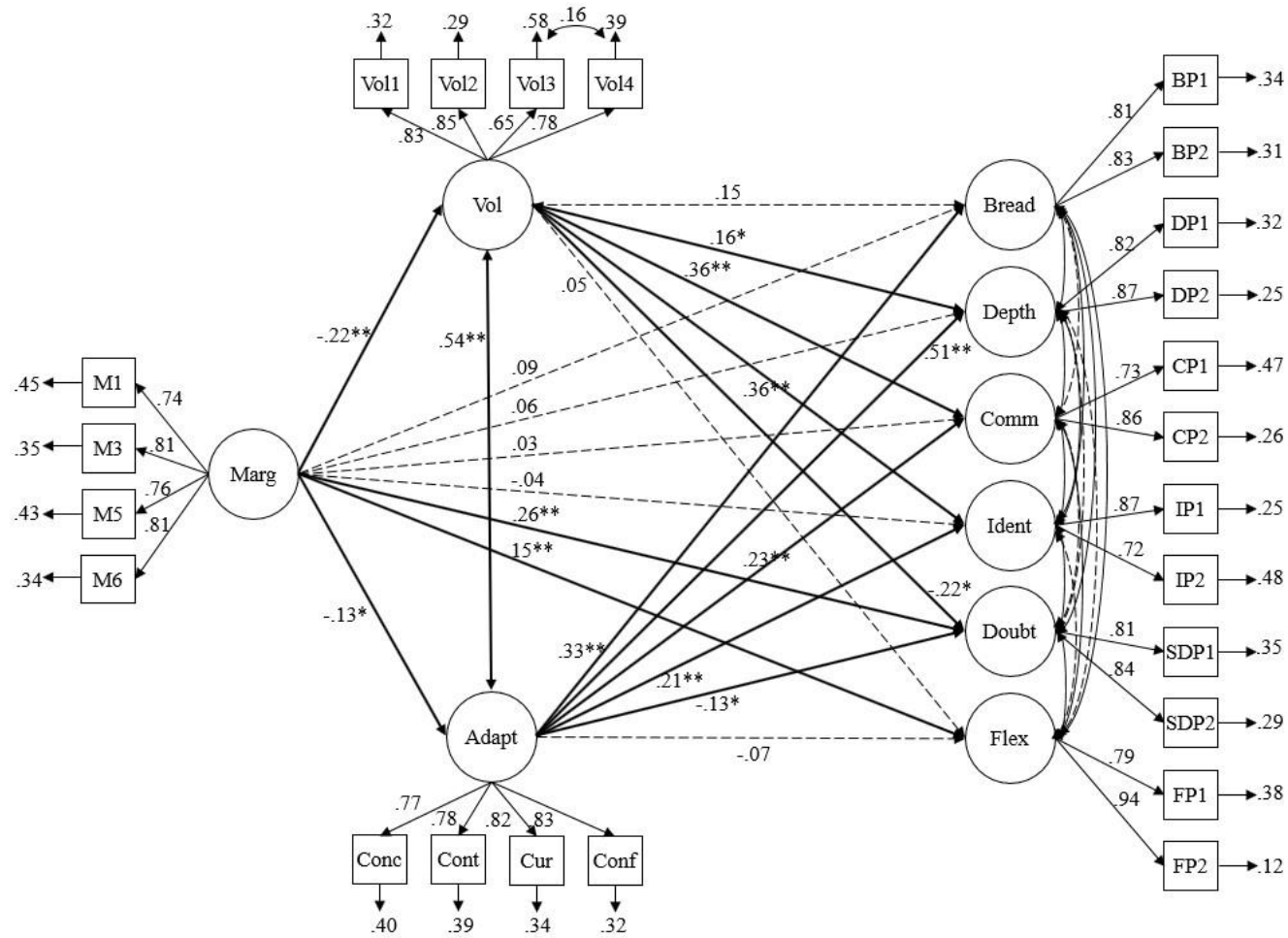


Figure 17. Partial mediation model including all vocational identity outcomes

Note: ** $p < .01$, * $p < .05$; $\chi^2 = 576.593$, $df = 233$, $p = .000$; CFI = .948; RMSEA = .052; SRMR = .057; Dashed lines = non-significant associations; Marg = Marginalization; Vol = Work Volition; Conc = Career Concern; Cont = Career Control; Cur = Career Curiosity; Conf = Career Confidence; Bread = In-breadth Exploration; Depth = In-depth Exploration; Comm = Career Commitment Making; Ident = Identification with Career Commitment; Doubt = Self-doubt; Flex = Flexibility

Results indicated that economic constraints were not a significant predictor of any variable in the model, with the exception of its modest correlation with marginalization ($r = -.139, p = .003$). Economic constraints were therefore dropped, and the model was re-estimated to conserve power and maintain good model fit. Results indicated that the alternative model (Figure 17) was a good fit to the data ($\chi^2 = 576.593, df = 233, p = .000$; CFI = .948; RMSEA = .052; SRMR = .057) with roughly equivalent fit, although better according to some indices, compared to the first partial mediation model (Figure 15; $\chi^2 = 366.520, df = 134, p = .000$; CFI = .950; RMSEA = .057; SRMR = .064).

Examination of the paths between marginalization and the mediators again indicated significant negative relationships between marginalization and adaptability ($\beta = -.128, 95\% \text{ CI} = -.238 \text{ to } -.015, \text{ SE} = .057, p = .025$), as well as marginalization and volition ($\beta = -.218, 95\% \text{ CI} = -.326 \text{ to } -.103, \text{ SE} = .057, p = .000$), suggesting that higher levels of marginalization are associated with lower levels of adaptability and work volition.

Examination of the new paths between mediators and outcome variables indicated a number of significant path loadings. Adaptability was significantly associated with all identity outcome variables, except flexibility, in expected directions. The associations between adaptability and in-breadth exploration ($\beta = .330, 95\% \text{ CI} = .189 \text{ to } .463, \text{ SE} = .070, p = .000$) and in-depth exploration ($\beta = .510, 95\% \text{ CI} = .402 \text{ to } .613, \text{ SE} = .054, p = .000$), were fairly robust, followed by somewhat more modest associations with commitment making ($\beta = .231, 95\% \text{ CI} = .091 \text{ to } .362, \text{ SE} = .069, p = .001$) and identification with career commitment ($\beta = .205, 95\% \text{ CI} = .073 \text{ to } .332, \text{ SE} = .066, p$

= .002), and finally the smallest, and only negative significant association was with self-doubt ($\beta = -.130$, 95% CI = $-.256$ to $.001$, SE = $.065$, $p = .046$).

Volition appeared to be positively associated with in-depth exploration ($\beta = .159$, 95% CI = $.028$ to $.279$, SE = $.064$, $p = .013$), commitment making ($\beta = .356$, 95% CI = $.212$ to $.496$, SE = $.073$, $p = .000$), identification with career commitment ($\beta = .355$, 95% CI = $.221$ to $.483$, SE = $.066$, $p = .000$), and negatively associated with self-doubt ($\beta = -.218$, 95% CI = $-.363$ to $-.065$, SE = $.076$, $p = .004$). There were no significant associations between volition and either in-breadth exploration or flexibility.

The results suggest that higher levels of adaptability are associated with higher levels of career exploration, particularly in-depth exploration, and higher levels of commitment making processes (e.g., commitment making, identifying with commitment). Similarly, higher levels of volition are associated with higher levels of exploration, although not in-breadth exploration, and higher levels of commitment making processes. Finally, both mediators were negatively related to self-doubt but not flexibility, suggesting that higher levels of adaptability and volition are associated with lower levels of self-doubt.

Direct effects. Results indicated similar direct effects results compared to the original partial mediation model, indicating significant direct effects of marginalization on self-doubt ($\beta = .261$, 95% CI = $.142$ to $.377$, SE = $.060$, $p = .000$) and flexibility ($\beta = .154$, 95% CI = $.040$ to $.264$, SE = $.057$, $p = .007$). The strength of direct effects were similar between this model and the original partial mediation model. Again, the direct effect of marginalization on identification became non-significant after mediators were

entered into the model ($\beta = -.042$, 95% CI = $-.139$ to $.055$, SE = $.050$, $p = .402$).

Consistent with the baseline model, no significant direct effects were observed between marginalization and the three other identity outcome variables (i.e., in-breadth exploration, in-depth exploration, commitment making).

Indirect effects. Consistent with the original partial mediation model, examination of indirect effects indicated significant indirect effects of marginalization on identification with career commitment (*Indirect effect* = $-.077$, 95% CI = $-.135$ to $-.035$, SE = $.025$, $p = .002$) and self-doubt (*Indirect effect* = $.048$, 95% CI = $.014$ to $.101$, SE = $.022$, $p = .029$), both via work volition. The indirect effects on each of these outcomes via adaptability were again non-significant. No significant paths between mediators and flexibility were observed, nor were there any significant indirect effects.

Findings indicated a number of significant indirect effects of marginalization on identity outcome variables that were excluded from the previous model. For example, results indicated significant indirect effects of marginalization on in-depth exploration via both the adaptability (*Indirect effect* = $-.065$, 95% CI = $-.128$ to $-.009$, SE = $.031$, $p = .033$) and volition pathways (*Indirect effect* = $-.035$, 95% CI = $-.076$ to $-.008$, SE = $.017$, $p = .039$). However, given that the baseline model indicated no significant direct effect of marginalization on in-depth exploration, it would be illogical to expect that a significant indirect effect of marginalization on an in-depth exploration would exist. A better interpretation is that the predictor has a significant relationship with the mediator and the mediator has a significant relationship with the outcome variable, however, the predictor does not have a significant relationship with the outcome as a function of the

mediator. In other words, the pathways are better interpreted as distinct direct effects between predictors and mediators, as well as mediators and outcomes, rather than as meaningful explanatory pathways describing the relationship between predictor and outcome. As such, the indirect effects were not reported for outcomes that were identified as non-significant in the baseline model.

In sum, the alternative partial mediation model demonstrated similarly good fit compared to the original partial mediation model, which included only identity outcomes that were significantly associated with a predictor. There were no major differences across mediation models in the observation, nature, or magnitude of direct and indirect effects. Consistent with the previous mediation model, significant direct relationships between marginalization and reconsideration dimensions (i.e., self-doubt, flexibility) remained, suggesting that higher levels of marginalization have a direct positive association with one's level of self-doubt and flexibility about their career choice. Additionally, marginalization, again, appeared to have a significant indirect effect on identification with one's career commitment and self-doubt via one of the mediators, volition. The indirect effects suggest that higher marginalization is associated with lower identification with one's career choice and higher self-doubt as a function of lower levels of perceived volition over what one might choose. Finally, consistent with the first partial mediation model, the total effects of the model were most robust for self-doubt (*Total effect* = .325, 95% CI = .207 to .438, SE = .059, $p = .000$), followed by more modest total effects for flexibility (*Total effect* = .153, 95% CI = .042 to .258, SE = .055, $p = .005$), and identification with career commitment (*Total effect* = -.146, 95% CI = -.256 to -.034,

SE = .057, $p = .010$).

Given the similarity between models in goodness of fit and agreement on observed effects, the alternative partial mediation model examining all identity outcomes is preferred and will be retained as the final partial mediation model. The alternative model allowed for the additional examination of relationships among all identity outcomes and mediators. This examination highlighted several previously unobserved, significant, and in some instances quite robust, paths between mediators and outcomes. The alternative model therefore captures a more complete picture of the relationship between marginalization, adaptability, volition, and vocational identity processes.

Manifest path analysis of partial mediation model with all outcomes. As a final step in the analyses, the retained partial mediation model with all outcome variables was re-estimated, however, all variables were included as manifest variables rather than latent constructs. The impetus for this analysis is to evaluate the extent to which the retained latent variable model, which was somewhat complex given the sample size, may have yielded different findings (e.g., fewer paths, weaker coefficients) compared to a more parsimonious manifest path model; differences that could presumably be attributed to differences in power between the two models. The manifest path model, as it has fewer parameters to be estimated, may possess better power to detect significant effects within the model. Estimating the manifest path model enables comparison of model fit and coefficients across the two models to determine whether estimates are largely different. Additional significant paths or coefficients that are substantially larger in the manifest model may indicate that the latent model was underpowered.

The manifest path model (see Figure 18) was conducted using means for each construct and covariates were entered according to the same method as previous models. Results indicated that the path model demonstrated diminished fit ($\chi^2 = 85.644$, $df = 6$, $p = .000$; CFI = .944; RMSEA = .165; SRMR = .072) compared to the retained latent mediation model (Figure 17; $\chi^2 = 576.593$, $df = 233$, $p = .000$; CFI = .948; RMSEA = .052; SRMR = .057). Examination of the path coefficients across models indicated no differences in the identification of significant paths and path loadings were generally stronger in the latent variable model. The manifest variable model indicated an additional significant indirect effect of marginalization on career commitment identification via adaptability (*Indirect effect* = -.035, 95% CI = -.069 to -.010, SE = .015, $p = .019$).

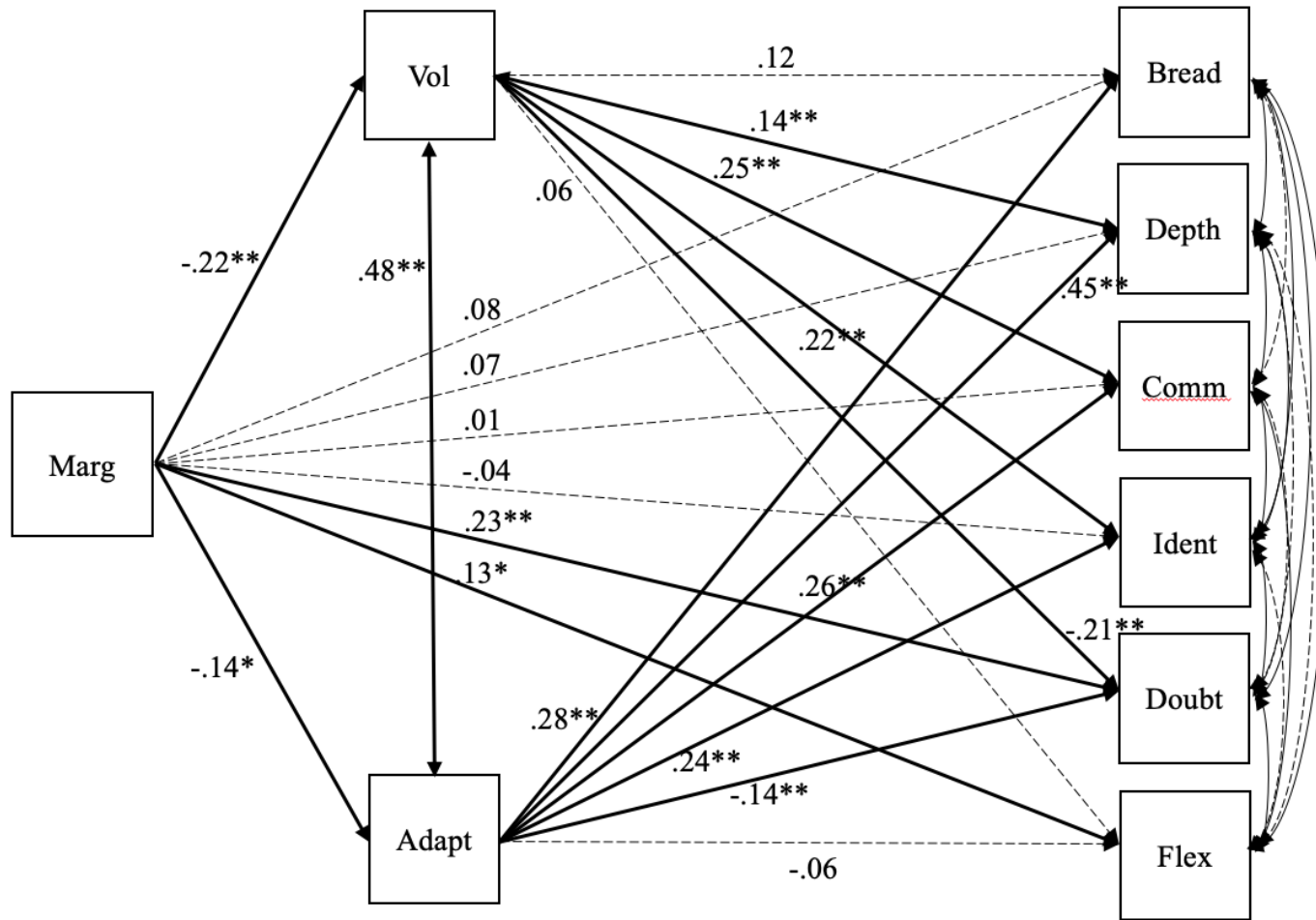


Figure 18. Manifest partial mediation path model with all outcomes

Note: **p < .01, *p < .05; $\chi^2 = 85.644$, $df = 6$, $p = .000$; CFI = .944; RMSEA = .165; SRMR = .072; Dashed lines = non-significant associations; Marg = Marginalization; Vol = Work Volition; Adapt = Career Adaptability; Bread = In-breadth Exploration; Depth = In-depth Exploration; Comm = Career Commitment Making; Ident = Identification with Career Commitment; Doubt = Self-doubt; Flex = Flexibility

Despite this additional significant indirect effect, the partial mediation model conducted with latent variables and including all identity outcomes (Figure 17) was retained as it demonstrated much better model fit and generally stronger path coefficients. The improved model fit in the latent variable model may owe to the latent variable model's ability to account for measurement error, which is otherwise unaccounted for in the manifest path model. Moreover, although the path model estimated fewer paths, it also incorporated fewer observed variables, which contributes to fewer model degrees of freedom, defined as the difference between the number of observations and parameters to be estimated (Kline, 2015). Models with fewer model degrees of freedom often require larger samples (MacCallum, Browne, & Sugawara, 1996). It may therefore be plausible that the latent variable model actually maintained better power than the manifest model as a result of larger model degrees of freedom.

Summary of Findings

A summary of the support for the primary research questions and hypotheses is described below. A total of five structural models were conducted to test the hypothesized conceptual model of career development among risk-immersed youth. Model building progressed from testing the most parsimonious models, starting with the baseline model, to examination of increasingly complex mediation models, and included several alternative models to determine the best fitting model. A summary of the models with corresponding fit indices can be found in Table 12. A more detailed review of the findings for each model can be found in the preceding text within the results section.

Table 12.

Summary Table of Fit Indices for Examined Structural Models

<u>Model</u>	<u>χ^2</u>	<u>df</u>	<u>p</u>	<u>CFI</u>	<u>RMSEA</u>	<u>SRMR</u>
<i>Figure 14.</i> Baseline structural model of direct effects of predictors on outcome variables	353.163	125	.000	.943	.058	.046
<i>Figure 15.</i> Partial mediation model including only predictors and outcomes indicated as significant in the baseline model	366.520	134	.000	.950	.057	.064
<i>Figure 16.</i> Full mediation model including only predictors and outcomes indicated as significant in the baseline model	390.907	137	.000	.945	.058	.074
<i>Figure 17.</i> Partial mediation model including all vocational identity outcomes	576.593	233	.000	.948	.052	.057
<i>Figure 18.</i> Manifest partial mediation path model with all outcomes	85.644	6	.000	.944	.165	.072

Findings of the baseline model (Figure 14) suggested mixed support for Research Question 1: “To what degree do contextual constraints predict vocational identity development among emerging adults?” Hypothesis 1 was not supported, as economic constraints did not significantly predict any of the six dimensions of vocational identity development. Hypothesis 2 was partially supported, as marginalization significantly predicted three of the six dimensions of vocational identity. Overall, the results suggest that marginalization negatively predicts one’s level of identification with a career choice and positively predict one’s attitudes toward reconsideration (e.g., self-doubt, flexibility) of a career choice.

The latent variable partial mediation model in which all six identity outcomes are included was retained as the final model (see Figure 17), as it was superior to the other models when considering both the overall fit to the data and ability to capture the most accurate and comprehensive depiction of relationships among variables. Results indicated significant direct effects of marginalization on self-doubt ($\beta = .261$, 95% CI = .142 to .377, SE = .060, $p = .000$) and flexibility ($\beta = .154$, 95% CI = .040 to .264, SE = .057, $p = .007$) and the direct effect of marginalization on identification became non-significant after mediators were entered into the model ($\beta = -.042$, 95% CI = -.139 to .055, SE = .050, $p = .402$). Consistent with the baseline model, no significant direct effects were observed between marginalization and the three other identity outcome variables (i.e., in-breadth exploration, in-depth exploration, commitment making).

Examination of indirect effects indicated significant indirect effects of marginalization on identification with career commitment (*Indirect effect* = $-.077$, 95%

CI = -.135 to -.035, SE = .025, $p = .002$) and self-doubt (*Indirect effect* = .048, 95% CI = .014 to .101, SE = .022, $p = .029$), both via work volition. The indirect effects on each of these outcomes via adaptability were again non-significant. No significant paths between mediators and flexibility were observed, nor were there any significant indirect effects.

Taken together, the findings suggest that marginalization has a fully mediated effect on identification with career commitment, partially mediated effect on self-doubt, and direct effect on flexibility. The total effects of the model were most robust for self-doubt (*Total effect* = .325, 95% CI = .207 to .438, SE = .059, $p = .000$), followed by more modest total effects for flexibility (*Total effect* = .153, 95% CI = .042 to .258, SE = .055, $p = .005$), and identification with career commitment (*Total effect* = -.146, 95% CI = -.256 to -.034, SE = .057, $p = .010$).

In addition, there were a number of significant paths between mediators and vocational identity outcomes, except flexibility, suggesting a host of interesting direct effects of adaptability and volition on vocational identity processes. Path coefficients between mediators and identity outcomes ranged from weak ($\beta = .13$, 95% CI = -.256 to .001, SE = .065, $p = .046$) to fairly robust relationships ($\beta = .51$, 95% CI = .402 to .613, SE = .054, $p = .000$).

The final model (Figure 17) provided mixed support for Research Question 2: “To what degree is the relationship between contextual constraints and vocational identity development mediated by additional psychosocial career development variables (i.e., career adaptability, work volition)?” Hypothesis 3 was not supported, as economic

constraints did not have any significant indirect effects on vocational identity dimensions via either work volition or career adaptability. The baseline model findings effectively precluded the examination of Hypothesis 3, as no direct effects between economic constraints and any identity dimensions were established as a prerequisite to examining any indirect effects. The final model provided mixed support for Hypothesis 4, as findings indicated significant indirect effects of marginalization on vocational identity via volition, but not adaptability, for two of the six identity outcomes.

CHAPTER FIVE: DISCUSSION

The present study examined an integrative conceptual framework describing the career development of risk-immersed youth. Drawing from the Psychology of Working Theory (Blustein, 2006; Duffy et al., 2016) and Career Construction Theory (Savickas, 2005, 2012), the present study integrates career concepts within an applied, identity-focused, developmental perspective offered by Phenomenological Variant of Ecological Systems Theory (Spencer, 2006). Results indicated that social marginalization adversely influences career identity development, in part, as a function of one's perceived work volition. Career adaptability and work volition also positively predicted career identity development processes. The present study suggests that social marginalization represents a powerful person-environment interaction that shapes the ways that youth construct their sense of self, understand their position within their social ecology, and anticipate their place in the world of work. Experiences with discrimination across developmental contexts may constrain youth's perceptions of the degree of occupational choice available to them, their own abilities to adapt to contextual barriers, and consequently, limit the privilege and preparedness required to construct and implement an emerging identity as a worker.

Several points of emphasis can be offered regarding the present study's broader contribution to the vocational psychology and career development literatures. The aim of clarifying the alignment between PVEST, the PWT, and CCT within a single framework was to provide an identity-focused model of career development that was more wholly grounded in the phenomenological, cultural, and ecological experiences of risk-immersed

individuals and communities. In so doing, this study builds on efforts within the field of vocational psychology to incorporate developmental principles and more inclusive frameworks for theory and research.

Advancing career scholarship along these lines promotes a wider breadth, depth, and diversity of perspectives within the discipline. Identifying linkages between career theory and theories of human development can strengthen vocational psychology's affiliation with related social sciences. Locating career theory within a broader ecology of conceptual systems (e.g., Overton, 2013) is a critical step to contextualize career processes within broader human development perspectives and provides a useful framework to contemplate relationships among various career constructs.

Regarding the applied contribution of the present study, the examined framework serves as a theoretically integrative and statistically supported explanatory model of career development processes among risk-immersed young people seeking to overcome challenges along the school-to-work transition. The perspective examined in the present study can inform public policy and practice (e.g., career counseling, workforce development programming). This point underscores the value of career theory as an instrument for improving the lives of individuals who have historically been relegated to the margins within society, the social sciences, and the psychological study of work. Efforts to broaden the purview of career development through a stronger emphasis on inclusion and developmentalism are therefore beneficial to the scholarly identity and health of the field, as well as the field's advancement of social justice (Blustein, 2006; Niles & Herr, 2013; Prilleltensky, 1997; Sultana, 2014).

Below, the author interprets the findings of the present study in the context of the methodology and analyses, as well as existing theory and research. Subsequently, the author discusses the present study's theoretical implications for PVEST, the PWT, and CCT. Finally, implications for career and workforce policy and practice are considered, followed by limitations, directions for future research, and concluding remarks.

Discussion of Findings

Marginalization was found to have both direct and indirect effects on vocational identity outcomes. First, the direct effects between marginalization and vocational identity will be discussed, followed by a discussion of the indirect effects. Subsequently, the author discusses the non-significant findings related to economic constraints.

Direct Effects: Marginalization

Analysis of the baseline models indicated that marginalization significantly influenced three of the six vocational identity processes: identification with one's career commitment, self-doubt, and flexibility. These results suggest that higher levels of marginalization are associated with lower levels of identifying with one's career choice and higher levels of self-doubt and flexibility about one's career choice. In other words, youth who experience more marginalization appear less likely to select a career choice that they deeply identify with. They also appear more likely to doubt themselves in pursuing that career and more flexible in their commitment to that career.

Marginalization did not appear to influence one's levels of in-breadth or in-depth exploration, nor was it significantly associated with one's likelihood of making a career commitment. In other words, youth experiencing different levels of marginalization

exhibit similar levels of identity development with regard to broad exploration of a range of careers, deeper exploration of several career choices, and commitment to an occupational choice. Several potential theoretical and methodological explanations for the direct effect findings are discussed below.

Theoretical explanations. The general finding that marginalization influences vocational identity development is consistent with extant theory and research. In the present study, the hypothesized relationship between marginalization and vocational identity represents an examination of the PVEST hypothesis (see Figure 6) that engagement with stressors (e.g., second PVEST component, *net stress engagement*) shapes the development of one's emergent identities (fourth PVEST component).

Drawing from Relational Developmental Systems Theory (Lerner & Overton, 2008) and the Bioecological Model of Human Development (Bronfenbrenner & Morris, 2006), PVEST (Spencer, 2006) critiqued and extended existing developmental theory, claiming that traditional perspectives failed to properly account for one's phenomenological experiences of their own development processes. Spencer (2006) suggested that developmental outcomes are integrally shaped by the phenomenological experience of one's own identities, the contextual conditions in which one develops, and the relations between the two. In the present study (see Figure 8), the Psychology of Working Theory's predictors, economic constraints and marginalization, represented two specific examples of environmental stressors comprising Spencer's (2006) construct of net stress engagement. Career Construction Theory's (Savickas, 2012) vocational identity construct was used in the present analyses as a domain-specific expression of PVEST's

emergent identity construct.

The significant relationship between marginalization and vocational identity provides strong evidence of the relationship between the second (net stress engagement) and fourth (emergent identities) constructs in the PVEST model. PVEST (Spencer, 2006) would therefore explain the findings as an example of the nature by which variation in context characteristics shape normative developmental processes. Specifically, the finding illustrates the way one's subjective experience of encountering stressors within their environment (e.g., marginalization) shapes emergent identity formation (e.g., vocational identity) through a meaning making process describing who one perceives themselves to be and envisions they can become. For youth living in highly marginalizing environments, discriminatory person-environment relations appear to fundamentally shape identity formation processes toward lower identification with a career choice, higher self-doubt, and greater flexibility toward relinquishing that career choice. As youth craft meaning around the individual-context interaction of marginalization, they may generalize these social cognitions to their perceptions of themselves as future career persons. If a young person experiences denigration and exclusion in daily interactions, they may also struggle to envision a place for themselves in the world of work. Resultantly, marginalized youth may struggle to find an occupational choice that they truly identify with, experience increased anxiety about their ability to pursue that career, and consequently abandon that choice.

The findings are also consistent with the Psychology of Working Theory's basic tenets (Blustein, 2006; Duffy et al., 2016). Although the present study examines

vocational identity as a new addition to the PWT model, the findings are consistent with the core principles of the PWT. The PWT sets out to fill a void in the literature by developing a theory for “people on the ‘lower rungs of the social position ladder’— people without sufficient access to financial and social capital, marginalized people (i.e., who are marginalized on the basis of factors such as race, ethnicity, social class, and/or gender), and people who are forced to make involuntary work-based transitions.” (Duffy et al., 2016, p. 127). In doing so, the PWT seeks to describe the career development of individuals “for whom elements of context are often primary in driving the experience of work...by highlighting the role that social class, privilege, and freedom of choice play in career selection and fulfillment” (Duffy et al., 2016, p. 127).

The direct relationship between marginalization and vocational identity processes therefore supports the PWT’s core hypothesis that social oppression impedes career choice and development. Vocational identity has not yet been examined in the context of the relatively recently developed PWT structural model. However, it appears to be closely related to the PWTs core tenets. The VISA (Porfeli et al., 2011) explains identity from a career choice standpoint, characterized by the process of exploring, committing to, and reconsidering or revising one’s career choice. On this basis, vocational identity is directly concerned with the selection and career choice processes outlined within the PWT’s core aims (Duffy et al., 2016).

The present findings that marginalization directly influences vocational identity development are highly consistent with the PWTs hypothesis that career development processes, in particular career choice processes, are constrained by experiences of social

marginalization. The PWT explains that experiences with marginalization can reduce one's connection and investment with mainstream social institutions and expected roles related to those institutions (Duffy et al., 2016). Due to repeated experiences of social exclusion, marginalized youth may feel less invited or connected to the world of work and experience fewer social conditions that support productive socialization into a career identity.

Career Construction Theory (Savickas, 2005, 1012) offers that identity is one of the two meta-competencies that young people require to navigate information economies in the global and evolving occupational landscape of the 21st century (Savickas, 2005). Similar to PVEST, CCT draws from both developmental systems and social constructionism to suggest that youth develop subjective meanings and ambitions for their career development based on their interpretive perception of their own developmental processes. The process of identity formation according to CCT is grounded in the narrative process by which a young person authors meaning, based on person-environment relations, about their previous experiences and future selves. Vocational identity development describes one's subsequent attempts to select and fulfill an occupational role that allows for the implementation of one's self-concepts in a manner that is congruent with their life story (Savickas, 2005).

The findings can be explained from a CCT perspective as a process by which marginalization leads youth to author a story about themselves as unwelcome, insufficient, or inferior within the world of work, thereby inclining youth to feel unprepared to declare an identity. CCT suggests that *matterings* is central to the narrative

development of one's life themes, as it provides an individual with a belief that their vocational story matters to themselves and to others. Marginalization may pose a direct threat toward the progression of vocational identity development by undermining the broader belief that an individual, and what that individual does with their occupational future, matters to society. Accordingly, as one experiences marginalizing interactions, that individual develops a narrative filled with a collection of life themes dominated by the perceptions that one does not matter. As that individual begins to envision their value and role in the world of work, these life themes may impose a sense of futility or impossibility on one's vocational future, thereby undermining continued investment toward clarifying, committing, and expressing a vocational identity.

The results that marginalization is associated with lower commitment identification, higher self-doubt, and higher flexibility, are therefore highly consistent with existing theories of human and career development. PVEST, the PWT, and CCT each offer complementary perspectives in explaining the nature by which marginalization disrupts career development processes among those that experience interpersonal oppression. An interesting aspect of the results was the finding that marginalization appears to influence some dimensions of identity but not others. Specifically, marginalization did not significantly explain in-breadth exploration, in-depth exploration, or commitment making. Several potential theoretical and methodological explanations are explored below.

From a theoretical perspective, it may be that different types of developmental adversities and assets influence different vocational identity processes. Conceptually, the

present study, based on the PWT, considered a fairly narrow scope of potential contextual constraints, including only economic constraints and marginalization. Adopting a conceptual framework that specified a more nuanced, multidimensional picture of developmental assets or net stress engagement might have provided a set of predictors with a more robust and comprehensive impact on vocational identity.

Although the PWT attempts to be inclusive of various forms of marginalization (Duffy et al., 2016), PVEST is somewhat more prescriptive with regard to conceptualizing developmental stress. Social or interpersonal marginalization on the basis of one's identities is included within PVEST's net stress engagement construct, however, it may represent just one single form of developmental stress (Spencer, 2006).

According to PVEST (Spencer, 2006), net stress engagement is a construct that encompasses the net balance of a broad range of developmental stressors and supports. This plural notion of developmental stress and support is consistent with modern perspectives on positive youth development (Bronfenbrenner & Morris, 2006; Leffert, et al., 1998; Lerner, Phelps, Forman, & Bowers, 2009). For example, since the early 1990s, several frameworks have emerged to describe the various developmental assets required for youth to enjoy optimized developmental outcomes. Examples of such PYD asset-based frameworks include the Five Promises from America's Promise (Scales, Benson, Moore, Lippman, Brown, & Zaff, 2008), 40 Developmental Assets from Search Institute (Benson, Scales, Hamilton, & Sesma, 2006), the Social Development Model from Hawkins & Catalano (Hawkins et al., 2009), the National Research Council's Features of Positive Developmental Settings (Eccles & Gootman, 2002), and the factors distilled by

James Connell and colleagues (Connell, Gambone, & Smith, 2001) and Barber and Olsen (1997). Examples of individual and ecological assets facilitative of positive developmental processes and outcomes, might include social support and caring adult relationships, safe spaces, effective and high-quality education, access to resources that promote physical health, social competencies, and positive identity development (Leffert et al., 2008; Scales et al., 2008).

Of course, developmental barriers, risk factors, and adversities are also multiform concepts. Youth, particularly risk-immersed youth, may be exposed to a wide range of these constraints across the various developmental contexts in which they are embedded. This is consistent with the basic tenets of Relational Developmental Systems Theory (Lerner, 2006; Lerner & Overton, 2008; Molenaar, Lerner, & Newell, 2013) and congruent with conceptual and measurement approaches to capturing risk and adversity within existing literature. For example, the landmark adverse childhood experiences (ACES) studies offer a wide variety of examples of the sorts of challenges that youth may encounter in their early lives (Anda et al., 2006; Burke, Hellman, Scott, Weems, & Carrion, 2011).

The ACES literature suggests that youth who experience levels of adversities are more likely to experience poorer psychological, educational, and physical health outcomes later in life (Brown et al., 2009; Dube et al., 2001; Felitti & Anda, 2010; Rossegger et al., 2009). Research has demonstrated that access to a broad array of these assets can reduce risk behaviors (e.g., substance use, violence, school failure), improve outcomes related to thriving (e.g., school success, appreciation for diversity), and

promote resilience to adversity (Benson et al., 2006; Scales & Leffert, 1999). The literature also shows, however, that particular types of adversities predict diverse outcomes and that the predictive validity of a given adversity varies by outcome (Afifi et al., 2008; Nurius, Logan-Greene, & Green, 2012; Hahm, Lee, Ozonoff, & Van Wert, 2010; Porche, Zaff, & Pan, 2017).

Based on this recognition that certain forms of risk or adversity may have different impacts on developmental outcomes, it may be that marginalization operates distinctly, or to a different degree, on certain identity processes. In fact, Spencer (2006) suggested that the concept of net vulnerability or net stress engagement ought to be defined as the net contribution of all stressors and assets considered simultaneously. This argument responds to historical patterns within developmental science in which particular risk and protective factors were selectively and disproportionately associated with certain populations. Spencer, (2006) argues that these trends imposed conceptual and scientific biases contributing toward stereotypic and oppressive discourse about the nature of development among underrepresented populations.

Thus, modern developmental theory explains that marginalization may be just one of the many contextual characteristics, environmental stressors, or experienced adversities that uniquely impact vocational identity development. The present findings may suggest that conceptually, this study is tapping just one of the many developmental stressors that can impact career identity development. Marginalization does appear to influence vocational identity, but it appears to operate most strongly on the reconsideration dimensions of identity, leading youth to doubt and reconsider their career

choice.

Methodological explanations. In addition to potential conceptual or theoretical explanations, there may be methodological explanations for the mixed findings based on the measurement approach used to assess marginalization. First, an important consideration is that each of the endogenous variables (e.g., career adaptability, work volition, vocational identity) that marginalization was hypothesized to predict had a high level of domain-specificity, denoted by the terms “career,” “work,” and “vocational” in the very titles of the measures. By contrast, marginalization was assessed using a global, domain-general, conception of marginalization based on the six items from the Discrimination and Peer Influence measure in the Panel Study of Income Dynamics’ Transition into Adulthood Study (Hill, 1992; The Institute for Social Research, 2015, Section K1). The items assess the frequency of experiencing general discrimination in one’s day-to-day social environment. The items are therefore rather domain-general in that they do not examine any specific context (e.g., work, school), form (e.g., interpersonal, structural), or basis (e.g., race, gender, class, sexual orientation) of discrimination.

The global approach was preferred in the present study due to the inclusive sample that was recruited. The more global measurement strategy allowed youth to reflect on diverse forms of discrimination directed toward them, such as based on race, gender, or social class. However, studies that employ a more domain-specific marginalization measure to assess specific contexts, forms, or bases for discrimination may yield different results regarding the relationship between marginalization and

vocational identity. Extant literature suggests that domain-specific predictors may demonstrate stronger empirical relationships to domain-specific, career-related, outcome variables (Lent & Brown, 2006). Thus, it may be that more domain-specific measures of marginalization predict different dimensions of identity development. However, the approach taken in the present study is consistent with the PWT's non-prescriptive position on the measurement of marginalization (Duffy et al., 2016) and this study's attempt to be inclusive to various forms of discrimination.

A second hypothesis is related to the decision to remove two of the six items from the scale (items 2 and 4) based on exploratory and confirmatory factor analyses. Items 2 and 4 include item stems, "You receive poorer service than other people at restaurants or stores" and "People act as if they are afraid of you." The removal of these items improved the overall measurement model fit, however, it also reduced the scope of the measured construct. To the degree that the removed items contributed meaningful and unique proportions of explained variation in the outcome variables, the removal of the items would have resulted in an overall loss of explained variation in outcome variables. Thus, the removal of the items was necessary to achieve adequate measurement models as a prerequisite to examining the structural models. It is plausible, however, that this may also have influenced the results. This point raises an interesting question regarding the nature by which the conceptual and empirical scope of the construct may influence associations with vocational identity outcomes and presents an intriguing avenue for future empirical exploration.

In summary, marginalization had a significant influence on vocational identity

processes of career commitment identification, self-doubt, and flexibility. These findings are highly consistent with existing theories of human and career development. For youth who experience marginalization, these discriminatory person-context relations may shape important social cognitions about oneself, one's place and connection to the world of work, and consequently, the productive development of one's career identity.

Indirect Effects: Marginalization

The entry of career adaptability and work volition into the mediation models yielded a number of interesting significant findings. The significant relationships among variables are discussed on the basis of both significant path coefficients and indirect effects observed in the model.

Significance of paths. The entry of adaptability and volition to the present model yielded significant relationships between these mediators and both the predictor and outcomes in the model (see Figure 17). There was a significant negative association between marginalization and the mediating variables, suggesting that higher levels of marginalization are associated with lower levels of career adaptability and lower perceived work volition. Additionally, there were significant positive relationships between adaptability, volition, and vocational identity dimensions. Results generally indicated that higher levels of adaptability and volition are associated with higher levels of exploration, commitment, and lower levels of reconsideration. Volition was associated with all identity dimensions, except in-breadth exploration and flexibility. Adaptability was associated with all identity dimensions except flexibility. Adaptability was also significantly and positively associated with volition.

The significant paths between marginalization, adaptability, volition, and identity are consistent with extant theory and research. The specific career development theories examined in the present study provide interesting context for the present findings. The growing literature examining the PWT structural model provides mixed evidence for the associations between the predictor (marginalization) and the mediators (adaptability and volition). The present study found significant associations between marginalization and both volition and adaptability. Although this is highly consistent with the PWT theory, most studies of the PWT to date have shown a link between marginalization and volition but not adaptability (Duffy et al., 2018; Douglass et al., 2017; Kim, Duffy, Lee, Lee, & Lee, 2019; Kozan, Isik, & Blustein, 2019; Tebbe, Allan, & Bell, 2019; Tokar & Kaut, 2018). On balance, the present findings are therefore quite consistent with the PWT theory and existing empirical literature, although the present study adds to previous findings by identifying a significant relationship between marginalization and adaptability. From a PWT lens, the present findings represent the nature by which marginalization (e.g., structural, social, interpersonal) exerts real and perceived constraints on one's range of occupational choices and hampers one's ability to employ self-regulated capacities (e.g., career adaptability) to cope with such barriers and freely determine a career path.

The relationships between the mediators and identity outcomes was also generally consistent with available theory and literature surrounding the PWT (Blustein, 2006; Duffy et al., 2016) and CCT (Savickas, 2005, 2012). The present study found that work volition and career adaptability were significantly related to productive vocational

identity development. The relationship between work volition and vocational identity has little precedent in the PWT empirical literature. To the author's knowledge the present study was the first to examine the relationship between these constructs within the PWT framework. Extant literature does, however, offer some evidence that work volition impacts the career choice process germane to vocational identity formation. For example work volition has been associated with career decision self-efficacy (Duffy, Diemer, & Jadidian, 2012; Jadidian & Duffy, 2012), living a career calling (Duffy & Autin, 2013; Duffy, Autin, Allan, & Douglass, 2015), career commitment (Duffy, Autin, & Douglass, 2016), and work meaning (Allan, Autin, & Duffy, 2014; Duffy, Autin, & Bott, 2015; Duffy, Autin, & Douglass, 2016), all of which bear resemblance to dimensions of vocational identity as specified by the VISA (Porfeli et al., 2011). Thus, the present findings demonstrating a significant association between volition and vocational identity dimensions are largely consistent with existing research investigating similar constructs.

Despite the limited empirical basis for understanding the relationship between volition and identity, the present findings suggest that volition promotes positive identity development (e.g. in-depth exploration, commitment making, commitment identification), and reduces self-doubt. From a PWT perspective, a young person may feel more inclined to move toward more serious consideration of career choices and commit to an occupation if they perceive themselves as having the volitional latitude to do so. The finding that volition promotes commitment identification is particularly interesting as this suggests that youth who perceive themselves to have a wider degree of choices may be more likely to select a career that they deeply identify with. For youth

that experience higher degrees of marginalization it appears that a combination of real and perceived constraints may limit their confidence in choosing a career that they feel deeply connected to; presumably based on a belief that the career is unattainable given their present life circumstances. This latter supposition is supported by the finding that lower perceptions of volition are associated with higher degrees of self-doubt about whether one will ultimately be able to pursue their chosen career.

The present study's findings also demonstrated significant associations between career adaptability and vocational identity. According to Career Construction Theory (Savickas, 2005, 2012), adaptability and identity are the two meta-competencies required by individuals to construct careers in the modern global economy. Whereas identity formation represents progress toward implementing a self-concept through an occupation, adaptability represents the internal psychosocial capacities required to cope with the transitions and tasks en route to doing so. In the progression of developmental phases within CCT, the development of adaptability is hypothesized to precede identity formation (Savickas, 2005). Thus, the significant relationship between adaptability and identity in the present study can be explained by the theoretical position that youth with higher levels of career adaptability are more prepared for the tasks of exploring, committing, and implementing an identity. Consistent with CCT, the findings illustrate that adaptability resources prepare youth toward higher levels of career exploration and commitment processes, while reducing self-doubt about one's career pursuit.

The literature offers a fairly limited body of quantitative studies investigating the relationship between career adaptability and identity outcomes (Guan, Yang, Zhou, Tian,

& Eves, 2016; Hirschi & Valero, 2015; Negru-Subtirica et al., 2015; Merino-Tejedor, Hontangas, & Boada-Grau, 2016; Porfeli & Savickas, 2012). Porfeli and Savickas (2012), in the CAAS-USA measure development study, found associations between adaptability and vocational identity processes that were quite similar to the present study. The strength of association between adaptability and particular VISA subscales in the present study was also consistent with the study by Porfeli & Savickas (2012). Both studies indicated that adaptability's significant associations were strongest with the in-depth exploration dimension and weakest with the self-doubt dimension.

Additional literature also illustrates a strong empirical relationship between adaptability and identity. For example, a study by McArdle, Waters, Briscoe, and Hall (2007) included career adaptability and identity together as indicators of a latent construct of employability among a sample of unemployed adults, thereby demonstrating the close association between the constructs. Longitudinal studies with adolescents indicated significant reciprocal associations between adaptability and identity over time, suggesting that the relationship may be bidirectional rather than unidirectional from adaptability to identity (Negru-Subtirica, Pop, & Crocetti, 2015). Moreover, a recent meta-analysis exploring the relationship between adaptability and various measures of CCT constructs, *adaptivity*, *adapting*, and *adaptation*, indicated that the literature shows a consistently significant relationship between career adaptability and vocational identity (Rudolph, Lavigne, & Zacher, 2017).

The present study's lack of significant association between adaptability and the flexibility dimension of vocational identity is consistent with the Porfeli's and Savickas's

(2012) theoretical hypotheses and empirical findings (Porfeli & Savickas, 2012). The authors suggest that flexibility is a psychological trait variable and explain that it “should relate to willingness to adapt or adaptiveness as a psychological [trait] variable, and not to adaptability resources as a psychosocial variable” (Porfeli & Savickas, 2012, p. 749). The authors further clarify that “the flexibility items pertain to the willingness to adapt to anticipated changes and transitions rather than currently available adaptability resources” (Porfeli & Savickas, 2012, p. 752).

In the present study, the lack of significant associations between mediators and flexibility dimension, as well as the lack of indirect effects for this outcome dimension, may be attributable to the notion that adaptability and flexibility are fundamentally different variables in nature. The present findings are therefore strongly consistent with the original hypotheses and extant literature regarding the relationship between adaptability and VISA processes. Overall, the significant path findings between the mediators and identity outcomes provide strong support for the inclusion of identity within the conceptual model.

The findings are also highly consistent with PVEST’s hypotheses that stress engagement predicts reactive coping processes, which predict emergent identity formation (Spencer, 2006). With regard to PVEST, the mediating variables were meant to represent one’s capacity for reactive coping in the face of environmental stressors. The idea that adaptability represents one’s capacities for employing reactive coping strategies is consistent with CCT’s view of “adaptability as a psychosocial strategy” (Porfeli & Savickas, 2012, p. 749). From a PVEST lens, volition might be viewed as a domain-

specific appraisal of the degree to which one perceives their environment to support or tolerate the expression of coping strategies in service of implementing an identity-congruent career choice. Where adaptability represents one's capacity for maneuvering the occupational landscape (Savickas, 2005), volition may represent an assessment of the degree to which the landscape can be maneuvered. In this way, these two variables provide a complementary expression of PVEST's *reactive coping processes* (see Figure 6; Spencer, 2006). The significant pathways between marginalization, adaptability, volition, and identity are therefore consistent with the hypothesized relationships between the second, third, and fourth components of PVEST. Marginalization appears to influence one's capacity to cope with career developmental tasks and this capacity to cope shapes identity formation specific to the career domain.

Indirect effects. The examination of indirect effects indicated significant indirect effects of marginalization on identification with career commitment (*Indirect effect* = $-.077$, 95% CI = $-.135$ to $-.035$, SE = $.025$, $p = .002$) and self-doubt (*Indirect effect* = $.048$, 95% CI = $.014$ to $.101$, SE = $.022$, $p = .029$), both via work volition. The indirect effects on each of these outcomes via adaptability were non-significant. As mentioned, no significant paths between mediators and flexibility were observed, nor were any significant indirect effects observed. Taken together, the findings suggest that volition fully mediated the effect on identification with career commitment, partially mediated the effect on self-doubt, and neither intervening variable mediated the direct effect on flexibility.

Despite the many significant pathways between marginalization, adaptability,

volition, and identity, only two significant indirect relationships were observed, both occurring through the volition pathway. The significant indirect relationships via work volition are consistent with the PWT's foundation in self-determination theory (Deci & Ryan, 2002), explaining that marginalization promotes less productive identity formation as a result of constraints (e.g., lower volition) on one's ability to impose self-determined and self-regulated choice over one's vocational behaviors.

Notably, no significant indirect effects were observed through adaptability, despite the PWT's theoretical supposition that such effects should be expected. One likely explanation for this is that the direct relationship between marginalization and vocational identity was fairly weak to begin with, thus the observation of any significant indirect pathways would likely be weak at best. The significant indirect effects that were observed via volition do appear to be quite small, thereby lending support to this explanation. As mentioned, the strength of both direct and indirect relationships was likely constrained based on sample size, model complexity, and previously described measurement approach with marginalization.

Additionally, the notion that the relationship between adaptability and other PWT constructs is somewhat weaker than those with volition is quite consistent with the evidence from existing PWT empirical literature. For example, a study of the PWT with an online sample of adults who self-identified as having minority sexual orientation identities indicated significant indirect associations between marginalization and volition but not adaptability (Douglass et al., 2017). Similar findings were reported by Duffy and colleagues (2018) with a sample of racially and ethnically diverse employed adults.

In explaining these findings, the authors suggested that despite strong theoretical rationale, career adaptability may simply not be a good theoretical fit to the PWT model of decent work (Duffy et al., 2018). In considering the applicability of this explanation to the present findings, however, it is important to note that the present study examined vocational identity as an outcome, rather than decent work. Vocational identity is suggested by CCT to be strongly associated with adaptability (Porfeli & Savickas, 2012) and thus more robust relationships or indirect effects with adaptability may be expected.

The present study's observation of fairly robust significant paths between adaptability and identity outcomes partially supports this supposition. It stands to reason, however, that marginalization's relationship with adaptability may simply be weaker than its relation to volition. In other words, it may be the weak association between the predictor and mediator, rather than the mediator and outcome, that explains the lack of indirect effects through the adaptability pathway. This is consistent with the path coefficients observed in the present study. It is therefore likely that compared to adaptability, work volition may account for most of the unique variance in outcomes associated with marginalization (Duffy et al., 2018) in this instance between marginalization and identity.

Duffy and colleagues (2018) also suggested that effects may be related to the measurement approach to capturing career adaptability. The authors argue that the CAAS (Porfeli & Savickas, 2012), used to measure career adaptability, may be somewhat ill-suited for older populations or those not currently enrolled in school. The CAAS (Porfeli & Savickas, 2012) was normed on a population of 10th and 11th grade students within the

US. Although the present sample includes youth that fit the measure's normative sample demographic, broadening the sampling strategy in the present study to include participants of a wider age range and enrollment status may have attenuated the strength of effects. Thus, the developmental appropriateness of the measure may have contributed to the lack of significant indirect effects.

In sum, the non-significant indirect pathways via career adaptability are most likely explained by either a lack of congruence between the sample and the CAAS or by the notion that volition is simply a stronger theoretical and empirical fit within the model, thereby explaining a majority of the unique variance in the mediation model. Overall, however, the indirect effect findings are consistent with extant literature and theory from the PWT (Blustein, 2006; Duffy et al., 2016) and CCT (Savickas, 2005, 2012). Moreover, the significant indirect relationships provide further evidence for PVEST's (see Figure 6; Spencer, 2006) hypothesis that emergent identities (fourth component) are shaped by environmental stressors (second component) as a function of the reactive coping processes (third component) that young people employ in the context of their normative career development processes.

Summary. Overall, the findings that marginalization, adaptability, and volition influence the development of one's vocational identity suggest support for PVEST, PWT, and CCT, as well as the integration of the three in a single conceptual model. The present findings illustrate the ways that personally and socially constructed vocational identities are shaped by one's socially located positionality, experiences, and interactions in the world (e.g., marginalization). For young people, the process of identity formation is

critically influenced by one's perceptions of their capacity to cope with career development tasks and the opportunity landscape that they perceive around them. Youth who perceive themselves as more adaptable and having a wider range of choice, appear to engage in more productive vocational identity development. Moreover, youth experiencing lower levels of marginalization appear to experience more productive identity development, in part, as a function of a stronger perception of volitional privilege.

Direct Effects: Economic Constraints

In the present study, economic constraints were significantly related to the model's other predictor, marginalization, although the relationship was fairly weak and unexpectedly negative, suggesting that higher economic constraints were associated with lower marginalization. Results from the baseline and mediation structural models suggested that economic constraints are not significantly related to any of the latent outcome or mediation variables.

In considering these findings, there does not appear to be a cogent and compelling theoretical explanation for the null effects. Based on PWT theory, economic constraints are hypothesized as a key predictor and were expected to be significantly related to marginalization, career adaptability, and work volition. It is certainly plausible that, for conceptual reasons, economic constraints bear no significant direct effect on vocational identity processes. The PWT, however, has a strong theoretical rationale for the influence of economic constraints on career development variables that are empirically and conceptually related to vocational identity (Blustein, 2006; Duffy et al., 2016).

Previous empirical studies of the PWT have found significant relationships between economic constraints and other PWT variables (e.g., marginalization, adaptability, volition), however, results have been largely mixed. Most studies, although not all, have indicated significant relationships between economic constraints and work volition, whereas fewer have shown associations with marginalization or career adaptability (Allan, Autin, & Duffy, 2014; Allan Tebbe, Bouchard, & Duffy, 2019; Douglass et al., 2017; Duffy et al., 2018; Kim, Duffy, Lee, Lee, & Lee, 2019; Kozan et al., 2019). Thus, although PWT theory hypothesizes significant relationships between economic constraints and PWT variables, empirical studies have shown inconsistent support of these tenets. The inconsistencies within the literature provide important context for the present study's null findings and suggest that the present findings are actually fairly congruent with extant empirical research on the PWT.

It is also plausible that a more *subjective*, psychosocial approach to measuring one's perceived social status or class may have been more congruent with the nature of the other measured variables in the model, thereby leading to stronger associations. The present study used parent education level as an indicator of SES to proxy economic constraints, which represents a more *objective* approach to social class measurement (Diemer et al., 2013). Parent education level is a commonly used indicator of SES in youth-report research (Crosnoe, 2009; Diemer & Ali, 2009; Diemer & Li, 2011; Diemer et al., 2013) and has been demonstrated to be a strong predictor of developmental outcomes (Bradley & Corwyn, 2002; Diemer et al., 2013; Mercy & Steelman, 1982; Scarr & Weinberg, 1978; White, 1982). However, in existing studies of the PWT,

economic constraints have been modeled primarily by indicators of *subjective* social status, such as how one perceives their own position within the social class structure (Autin et al., 2017; Douglass et al., 2017; Kim, Duffy, Lee, Lee, & Lee, 2019).

Existing PWT studies do not provide precedent as to whether either subjective *or* objective social status would predict vocational identity as an outcome variable, as this was a unique proposition in the current study. These studies do, however, present an alternative measurement approach, which captures a more relational and phenomenological experience of class compared to objective measures of economic status. These alternative approaches may offer different benefits when examining the PWT and/or the conceptual framework in the present study. For example, subjective measurement approaches may yield stronger results within self-report attitudinal studies of the PWT, as this method may be most congruent with the nature of the model's other measured variables and the social constructionist foundations of PVEST, the PWT, and CCT. By contrast, objective measures may be more informative within behavioral or observational studies of the PWT that investigate more objective indicators of contextual constraints (e.g., income, education level) and participation in decent work. Further research is needed to clarify the benefits and limitations of these alternative measurement approaches within the PWT paradigm.

In summary, the null findings related to economic constraints diverge from the PWT's theoretical hypotheses. However, are fairly consistent with extant empirical literature indicating mixed relationships between economic constraints and other variables in the PWT framework. Future research should further explore the utility of

various measurement approaches to capturing economic constraints (e.g., subjective, objective) within the PWT research agenda. Having discussed the present study's findings in the context of theoretical, empirical, and methodological considerations, a discussion of the implications for the specific theories included in the present study is offered below.

Theoretical Implications

While the present study contributes to the broader career development literature and offers meaningful findings in the context of existing empirical research, the present study also offers a number of theoretical implications specific to the Phenomenological Variant of Ecological Systems Theory (Spencer, 2006), the Psychology of Working Theory (Blustein, 2006; Duffy et al., 2016), and Career Construction Theory (Savickas, 2005, 2012). These findings are discussed below followed by implications for practice and policy, limitations, and future directions for research.

The primary contribution to PVEST is the career-specific exploration of the model. To date, PVEST has extensive literature documenting its application within education (Chavous, Rivas-Drake, Smalls, Griffin, & Cogburn, 2008; Neblett, Phillip, Cogburn, & Sellers, 2006; Spencer, 1999; Swanson, Cunningham, & Spencer, 2003), mental health (McClain et al., 2016; Seaton, Neblett, Cole, & Prinstein, 2013; Sellers, Copeland-Linder, Martin, & Lewis, 2006), civic engagement and activism (Hope & Spencer, 2017; Wilson, 2009), violence (Spencer, Dupree, Cunningham, Harpalani, & Muñoz-Miller, 2003), religion and spirituality (Spencer, Fegley, & Harpalani, 2003), and positive youth development (Williams, Anderson, Francois, Hussain, & Tolan, 2014).

Although PVEST is a broad framework with application to a range of developmental domains, and there is some theoretical writing on PVEST's application as a career development framework (King & Madsen, 2007), the present study is one of just a few to apply the PVEST model to career development (Ashford & Youngblood, 2002; Dickens & Chavez, 2018; Hughes, 2011; Spencer, Ashford, Thompson, & Hartman, 2002). Thus, the present study supports PVEST's utility as an explanatory framework for career development, particularly when formal career development theories are incorporated within the PVEST framework.

In addition to PVEST, this study contributes to the Psychology of Working literature (Blustein, 2006), particularly the more recently developed PWT structural model (Duffy et al., 2016). Previous studies of the PWT have employed diverse samples, (Duffy et al., 2016) including undergraduate students (Autin, Douglass, Duffy, England, & Allan, 2017), samples of sexual minority adults (Allan, Tebbe, Bouchard, & Duffy, 2019; Douglass et al., 2017), racially and ethnically diverse employed U.S. adults (Duffy et al., 2018), low-income Turkish unemployed adults (Kozan et al., 2019), urban Chinese adult workers (Wang, Jia, Hou, Xu, Zhang, & Guo, 2019), and workers with Chiari Malformation (Tokar & Kaut, 2018). Two studies with mid-life employed adults examined the second half of the PWT model, investigating decent work as a predictor of human needs and wellbeing outcomes (Duffy et al., 2019; Kim, Fouad, Maeda, Xie, & Nazan, 2018). This diversity of samples is a testament to the PWT's concerted efforts to develop a scientific framework that speaks more authentically to the work-related experiences of a broader audience, especially individuals with little economic and social

privilege.

To the author's knowledge, the present study is the first quantitative investigation of the PWT's structural model with a sample of emerging adults within the U.S. Moreover, the present study is the first investigation of the PWT structural model with a sample of risk-immersed young people in the U.S. Two studies of the PWT with young adults were identified; a qualitative study of undocumented immigrant young adults (Autin, Duffy, Jacobson, Dosani, Barker, & Bott, 2018) and a quantitative study of junior college students in Korea (Kim, Duffy, Lee, Lee, & Lee, 2019). The latter did not examine the role of social marginalization in the model. This study's contribution to the PWT literature based on the sample is notable considering the PWT's core mission to furnish a more deliberate discourse on the working lives of marginalized individuals and communities.

An added benefit of examining the PWT with this important population is that many of the measures had not been previously tested with a population of risk-immersed youth. The measurement models that were tested in the present study offer evidence that the measures generally behave similarly with this population as they have with previous samples. These measurement results offer support for the continued investigation of both the PWT and CCT with samples of marginalized young people in the United States.

The present study deepens the PWT's developmental frame by providing a detailed rationale of its alignment with PVEST (Spencer, 2006). The integration of the PWT with PVEST more explicitly articulates the foundational developmental framework underlying the PWT. Moreover, the inclusion of identity deepens the PWT's capacity as

a phenomenological perspective on work-related issues, which contributes to the PWTs aims of capturing the genuine lived experiences of disaffected workers.

The integration of the PWT with PVEST also increases the breadth of the PWTs relevance to diverse populations. Situating the PWT within a PVEST frame expands the developmental utility by increasing the PWT's applicability to both working and non-working populations. For non-working populations, such as unemployed persons or young people in the school-to-work pipeline, vocational identity could serve as a core outcome of a PWT model of career choice readiness and decision-making. Moreover, it opens up channels for testing PVEST expressions of the PWT with a much broader range of constructs representing various contextual stressors, reactive coping processes, emergent identities, and work-related, stage-specific developmental outcomes that could all be implicated in workforce outcomes. Thus, this integration of PVEST with PWT can extend theoretical and empirical questions currently derived from the PWT.

As an example of this, the present study expands on the potential scope of the PWT as an explanatory framework by deepening the integration between the PWT and CCT through the inclusion of vocational identity as a key developmental component. Although there is limited direct empirical rationale based on the career development literature to warrant the inclusion of identity in the framework, the PVEST framework (Spencer, 2006) and the theoretical writings on the PWT (Blustein, 2006; Duffy et al., 2016) offer support for a more explicit focus on personal and social identity as shapers of career development. Although vocational identity has not been examined within the PWT structural model, the development of the framework and theory suggest that identity is an

important predictor of *decent work*, the construct at the heart of PWT (Blustein, 2006; Duffy et al., 2016).

Additionally, the link between identity and the PWT can be found in the PWT's incorporation of concepts from Career Construction Theory (Savickas, 2005, 2012). Since the PWT includes career adaptability as a core construct in the PWT structural model, the addition of vocational identity to the PWT makes theoretical sense, as both constructs derive from CCT. The positioning of vocational identity in the present study among the other PWT variables (e.g., marginalization, adaptability, volition) is consistent with the PWT tenet that identity formation predicts one's pathway toward decent work and wellbeing, although decent work was not examined in the present study. Moreover, this positioning is consistent with CCT's position that the development of career adaptability precedes identity formation (Savickas, 2012). The inclusion of vocational identity in the present study appeared to be a novel, theoretically predicated addition to the model, which advances the integration of the PWT and CCT.

More recent literature focused on the practice of career counseling has even sought to further explicate alignment between the PWT and the Life Design paradigm—the broader conceptual framework within which CCT is situated (Medvide, Kozan, Blustein, & Kenny, 2019). The conceptual and empirical integration of CCT and PWT is a core value proposition in the present study and this idea appears to be gaining traction in the literature as a fruitful avenue for future conceptual, empirical, and applied advancement.

Further, although the findings were generally consistent with the existing

empirical literature (Duffy et al., 2018; Douglass et al., 2017; Kim, Duffy, Lee, Lee, & Lee, 2019; Kozan et al., 2019; Tebbe, Allan, & Bell, 2019; Tokar & Kaut, 2018), the present study's findings advance the integration of PWT and CCT by identifying a significant relationship between marginalization and adaptability. The present study is one of the only studies identified in the literature thus far to demonstrate the link between marginalization and adaptability within the PWT framework. This link between adaptability and the PWT provides further support for the integration of the PWT and CCT.

Although PVEST and the PWT formed the backbone of the conceptual framework, the core concepts of CCT are integral to the model. Examining the PWT within a PVEST framework illustrates that identity may be a missing developmental link to improve the conceptual model. As an identity-focused career development theory founded on developmental systems and social constructionist assumptions, CCT offered an ideal perspective from which to draw. CCT's alignment with the PWT was apparent based on career adaptability's position as a key mediator in the model, however, the inclusion of vocational identity as the key outcome variable provided an anchor for a deeper integration of CCT's meta-competencies within the framework.

The present study offered a key benefit to the CCT literature by demonstrating a strong empirical relationship between career adaptability resources and career identity formation. The findings are highly consistent with CCT's core tenets that career adaptability emerges within the growth phase of career development, followed by the emergence of identity within the exploration phase (Savickas, 2005). Thus, the present

study contributed to the literature of empirical studies affirming these hypotheses (Guan et al., 2016; Hirschi & Valero, 2015; McArdle et al., 2007; Merino-Tejedor et al., 2016; Negru-Subtirica et al., 2015; Porfeli & Savickas, 2012; Rudolph, et al., 2017)

Perhaps the largest contribution of the present study to the CCT literature is the examination of the degree to which context characteristics shape career construction processes. Although CCT does point out that variation in cultural, social, and economic circumstances shapes career construction, a focus on systemic barriers to career development has not been an explicit element of CCT and few studies have empirically addressed these influences (Medvide et al., 2019). By examining the impact of contextual constraints on the emergence of both career adaptability and vocational identity, the present study adds to the CCT literature.

A final note concerns the present study's contribution within the CCT and identity literatures. Interestingly, the present study suggests that, among the various identity formation processes, marginalization impacts reconsideration processes most strongly. In revising the construction of the VISA as a measurement of vocational identity, Porfeli and colleagues (2011) included an additional flexibility subscale to provide a more robust conceptual and measurement model for identity reconsideration. This updated measurement structure was provided to respond to empirical research illustrating the recursive nature of identity status achievement.

Advancements in the identity development literature suggest that identity formation is less linear than previously presumed and that reconsideration and revision are normative parts of this dynamic developmental process (Crocetti et al., 2009; Meeus,

1996; Stephen, Fraser, & Marcia, 1992). It has been suggested that reconsideration processes, although a normative aspect of identity revision, may prompt cycling from Moratorium-Achievement-Moratorium-Achievement (MAMA), according to Marcia's typology (Stephen, Fraser, & Marcia, 1992). The present study's findings are of relevance to this literature as the findings may suggest that marginalization sets in motion the reconsideration processes underlying the transitions between these MAMA cycles. Thus, although identity revision is a normative aspect of identity formation, marginalization may stimulate persistent or excessive cycling through the MAMA cycle as a function of lower levels of vocational privilege necessary to clarify, commit, and implement a vocational identity.

In sum, the present study offers a range of considerations for theory and research relevant to PVEST, the PWT, and CCT. Drawing together concepts from each of these various theoretical perspectives provides a rich, integrative framework that builds on vocational psychology's efforts to provide an inclusive and developmental paradigm for investigating the working lives of diverse individuals and communities. The findings offer a number of implications for practice and policy related to the career development of risk-immersed youth. These considerations are discussed below, followed by a review of the study's limitations and directions for future research.

Practice and Policy Implications

The present study offers insights for youth-serving practitioners, organizations, and policymakers to better support the career needs of risk-immersed youth. Career interventions for risk-immersed youth may be implemented in variety of contexts (e.g.,

schools, non-profit organizations, counseling settings) by a broad array of caring adults (e.g., parents, counselors, teachers, mentors, etc.) and the current study offers practice implications relevant to each. The following section will therefore provide a brief discussion of the broad practice and policy implications extending from the present study.

Career development interventions are promising avenues for supporting individuals struggling with career challenges, such as risk-immersed youth in the school-to-work transition. Meta-analytic evidence of career interventions conducted in a wide range of formats (e.g., classes, computerized, counseling) suggests that career interventions can have significant and positive impacts on career outcomes (Baker & Taylor, 1998; Brown & Ryan Krane, 2000; Evans & Burck, 1992; Fouad & Byars-Winston, 2005; Oliver & Spokane, 1988; Whiston, Brecheisen, & Stephens, 2003; Whiston, Li, Mitts, & Wright, 2017; Whiston, Sexton, & Lasoff, 1998). This body of secondary analyses focuses primarily on career choice outcomes (e.g., vocational identity, decidedness, certainty, choice, satisfaction, decision-making self-efficacy; Brown et al., 2003), which are especially germane to the present study's focus on vocational identity as a process of career exploration, commitment, and reconsideration.

Investigation of the critical ingredients of effective interventions that facilitate career choice processes suggest that practitioners designing school-to-work transition programming can improve outcomes for youth by including any of the following five intervention components: (1) workbooks and written exercises for career exploration, goal-setting, planning, etc. (2) individualized interpretations and feedback on assessments, goals, plans, etc., (3) quality information about the world of work, (4)

exposure to modeling of career choice and development processes (e.g., exploration, decision-making, choice implementation), and (5) activities to help participants build social and economic support for career choices (Brown & Ryan Krane, 2000; Brown et al., 2003). Interventions that include one or more of these ingredients appear to demonstrate positive impacts on career choice outcomes with incrementally larger effect sizes for each additional intervention component included. Findings across these meta-analyses regarding the nature of effects by various client (e.g., age, gender, race/ethnicity) and treatment characteristics (e.g., group, individual) has yielded mixed results, thereby providing little conclusive evidence of the moderating role of individual and context factors (Brown et al., 2003) from which to derive insights about risk-immersed youth. However, practitioners attempting to support risk-immersed youth through school-to-work transition planning can leverage these core components to support progress along career development tasks. Whereas the present study indicates that marginalization adversely influences career identity formation, these intervention components can promote career exploration, choice, and decision-making processes consistent with career adaptability, work volition, and vocational identity constructs examined in the present study.

Many of the predominant theories and approaches to career development and intervention, including those studied within existing meta-analyses, were developed during a historical period in which careers unfolded in a linear fashion under conditions of relative stability, opportunity, and predictability (Blustein, 2006; Medvide et al., 2019; Savickas, 2002, 2005, 2012). Although still relevant in many facets, previous models of

career and workforce development must evolve in assisting youth to develop adaptability within the changing economic and social conditions in the postmodern world of work (Masdonati & Fournier, 2015; Medvide et al., 2019; Savickas, 2005, 2012; Savickas et al., 2009). Providing effective career development interventions may benefit risk-immersed youth in the current occupational landscape by going beyond simple goal-setting and planning (McMahon, Watson, & Patton, 2014; Patton & McMahon, 2016; Savickas, 2002, 2012).

The present study suggests that helping youth cultivate adaptability capacities and expand their sense of work volition may be critical avenues for promoting career identity and choice processes among risk-immersed youth. Strategies that focus on helping youth clarify a deeper sense of identity, develop the adaptability resources required to cope with changing circumstances, and that focus more squarely on resilience to promote negotiation of barriers and supports across developmental contexts may be most congruent with the career development tasks and macro-level conditions that youth are asked to navigate in today's world of work.

Life Design (Savickas, 2015; Savickas et al., 2009) and Career Construction Theory (Savickas, 2005, 2012) offers a range of practice suggestions that focus on helping individuals build adaptability, vocational identity, and manage work along with other life domains to promote a more enriched life in a changing world (Hartung, 2019; Masdonati & Fournier, 2015; Palazzeschi, Creed, Gori, & Di Fabio, 2018; Bucci, Creed, & Di Fabio, 2018; Rossier, 2015; Savickas, 2005, 2015; Savickas et al., 2009). CCT suggests that career theory and intervention can best serve struggling workers by moving

away from “a meta-narrative of stages” describing how a prototypical career progresses and adopt a focus on “individual scripts” (McAdams & Olson, 2010; Savickas et al., 2009). This focus on individual scripts reflects a paradigmatic transition away from viewing careers as linear, predictable, stage-like procedures that unfold in response to the needs of a stable labor market under conditions of relative opportunity and choice (Arthur, 1994; Hall, 1996; Savickas, 2005, 2012; Savickas et al., 2009). Instead, the ever-changing, tight, and tumultuous labor market of the 21st century requires a focus on helping individual’s develop vocational identity as a compass to steer one’s vocational life and adaptability to navigate the many challenges that individuals, particularly risk-immersed youth, are likely to encounter (Hall & Mirvis, 1995; Savickas, 2005, 2012). This paradigmatic shift may be uniquely beneficial to CCT’s ability to speak to risk-immersed youth and marginalized communities who, historically, have seldom enjoyed such choice, opportunity, and predictability in their working lives due to systemic barriers (Blustein, 2006).

Rather than attempting to simply match individuals to well-fitting occupations, career practitioners and youth-serving organizations might better serve youth by instead pursuing the questions “What are the factors and processes of a person’s self-construction?” and “How may individuals best design their own lives in the human society in which they live?” (Savickas et al., 2009, p. 241). The focus on self-construction maintains the importance of helping youth choose and enter occupations, however, it also makes space for incorporating one’s identities and experiences across a range of developmental life domains (Savickas, 2002). Life Design’s broader purview

helps to heal the false-split (e.g., Overton, 2013) between career and other life domains (Savickas, 2002, 2005, 2012). The present study supports this notion through the finding that social marginalization experienced across a range of life contexts influences career construction processes. Based on this perspective, career practitioners can better serve youth by more authentically attending to the traumas, adversities, and challenges that youth may experience across contexts and the impact of these experiences on their career development.

Accordingly, career practitioners should consider focusing on: (1) context rather than traits and states, (2) dynamic processes rather than prescriptive solutions, (3) non-linear dynamics rather than assumptions of linear causality, (4) multiple perspectives and narratives rather than scientific facts, and (5) focus on personal patterns in one's career and life design (Savickas et al., 2009). Moreover, career construction and life design should be life-long, holistic, contextual, and preventive in nature (Savickas et al., 2009). A focus on lifelong career guidance and earlier engagement can help risk-immersed youth clarify a vocational story and identity before the school-to-work transition occurs. Moreover, consistent with the present study, career practitioners and caring adults must fully consider the nature of the various contexts in which the young person is embedded, and authentically incorporate the holistic profile of identities, experiences, assets, and relationships across all the youth's life domains, not just school and work. Career guidance practitioners can best serve youth by developing a deep understanding of the young person's unique subjective sense of self across domains and how experiences of marginalization, risk, or resilience figure into their developing identity as a person and

worker.

Career practitioners can also support youth in designing a life and constructing a career by helping them foster adaptability, narratability, activity, and intentionality necessary for personal and career construction (Masdonati & Fournier, 2015; Savickas et al., 2009). The present study's findings are most concerned with risk-immersed youth's development of adaptability and narratability. As the present study's findings indicate that marginalization adversely influences career adaptability, career interventions should aim to increase adaptability resources of career concern, control, curiosity, and confidence. Programming that helps youth develop orientation and optimism toward their social and vocational experiences over time, practice self-regulation strategies and assert control, curiously explore possible selves and opportunities, and persevere toward aspirations despite barriers can foster adaptability resources (Savickas, 2005; Savickas et al., 2009).

Narratability reflects CCT's rootedness in social constructionism and describes the importance that individuals can narrate a coherent and continuous story about their life and career that connects various events, transitions, and experiences over time (LaPointe, 2010; Meijers & Lengelle, 2012; Savickas et al., 2009). Narratability involves construction of one's subjective identities (Savickas et al., 2009), which are critically influenced by marginalization according to the present study. Narratability provides an indicator of the degree to which one is able to develop a clear sense of their "individual scripts," which tie together a young person's understanding of self-in-context over time. Ideally, with support from others, youth actively engage in narrative construction and

continued revision of their story, progressively shifting their understanding of self from mere actor, to author, to active agent in their narrative (McAdams & Olson, 2010; Savickas, 2005, 2013). Engaging youth in activities that promote “minicycles” of exploring, committing, implementing, and revising their understanding of self and identity across contexts can promote personal construction and adaptation to challenges.

Career practitioners should help youth articulate the ways they see themselves, the ways these subjective identities compose a more cohesive self, and how these dynamic system of self-precepts disposes one toward different cognitive, affective, and behavioral responses toward their world. Moreover, this process of narrative self-making in CCT can help risk-immersed youth deepen their own reflection on their important life themes, their unique vocational personality attributes, and the profile of adaptability resources that they possess. Helping risk-immersed youth reflect on their responses to adversity and barriers across life contexts with a focus on adaptability, resilience, and flexibility may help to foster redemptive narratives in which youth come to view themselves as agentic, resilient beings (McAdams, 2004, 2006). Such redemptive narratives can help youth make sense of adversity or injustice, clarify personal and social assets, and craft stories of personal resilience, which can be generalized to the ways in which the young person understands their range of possible selves in other contexts, such as work. In this way, narrative interventions that help youth construct, deconstruct, reconstruct, and co-construct narratives toward understanding themselves as active agents who have resiliently adapted to barriers may reduce the negative influence of marginalization on career development and promote adaptability and identity formation (Savickas, 2012).

Together, adaptability and narratability give individuals the capacity to change while maintaining a sense of subjective continuity in understanding one's life (Savickas et al., 2009). The other two goals of Life Design are to encourage activity and intentionality (Savickas, 2012; Savickas et al., 2009). Helping risk-immersed youth identify activities in which they can actually engage with their environments to clarify their abilities, interests, preferences, adaptability, and identities is critical to promote career construction. Further, intentionality brings action into a purposeful frame wherein activities, aspirations, and adaptations are self-directed and congruent with one's subjective sense of self. Helping risk-immersed youth to engage with these four goals of adaptability, narratability, activity, and intentionality will prepare youth to navigate barriers such as social marginalization or transitions (e.g., school-to-work) toward more congruent, personally-constructed career and life trajectories.

Masdonati and Fournier (2015) suggest that when considering life design interventions with young adults in the school-to-work transition several factors become especially salient. Unique attention must be paid to school and job market contexts as characteristics that shape the school-to-work transition, youth's relational environments including social supports and negative influences, identity construction, and youth's relationship to school and work contexts. Helping risk-immersed youth understand the systemic school and job market factors in which they are embedded, build key social supports, construct a work role identity (general) and occupational identity (job-specific), and develop positive relational attitudes toward school and work may help youth overcome barriers and promote productive coping in the school-to-work transition.

Attention to these unique factors can help risk-immersed youth construct a career, defined as a “moving perspective that imposes personal meaning on past memories, present experiences, and future aspirations by patterning them into a life theme.” (Savickas et al., 2009, p. 246). These life themes create context for understanding both enduring and dynamic aspects of self-in-context and these springs of biographical meaning can prepare youth to adapt to adversities, a changing world or work, and their shifting understanding of who they’ve been and who they would like to become.

Consistent with the aims of the present study’s conceptual framework, recent advancements within the career counseling and education literatures have sought to clarify the nexus between the PWT and CCT as complementary frameworks for designing school-to-work transition programming for risk-immersed youth. For example, a recently published paper by Medvide and colleagues (2019) articulated a framework for designing school-to-work transition programs for non-college bound youth based on the integration of CCT and PWT. The authors maintain a focus on school-to-work transition programming as a means of fostering resilience to developmental barriers and access to decent and meaningful work for marginalized individuals.

Much like the present study, the PWT/CCT integrative model stresses that programming should support the acquisition of adaptive vocational skills and psychosocial capacities to help buffer real and perceived contextual constraints (Medvide et al., 2019). Whereas CCT emphasizes a narrative approach, the importance of adaptability and identity, integration of work and non-work roles and contexts, and agency in designing one’s life, the PWT focuses more squarely on critical analysis,

cultural factors that shape vocational attitudes and agency, consciousness building, and social action toward challenging barriers and inequitable structures (Blustein 2006, 2013; Medvide et al., 2019). From the PWT perspective, in addition to helping youth clarify an identity, practitioners working with risk-immersed youth take on an explicit role as brokers of social and economic resources (Blustein et al., 2019; Medvide et al., 2019). In doing so, practitioners serve a key function of tangibly helping youth navigate objective barriers, access supports, and capitalize on opportunities that present themselves (Blustein et al., 2019; Medvide et al., 2019).

The PWT perspective also stresses that practitioners should help marginalized youth build critical consciousness. Helping youth develop skills to critically read their environments to reflect on the systems, institutions, and dynamics that perpetuate oppression can reshape meaning-making processes to reduce self-blame, identify personal volition, and motivate social action (Diemer & Blustein, 2006; Duffy et al., 2016; Kenny, Blustein, Gutowski, & Meerkins, 2018; Medvide et al., 2019; Seider, Clark, & Soutter, 2015). Thus, whereas the present study indicates that marginalization negatively influences career development, caring adults and career practitioners can help youth navigate objective barriers, engage in consciousness building, develop a sense of personal agency, collaborate in social change efforts, and cultivate perceptions of volitional control.

Implicit in both CCT and PWT is a value toward helping youth attain education and training required to develop higher-order, flexible, and expandable hard skills that are congruent with personal preferences and labor market demands (Blustein, 2013). Thus,

career practitioners should assist risk-immersed youth in reducing barriers and increasing access to education, training, and lifelong learning to promote continued adaptability and volition within the knowledge economy (Blustein, 2013; Savickas, 2005, 2012).

As mentioned, the PWT frames a more explicit focus on the objective developmental barriers that many risk-immersed youths encounter (e.g., homelessness, economic constraints, family instability, community violence). The PWT challenges career practitioners to move beyond questions of personal construction and narrative, toward actionable individual and social strategies to reduce barriers and disrupt systems of oppression. This focus on reducing risk and connecting youth to social and economic resources is also consistent with recent efforts to bridge positive youth development, relational, and career development approaches (Blustein, 2011; Blustein, Schultheiss, & Flum, 2004; Flanagan, Zaff, Varga, & Margolius, in press; Hirschi, 2009; Kenny & Bledsoe, 2005; Patton & McMahon, 2014; Pufall Jones et al., 2016, 2017; Vanhalakka-Ruoho, 2010; Varga & Zaff, 2018).

Positive youth development theory suggest that developmental outcomes are optimized when youth are embedded in nutrient-rich environments wherein developmental assets and supports are aligned with the unique strengths and needs of the young person (Benson, Scales, & Syvertsen, 2011; Lerner, 2006; Zaff, Pufall Jones, Donlan, & Anderson, 2016). Within this supportive youth system (Zaff et al., 2016), relationships with caring adults and peers are the key delivery system through which social and economic resources are brokered to the young person. Traditional career development paradigms have relied on dyadic approaches to promoting positive career

development. However, risk-immersed youth, may be best served through a more comprehensive web of supportive relationships (Flanagan et al., in press; Varga & Zaff, 2018).

In helping youth to buffer the impact of adversity and marginalization on career development, practitioners should therefore help youth construct and coordinate a web of supportive relationships to access the resources (e.g., mental health counseling, financial resources, caregiving resources, housing and food resources) needed for coping more productively with contextual barriers and engaging along more fruitful pathways in work and life. By engaging a broader web of support, practitioners can help youth cope with barriers, such as marginalization, and better realize the PWT's call to engage workers and communities in improving access to decent work and challenging systemic barriers to meaningful work lives.

In addition to these meaningful contributions to career development programming and practice, the present study offers several implications for policymakers to better support youth in successful school-to-work transitions. Consistent with the PWT's core mission, vocational psychologists can best serve risk-immersed youth by illustrating to policymakers the importance of work in people's lives, especially young people and individuals from marginalized communities (Blustein, 2013). Putting work at the forefront of people's economic and social experiences, and vice versa, helps to elevate the importance of this domain as a policy context. Relatedly, highlighting the linkages between work roles and other life roles (e.g., caregiving, family) is critical to encourage more integrated, multidisciplinary policy agendas that acknowledge that various life

contexts impact individuals' working experiences (Blustein, 2006; Duffy et al., 2016; Patton & McMahon, 2014; Richardson, 2012). The present study suggests that marginalization, experienced broadly across life contexts, adversely shapes career development. Workforce policy, training, and development programs should be tailored to be more holistically grounded in individuals' cultural understandings of work, the unique needs that they have related to working, and the needs that work fulfills (Blustein, 2006; Blustein, Kenna, Gill, DeVoy, 2008).

For risk-immersed youth, persistent experiences with marginalization, adversity, and contextual barriers can facilitate disruption and disconnection during the school-to-work transition. A critical step toward ensuring more successful transitions is to shore up the school-to-work pipeline through stronger linkages between education and labor systems (Blustein, 2013). This should entail better alignment between skill development and skill demand, as well as perceptually reinforcing the relevance of education to labor pathways (Blustein et al., 2008; Johnson, 2000; Lapan, 2004). Moreover, many risk-immersed youth associate education systems with trauma and oppression (Camarota, 2008; Ginwright & Camarota, 2002). In these instances, a strong association between school and work may mean that negative perceptions of education are commutatively conferred toward the world of work as well (Masdonati & Fournier, 2015). Providing youth with high-quality work-based learning experiences (e.g., internships, apprenticeships) can provide a fresh opportunity to build self-efficacy while developing skills that more directly translate to immediate and sustainable employment (Blustein et al., 2008).

With regard to labor market policy and conditions, the importance of formal job creation with an eye toward facilitating access toward decent work cannot be overlooked (Blustein, 2006, 2012; ILO, 2018). Policies and training systems that encourage full-employment may help youth avoid the cycle and long-term adverse impacts of unemployment, precarious work, and underemployment (Blustein, 2006, 2012; Kalleberg, 2009). Moreover, in addition to facilitating access to decent work, Medvide and colleagues (2019) advocate that life design principles and the right to personally construct decent and meaningful work lives should be included in formal policy agendas such as the ILO's Decent Work Agenda.

Finally, positive youth development perspectives suggest that public policy has potential to scale access to asset-rich developmental contexts (Benson et al., 2011) to optimize exposure to developmental resources and supports necessary for successful career development. Historically, career development policy has been legislated from a human capital perspective in which education and training are viewed as investments that produce direct and indirect returns to individuals in a relatively linear, transactional fashion (Schuller, 2000; World Bank, 2019). Recognizing that multiple risk factors, resources, relationships, and contexts shape developmental outcomes, more dynamic policy approaches anchored in social capital perspectives may be critical in complementing existing human capital efforts to best support youth workforce development (Brinton, 2000; Flanagan et al., in press; Puttnam, 2002; Schuller, 2000; Woolcock, 1998). Social capital policy approaches provide a more interactive, dynamic model of social development that emphasizes attitudes and values toward relationships,

membership, participation, social cohesion as indicators of educational and economic achievement (Schuller, 2000). This approach may better approximate the complex realities of constructing a career in a knowledge society and is more closely aligned to modern developmental theory. Ultimately, policy approaches that balance human and social capital initiatives may be most effective in promoting developmental systems and communities that support positive career development for risk-immersed youth.

In summary, the practice implications described in the present study build primarily on the growing Life Design and Career Construction Theory literatures to clarify a range of intervention approaches that can promote development of vocational identity and career adaptability (Hartung, 2019; Masdonati & Fournier, 2015; Palazzeschi, Creed, Gori, & Di Fabio, 2018; Bucci, Creed, & Di Fabio, 2018; Rossier, 2015; Savickas, 2005, 2015; Savickas et al., 2009). Interventions that focus on helping youth develop a sense of adaptability, narrative identity, activity, and intentionality can help risk-immersed youth integrate their experiences across developmental contexts and roles toward more authentic personally constructed identities and careers.

The PWT is well-aligned with these principles and stresses the importance of helping youth both adapt to, and challenge developmental barriers and systemic inequities (Blustein, 2006; Duffy et al., 2016; Medvide et al., 2019). By helping youth increase access to economic and social resources, build critical consciousness, and develop agency and volition toward social and vocational action, career practitioners can empower youth to combat marginalization and improve their prospects for decent and meaningful work lives. Toward these ends, the positive youth development literature

suggests that helping youth construct and navigate a more comprehensive web of supportive relationships can amplify career practitioners' efforts to connect youth with the sustainable access to developmental resources across contexts.

Policy makers can best support risk-immersed youth through sustained efforts to promote access to decent work and equity in the volitional privilege required to design one's working life. Moreover, policy that brokers access to resources and programming to support more fluent school-to-work pipelines can support youth in making successful school-to-work transitions. Finally, a combination of both human and social capital approaches to education and workforce development might be most appropriate for preparing youth to tackle the career development tasks confronting workers today. Following from this discussion of contributions to theory, practice, and policy, limitations to the present study are described below.

Limitations

A number of limitations to the present study should be considered when interpreting the findings. The following section offers a detailed review of the limitations related to the design, procedure, sample, measurement, and analyses of the present study.

Design

One limitation of the current study was the cross-sectional design, which limited the ability to examine whether the relationships among variables unfold according to chronological or temporal sequence implied by the model. A longitudinal design would enable one to determine whether experiences with marginalization at previous time points predict subsequent vocational identity formation at later time points. Moreover, the study

was designed as a correlational study to explore the significance of associations among variables in the proposed conceptual model. Consequently, it is unclear whether and how these relationships might function within and between participants across different conditions, as there was no intervention or comparison in the present study.

Procedure

There were several procedural considerations to account for. It is possible that survey fatigue impacted participant responses due to survey length (Porter, Whitcomb, & Weitzer, 2004). When possible, brief or short forms of measurement were used, such as the Career Adapt-Abilities Scale-Short Form (Maggiori et al., 2017). Moreover, observation of survey administration indicated that most youth completed the survey in a reasonably brief timeframe and measurement properties for the variables were good overall, indicating that any impact of fatigue on responses was likely minimal. Nonetheless, more concise survey strategies may have improved response quality and participant experience.

Additionally, participants in the program sample were not directly compensated by the author, whereas the Amazon Mechanical Turk marketplace requires payment of workers as compensation for their completion of tasks. Examination of responses by sample source did indicate some differences on measured variables, however there appeared to be no clear or systematic indications that data quality was superior in one group compared to the other. Definitively determining what, if any, impact these procedural differences may have had on participant motivation or data quality was not possible in the present study but is an important methodological consideration to note.

Finally, although program participants were assisted and monitored by program staff and members of the research team, the MTurk participants completed surveys remotely with no oversight. As such, it was not possible to verify whether participants actually met the screening criteria, were answering to the best of their ability, nor assist in clarifying any questions that participants may have had while completing the survey. While it is not possible to determine definitively whether these procedural constraints adversely impacted the quality of the data obtained by the MTurk sample, a number of procedural efforts were made to improve data quality.

First, participants completed an initial screening survey in which they were blinded to desired sampling criteria to reduce bias and improve integrity of responses. Of course, it was not possible to independently verify whether participants actually were who they endorsed themselves to be, however, the blind screening is assumed to have been a reasonable measure toward ensuring fidelity of sampling. Additionally, the author individually reviewed all responses multiple times to ensure removal of any participants that failed to meet inclusion criteria, endorsed large quantities of missing data, or represented extreme outliers or unusual response patterns. Finally, the author set some additional eligibility and performance parameters within the MTurk platform itself (e.g., excluded first-time users, limited to one-hour for survey completion) to encourage selection of more reliable workers and improve data quality. These methods resulted in the removal of a number of participants, indicating these techniques were at least somewhat effective in improving the integrity of the sample and data.

Despite some of the highlighted potential limitations, the present strategy of

sampling risk-immersed youth through the Amazon Mechanical Turk platform appeared to be a creative way to sample a difficult-to-reach population. As previously stated, existing literature suggests that MTurk samples are as reliable as community and student samples (Goodman, Cryder, & Cheema, 2013) and tend to be as, if not more, representative of the general population than traditional undergraduate, community, or internet samples (Buhrmester et al., 2011; Paolacci et al., 2010). Moreover, there is precedent in using MTurk to sample “hard-to-reach” populations, such as risk-immersed youth (Smith et al., 2015). Considering this, MTurk may be a fruitful avenue for continuing to study the career development and work-related experiences of marginalized and risk-immersed youth. Additional considerations and potential limitations related to the sampling approach and sample itself are discussed below.

Sample

A considerable and lengthy discussion has been devoted below to the sample and sampling approach for two reasons. First, as the target population of the present study provides a unique value to this study’s contribution to the field, it is therefore paramount to note the limitations in the current study’s ability to capture the experiences of this population. Second, the present study took a somewhat unorthodox sampling approach and limitations imposed by this method should be thoughtfully considered.

The recruitment strategy set a fairly broad scope in attempt to capture a broad convenience sample within the diverse population of risk-immersed youth, rather than targeting any one particular subsample of risk-immersed youth (e.g., opportunity youth, low-SES youth, urban youth, racial-ethnic minority youth, etc.). This decision was rooted

in both conceptual and pragmatic considerations. The conceptual model examined in the present study is believed to offer applicability to risk-immersed youth of diverse identities, circumstances, and lived experiences. Moreover, as a difficult-to-reach population, this broader framing enabled more efficient recruitment of a sufficiently sized sample. Despite these positions, the sampling approach poses several potential limitations.

The broad sampling scope may have yielded a sample within which meaningful demographic differences existed, both observed and unobserved, that influenced the results. Preliminary and multivariate analyses indicated differences in measured variables by age, gender, race/ethnicity, participant education, enrollment status, and sample source (discussed in detail below). The sample size limited the ability to conduct more meaningful analyses to investigate the influence of those group differences on the relationships among variables within the structural models. Despite this limitation, the preliminary multivariate analyses provide some indication of the nature of the group differences on scores for a given variable, while controlling for the other variables within the hypothesized model. Moreover, the covariates were included in all structural models to adjust for differences when estimating relationships among variables in the models.

Among the covariates examined, the sample source was a key dimension for consideration. The present study used two primary recruitment strategies to construct a combined sample of young people. One potential critique is that this methodological approach may have introduced important differences in the demographics of participants that were recruited into the subsamples, which were then obscured when combined to

construct the total sample.

The primary program sample appears to tap a group of risk-immersed youth characterized as young, low-SES, youth of Color, residing in urban communities. The primary sample is demographically similar to samples included in previous career development studies of risk-immersed youth (e.g., Chaves et al., 2004; Constantine, Wallace, & Kindaichi, 2005; Diemer & Blustein, 2006; Kenny & Bledsoe, 2005; Ling & O'Brien, 2013; Perry, Liu, & Pabian, 2010). By contrast, the MTurk sampling approach appeared to capture a sample of youth for which there was a higher proportion of youth who identify as non-Hispanic/Latinx, White, and living in suburban and rural communities. This group of risk-immersed youth are less often included in the discourse surrounding the career development of risk-immersed youth (Ali & Saunders, 2006; Ferry, 2006; Jay, Rajewski, & John, 1995) and combining these subsamples required several considerations. These differences were important to examine, as they may indicate that the two subsamples are representative of slightly different populations and therefore unfit to be combined into a single sample.

From a statistical standpoint, the present study ensured that these differences were documented by preliminary analyses and adjusted for through the inclusion of covariates, including sample source, in the structural models. Beyond the statistical importance of these differences, this heterogeneity in subsamples is actually quite consistent with the present study's conceptual and methodological attempt to recruit a broad and diverse group of risk-immersed youth. As such, this heterogeneity may indicate that the present study succeeded in capturing a more diverse group of risk-immersed youth.

Perhaps most important in interpreting the validity of the sampling approach is determining the degree to which the sampling approach succeeded in tapping into a population of youth who report experiencing some form of risk and/or adversity. This assumption is more clearly met in the primary sample as the youth were recruited from programs that exclusively serve youth who experience adversity and/or are exposed to considerable developmental risk factors. The degree to which the MTurk sampling approach succeeded in tapping a pool of risk-immersed youth is perhaps less obvious from the recruitment strategy alone. Considering this, the author sought to impose several dimensions of inclusion/exclusion criteria in sampling MTurk participants, however, these strategies have limitations of their own.

One limitation of this strategy is that the author used a relatively crude set of inclusion/screening criteria as proxies to identify a pool of MTurk participants that would be considered risk-immersed youth. The established inclusion criteria required that youth were U.S. residents, between 18 and 26 years old, lacking a meaningful post-secondary credential, and neither currently enrolled nor employed full-time. These criteria were selected because they are consistent with criteria used to define the subset of risk-immersed youth known as Opportunity Youth; this set of criteria is widely used within the youth-serving non-profit sector and the youth development literature (Belfield, Levin, & Rosen, 2012). Setting these parameters as screening criteria sought to provide a more conservative assurance that the supplementary sample fell within the target population of risk-immersed youth. However, the reality remains that these screening criteria were rough proxies based on the rationale that youth meeting those criteria were likely to be

characterized as risk-immersed youth.

As such, one critique is that the inclusion/exclusion criteria may not have tapped into the population of risk-immersed youth as intended. Additionally, this critique could be extended to suggest that, even if the sampling approach did succeed in recruiting risk-immersed youth, some possible unobserved heterogeneity may exist between subsamples in the levels or impact of risk experienced among the youth. One method of addressing this question is by consulting additional survey information that was not included in the present analyses.

The surveys conducted in the present study included several questions assessing adverse childhood experiences (ACES) in both samples. These variables were not included in the analyses due to methodological issues regarding differences in the exact set of ACES items that were included in the surveys across subsamples. Moreover, in the primary sample survey, the ACES questions were added midway through data collection as a means of item testing and iterative survey improvement efforts. Because of this, only 75 of the 268 youth in the program sample were able to complete the items. As a result, meaningful comparison of ACES across subsamples or inclusion of these variables in the models would not have yielded trustworthy results. However, a descriptive look at the ACES scores based on common items included in both surveys can be instructive toward determining whether that sampling approach appeared to (1) reasonably tap the population of risk-immersed youth that it set out to and (2) whether obvious differences existed between the samples in levels of adversity.

Of the ACES items used across both subsample surveys, there were seven

common items assessing whether the participant had experienced any of the following adverse childhood experiences: imprisonment of a parent, divorce or separation of parents, immediate family mental illness or substance abuse, domestic violence, victimization or witnessing of community violence, and/or experiencing economic hardship. In the MTurk sample, the sum of endorsed ACES indicated that participants reported anywhere from zero to seven ACES with participants reporting more than three ACES on average ($n = 272$, $M = 3.45$, $SD = 2.05$). This figure is consistent with the number of ACES endorsed in extant studies of risk-immersed youth samples (Anda et al., 2006; Burke, Hellman, Scott, Weems, & Carrion, 2011), suggesting that the MTurk sampling approach did indeed seem to tap a sample of risk-immersed young people. Moreover, in the program sample, reported ACES also ranged from zero to seven and was about 2.5 per participant on average ($n = 75$, $M = 2.49$, $SD = 1.9$). A comparison of ACES scores across the samples suggests that the scores were roughly equivalent and that the MTurk sample actually endorsed higher ACES scores than the primary sample. Based on these descriptives, one can conclude that the MTurk sampling approach was reasonably successful in recruiting a sample of risk-immersed youth and that youth recruited by this strategy endorsed similar levels of adversity compared to the program sampling strategy.

Despite the apparent success at recruiting a sample of risk-immersed youth through both sampling strategies, multivariate analyses did indicate some differences between subsamples in scores on measured variables. Although the combined sample provided adequate power to include sample source as a covariate in the structural models,

thereby adjusting results for any differences, neither subsample on its own yielded group sizes large enough to conduct any meaningful between-group analyses of the overall models (e.g., multiple group moderation). As such, the present study was unable to determine whether sample source moderated the relationships among variables in the structural models and what the nature of any these model differences may have been. Moreover, the limited sample size impeded the ability to conduct any hierarchical structural modeling to examine possible clustering of students by program type in the program sample. Failure to do so can inflate the Type 1 error rates in estimates and results of the present study should therefore be interpreted with caution (Dorman, 2008).

A final comment on the sample size relates to power. Although the sample size in the present study appeared to possess adequate power required to estimate the models according to agreed upon standards (MacCallum, Browne, & Sugawara, 1996), the models examined were fairly complex. This was primarily due to the nature by which the dependent variable, vocational identity, was modeled. A model with nine latent variables, including six latent outcomes and two latent mediators is a fairly complex model given the sample size. The measurement models indicated good fit and an examination between the model using latent variables compared to manifest variables indicated no meaningful decrements in the retained latent model, suggesting that power was not a substantial reason for the non-significant findings. However, given the complexity of the model and the relatively modest sample, it is possible that the model was underpowered and may have failed to detect small effects that may exist among variables.

In summary, the sample in the present study posed several limitations by virtue of

the heterogeneity, unique sampling approach, and size. Although the present study intentionally sought to sample a diverse group of risk-immersed youth, the ability to generalize the present findings to any particular subgroups therein (e.g., Opportunity Youth, youth of Color) may be limited by the heterogeneity and size of the sample. Secondly, the unique sampling approach also represents a potential methodological limitation and presents important considerations to the generalizability of the findings. Although efforts were made to adjust for any observed demographic differences, the sample did not possess subgroups large enough group sizes to enable more detailed analysis of the nature by which these differences may influence relationships with the structural models. Finally, although the model yielded a number of intriguing results, the overall sample size was fairly modest, particularly with regard to the relatively complex models. In sum, the present study's efforts to sample this difficult-to-reach population, limitations withstanding, are a clear strength of the study.

Measurement

The present study had several limitations related to the measurement of variables. As previously discussed, the measurement approach for economic constraints posed a limitation to the study and may be a likely explanation for the lack of significant findings related to this variable. A detailed discussion of considerations related to this variable was offered above and will not be reiterated here.

Regarding the measurement of marginalization, as mentioned, it is possible that a more domain-specific measurement of marginalization may have yielded additional significant relationships or more robust effects. As an exploratory study with a broad

target population of risk-immersed youth in mind, the more global approach was used to allow for participants to identify with a wide range of forms of marginalization. This more global approach might be preferred in future studies employing diverse samples for this same reason. It should be noted, however, that this approach may limit the significance or robustness of effects compared to a more domain-specific approach to measuring marginalization. Moreover, more select samples, such as specific subgroups of risk-immersed youth, may benefit from domain- or identity-specific measures of marginalization. Additionally, as previously noted, the removal of two items from the measurement scale was conducted based on EFA and CFA evidence that the items did not function well in the measurement models. Removal of these items may have influenced the observation or strength of significant results and is noted as a limitation.

Measurement modeling yielded a final measurement approach with six related latent outcome variables representing identity process, which contributed quite a bit of complexity to the overall structural models. Several efforts were taken to reduce the complexity of the measurement models, including parceling indicators and exploring the plausibility of factor reduction through confirmatory factor analysis. Although these attempts provided several more parsimonious measurement models, none of the models offered acceptable fit indices.

In determining the best approach for modeling the outcome variables, measurement fit was prioritized over parsimony, as the absence of a strong measurement model may produce biased and inaccurate results. As such, it was determined that although the measurement model with six latent outcomes was fairly complex,

maintaining strong measurement properties was preferred. It is important to note, however, that the number of latent outcome variables may have reduced the power in the structural models as a result of increased model complexity. Thus, although the models demonstrated good measurement properties, it is possible that the models failed to observe some potentially significant results due to low power. Overall, despite some noted limitations to the measurement approaches, the present study contributes to the literature by exploring the measurement properties of these measures with risk-immersed youth.

Analysis

Several analytic considerations should also be noted. Model building in the analyses progressed systematically from the least complex to most sophisticated models as a means of observing model differences and decision-making at each step. In the process of model building, all variables relevant to a given step were entered and subsequently, non-significant variables were removed to improve model fit and conserve power. The decision to remove non-significant variables was based primarily on seeking the most parsimonious solution to the data, however, it is important to note that this approach also offered statistical benefits of improving model fit and power. Comparison of model fit indices and path coefficients indicated that the removal of these variables did not appear to markedly alter these estimates. The removal of variables from the model does represent a departure from the hypothesized conceptual models and should therefore be acknowledged. Thus, although the technique achieved the goal of obtaining the most parsimonious, well-fitting model, the removal of economic constraints should be

considered when interpreting the findings.

Additionally, as noted, the relatively complexity of the models, coupled with the modest sample size, may have resulted in analyses that were somewhat underpowered to detect some potentially significant results. Preliminary and manifest analyses did not support this hypothesis, however, it remains a potential limitation. Moreover, although all covariates, including sample source, were included as controls in the analyses, a more thorough examination of the nature by which these covariates may have influenced relationships in the overall models was not possible. For similar reasons, the present analyses did not examine the possibility of clustering effects by program in the primary sample, which may have some unobserved influence on the findings.

Summary

Several notable limitations with regard to design, procedure, sample, measurement, and analyses, were offered, which should be considered when interpreting the present study's findings. Despite these limitations, the present study builds from existing vocational and developmental theory and examines an integrative conceptual framework to understand the career development of risk-immersed youth. Moreover, the present study employed a creative sampling strategy en route to surveying a particularly difficult-to-reach population. Based on the responses of these young people, the examined framework yielded a range of findings with meaningful implications for theory, research, policy, and practice.

Future Directions

The conceptual framework and structural model examined in the present study offers a fertile foundation for a rich landscape of future research. Future research should seek to expand upon the present study through improvement and variation in methodology and design. The present study employed a cross-sectional design as an exploratory step toward examining the viability of the identity-focused theoretical model. Longitudinal designs could capture the extent to which the observed associations between variables in the model exist in the hypothesized temporal sequence. Doing so would determine whether previous experiences with marginalization predict future endorsements of adaptability, volition, and identity.

Both cross-sectional and longitudinal designs should test the role of vocational identity within the broader PWT model to determine whether identity development contributes to the attainment of decent work, and related hypothesized outcomes (e.g., need fulfillment, wellbeing, work fulfillment). The conceptual framework for the present investigation identified vocational identity as a potential missing link in the Psychology of Working Theory on the basis of the developmental rubric set forth by PVEST (Spencer, 2006). This link between emergent identities (e.g., vocational identity) and the subsequent stages in the PVEST model (e.g., decent work) was not examined in the present study due to the cross-sectional nature of the design and the fact that the majority of participants were not employed, thereby obviating the ability and/or logical necessity of measuring one's experience of decent work. Future studies testing a more comprehensive model of the entire Psychology of Working Theory could include identity

as a mediating variable to determine the degree to which vocational identity actually serves as a missing link in the broader model of decent work. Doing so would allow examination as to whether decent work is directly or indirectly predicted by the development of a vocational identity.

Moreover, future studies could examine the hypothesized model through experimental designs to explore how the model behaves under various conditions, as well as what interventions might best buffer the impact of marginalization and promote adaptability, volition, and identity among youth. The experimental examination of the hypothesized conceptual model would be a useful approach for youth-serving organizations, particularly those that serve risk-immersed youth. Indication of the model's efficacy could encourage youth-serving programs to incorporate the framework into their theory of change to measure the social impact of workforce development programming.

Regarding the sampling approach in the current study, future research could examine the model with a more parsimonious sampling approach or one that focuses on specific subgroups of risk-immersed youth. The present study cast a broad scope in recruiting a sample of risk-immersed youth. More targeted approaches toward recruiting more select samples of Opportunity Youth, particular social identity groups, or even youth with particular types of experienced adversities, may yield interesting insights about the model's applicability to groups within the heterogenous population of risk-immersed youth.

Analytically, future research could continue to clarify more parsimonious

measurement approaches to capture these variables. Recent literature offering guidelines for measurement approaches with the PWT research provides some important insights (Autin et al., 2019; Duffy et al., 2019). To the author's knowledge, however, no identifiable literature examines the behavior of these measures with samples of risk-immersed youth. Additionally, as a difficult-to-reach population, recruiting large samples of risk-immersed youth can be quite difficult. As the current study demonstrated, some of these measures, particularly the VISA, have complex measurement structures, which can limit power to test more robust models with this important population. Identifying more parsimonious measurement strategies would invaluablely reduce participant burden and analytic complexity.

Future research could continue to explore the utility of PVEST as an organizing framework for integrating career development theory. In the present study, PVEST was used to illustrate the alignment of the PWT and CCT. However, PVEST holds applicability for examining identity-focused cultural ecological expressions of other career frameworks (e.g., Social Cognitive Career Theory, Lent, Brown, & Hackett, 1994). Relatedly, future research could continue to examine the PVEST expression of the PWT with a broader scope of contextual assets and barriers as predictors grounded in positive youth development theory. For example, rather than just economic constraints and marginalization, more nuanced, multidimensional measures of developmental assets or barriers can be tested. Doing so would capture a wider expression of PVEST's concept of net stress engagement and would also be consistent with advances in the positive youth development literature.

Finally, as the present study draws from frameworks that are largely situated in developmental, ecological, social constructionist, phenomenological traditions, future research could explore qualitative expressions of the present conceptual framework. Doing so would further illuminate the complex relationships among constructs while elevating the voices and stories of risk-immersed youth.

Conclusions

The present study synthesizes perspectives from developmental science and vocational psychology to examine a conceptual framework designed to deepen insights about the career development of risk-immersed young people during the school-to-work transition. The Psychology of Working Theory (Blustein, 2006; Duffy, Blustein, Diemer, & Autin, 2016) and Career Construction Theory (Savickas, 2012) were identified as two seminal theories of career development that are well-aligned to be integrated under the rubric of Spencer's (1997) Phenomenological Variant of Ecological Systems Theory (PVEST). The unification of these theories offers an identity-focused cultural ecological (ICE; Spencer, 2006) perspective on career development that contributes to vocational psychology's efforts to adopt more inclusive, developmental frameworks for understanding the work-related experiences of diverse populations. Building from this theoretical contribution, this study provides an applied examination of the career development of young people at risk of experiencing significant disruptions along their career pathways due to contextual and developmental barriers.

Employing a correlational, cross-sectional, quantitative research design, the author examined survey responses from a sample of risk immersed young people (*n*

=543) recruited from workforce development programs across the United States, as well as Amazon's Mechanical Turk marketplace. Latent variable structural equation modeling was used to investigate the relationships between contextual constraints (*social marginalization, economic constraints*) and *vocational identity* formation, as well as the intervening role of psychosocial career constructs *career adaptability* and *work volition*.

Results of the present study indicated that marginalization had a significant, direct, and adverse influence on vocational identity development processes, such that higher levels of marginalization were associated with lower levels of career commitment identification and higher levels of reconsideration (i.e., self-doubt, flexibility) of one's career choice. Results also indicated significant indirect effects via work volition, but not career adaptability, suggesting that work volition fully mediated the relationship between marginalization and career commitment identification and partially mediated the relationship between marginalization and self-doubt. Additional positive associations were observed between the mediating variables (career adaptability, work volition) and vocational identity processes, indicating that higher levels of adaptability and volition promote higher levels of career exploration, career commitment, and lower levels of self-doubt about one's career choice.

The conceptual model offered in the present study illustrates the nature by which developmental barriers shape career development processes for risk-immersed youth. Furthermore, the present study offers a number of contributions to career development theory, practice, and policy. Leveraging a deeper understanding of the nature by which contextual barriers influence career processes can assist scholars, career practitioners, and

communities in better serving risk-immersed youth. By aligning interventions, resources, and policies with the unique strengths and needs of youth, communities can better support young people in coping productively with the career developmental tasks imposed by the school-to-work transition and foster progress along more successful pathways toward decent, meaningful, and satisfying work lives.

BIBLIOGRAPHY

- Afifi, T. O., Enns, M. W., Cox, B. J., Asmundson, G. J., Stein, M. B., & Sareen, J. (2008). Population attributable fractions of psychiatric disorders and suicide ideation and attempts associated with adverse childhood experiences. *American Journal of Public Health, 98*(5), 946-952.
- Ainsworth, M. D. S. (1973). The development of infant-mother attachment. In B. Cardwell & H. Ricciuti (Eds.), *Review of child development research* (Vol. 3, pp. 1-94) Chicago: University of Chicago Press.
- Ainsworth, M. S., & Bowlby, J. (1991). An ethological approach to personality development. *American Psychologist, 46*(4), 333.
- Ali, S. R., & Saunders, J. L. (2006). College expectations of rural Appalachian youth: An exploration of social cognitive career theory factors. *The Career Development Quarterly, 55*(1), 38-51.
- Allan, B. A., Autin, K. L., & Duffy, R. D. (2014). Examining social class and work meaning within the psychology of working framework. *Journal of Career Assessment, 22*(4), 543-561.
- Allan, B. A., Tebbe, E. A., Bouchard, L. M., & Duffy, R. D. (2018). Access to decent and meaningful work in a sexual minority population. *Journal of Career Assessment, 1069072718758064*.
- Allison, P. D. (2001). *Missing Data: Sage University Papers Series on Quantitative Applications in the Social Sciences (07-136)*. Thousand Oaks, CA.
- Allison, P. D. (2003). Missing data techniques for structural equation modeling. *Journal of Abnormal Psychology, 112*(4), 545.
- Anda, R. F., Felitti, V. J., Bremner, J. D., Walker, J. D., Whitfield, C. H., Perry, B. D., Dube, S. R., & Giles, W. H. (2006). The enduring effects of abuse and related adverse experiences in childhood. *European Archives of Psychiatry and Clinical Neuroscience, 256*(3), 174-186.
- Arthur, M. B. (1994). The boundaryless career: A new perspective for organizational inquiry. *Journal of Organizational Behavior, 15*, 295-306.
- Arthur, M. B., & Rousseau, D. M. (1996). *The boundaryless career*. Oxford University Press.

- Ashford, C. W., & Youngblood, J. Y. (2002). Examining the career development behavior of inner city, special needs minority youth through the Philadelphia start-on-success scholars internship model demonstration program. In *African American Education: Race, Community, Inequality, and Achievement a Tribute to Edgar G. Epps* (pp. 283-303). Emerald Group Publishing Limited.
- Astin, H. S. (1984). The Meaning of Work in Women's Lives A Sociopsychological Model of Career Choice and Work Behavior. *The Counseling Psychologist, 12*(4), 117-126.
- Autin, K. L., Duffy, R. D., Blustein, D. L., Gensmer, N. P., Douglass, R. P., England, J. W., & Allan, B. A. (2019). The development and initial validation of need satisfaction scales within the psychology of working theory. *Journal of Counseling Psychology, 66*(2), 195.
- Autin, K. L., Duffy, R. D., Jacobson, C. J., Dosani, K. M., Barker, D., & Bott, E. M. (2018). Career development among undocumented immigrant young adults: A psychology of working perspective. *Journal of Counseling Psychology, 65*(5), 605.
- Baker, S. B., & Taylor, J. G. (1998). Effects of career education interventions: A meta-analysis. *The Career Development Quarterly, 46*(4), 376-385.
- Baldwin, W. (1999). Information no one else knows: The value of self-report. In A. A. Stone, J. A. Turkkan, C. A. Bachrach, J. A. Jobe, H. S. Kurtzman, & V. S. Cain (Eds.). *The Science of self-report: Implications of Research and Practice* (pp. 3-7). Mahwah, NJ: Lawrence Erlbaum.
- Baltes, P. B., Cornelius, S. W., & Nesselroade, J. R. (1978). Cohort effects in behavioral development: Theoretical and methodological perspectives. In *Minnesota symposia on child psychology* (Vol. 11, pp. 1-63).
- Baltes, P. B., & Danish, S. J. (1980). Intervention in life-span development and aging: Issues and concepts. *Life-span developmental psychology: Intervention, 49-78*.
- Barber, B. K., & Olsen, J. A. (1997). Socialization in context: Connection, regulation, and autonomy in the family, school, and neighborhood, and with peers. *Journal of Adolescent Research, 12*(2), 287-315.
- Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*(6), 1173.

- Bartley, M. (1994). Unemployment and ill health: Understanding the relationship. *Journal of Epidemiology and Community Health, 48*, 333-337.
- Belfield, C. R., Levin, H. M., & Rosen, R. (2012). *The Economic Value of Opportunity Youth*. Corporation for National and Community Service.
- Bell, A. P., Super, D. E., & Dunn, T. B. (1988). Understanding and implementing career theory: A case study approach. *Counseling and Human Development, 20*(8), 1-19.
- Benson, P. L., Scales, P. C., Hamilton, S. F., & Sesma, A. (2006). *Positive youth development: Theory, research, and applications*. John Wiley & Sons, Inc.
- Benson, P. L., Scales, P. C., & Syvertsen, A. K. (2011). The contribution of the developmental assets framework to positive youth development theory and practice. In *Advances in child development and behavior* (Vol. 41, pp. 197-230).
- Bentler, P. M. (1980). Multivariate analysis with latent variables: Causal modeling. *Annual Review of Psychology, 31*(1), 419-456.
- Bentler, P. M. (1982). Confirmatory factor analysis via noniterative estimation: A fast, inexpensive method. *Journal of Marketing Research, 19*, 417-424.
- Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin, 107*(2), 238.
- Betz, N. E. (2005). Enhancing research productivity in counseling psychology: Reactions to three perspectives. *The Counseling Psychologist, 33*(3), 358-366.
- Blustein, D. L. (2001). Extending the reach of vocational psychology: Toward an inclusive and integrative psychology of working. *Journal of Vocational Behavior, 59*(2), 171-182.
- Blustein, D. L. (2006). *The psychology of working: A new perspective for counseling, career development, and public policy*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Blustein, D. L. (2011). A relational theory of working. *Journal of Vocational Behavior, 79*(1), 1-17.
- Blustein, D. (2013). *The psychology of working: A new perspective for career development, counseling, and public policy*. Routledge.

- Blustein, D. L., Chaves, A. P., Diemer, M. A., Gallagher, L. A., Marshall, K. G., Sirin, S., & Bhati, K. S. (2002). Voices of the forgotten half: The role of social class in the school-to-work transition. *Journal of Counseling Psychology, 49*(3), 311.
- Blustein, D. L., Kenna, A. C., Gill, N., & DeVoy, J. E. (2008). The psychology of working: A new framework for counseling practice and public policy. *The Career Development Quarterly, 56*(4), 294-308.
- Blustein, D. L., Olle, C., Connors-Kellgren, A., & Diamonti, A. J. (2016). Decent work: A psychological perspective. *Frontiers in Psychology, 7*.
- Blustein, D. L., McWhirter, E. H., & Perry, J. C. (2005). An emancipatory communitarian approach to vocational development theory, research, and practice. *The Counseling Psychologist, 33*(2), 141-179.
- Blustein, D. L., Phillips, S. D., Jobin-Davis, K., Finkelberg, S. L., & Roarke, A. E. (1997). A theory-building investigation of the school-to-work transition. *The Counseling Psychologist, 25*(3), 364-402.
- Blustein, D. L., Schultheiss, D. E. P., & Flum, H. (2004). Toward a relational perspective of the psychology of careers and working: A social constructionist analysis. *Journal of Vocational Behavior, 64*(3), 423-440.
- Bollen, K. A. (2002). Latent variables in psychology and the social sciences. *Annual Review of Psychology, 53*(1), 605-634.
- Boomsma, A. (2000). Reporting analyses of covariance structures. *Structural Equation Modeling, 7*(3), 461-483.
- Bowlby J. (1969). *Attachment. Attachment and loss: Vol. 1. Loss*. New York: Basic Books.
- Bradley, R. H., & Corwyn, R. F. (2002). Socioeconomic status and child development. *Annual Review of Psychology, 53*(1), 371-399.
- Bridgeland, J. M., & Milano, J. A. (2012). *Opportunity Road: The Promise and Challenge of America's Forgotten Youth*. Civic Enterprises.
- Bronfenbrenner, U. (1977). Toward an experimental ecology of human development. *American Psychologist, 32*(7), 513.
- Bronfenbrenner, U. (1986). Ecology of the family as a context for human development: Research perspectives. *Developmental Psychology, 22*(6), 723.

- Bronfenbrenner, U. (1994). Developmental ecology through space and time: A future perspective. *Examining lives in context: Perspectives on the Ecology of Human Development*, 619(647), 10176-018.
- Bronfenbrenner, U., & Morris, P. A. (2006). The bioecological model of human development. In R.M. Lerner (Ed.), *Handbook of child psychology: Volume 1: Theoretical models of human development* (6th ed., pp. 495-825). Hoboken, NJ: John Wiley & Sons, Inc.
- Brown, D. (Ed.). (2002). *Career choice and development*. New York: Wiley.
- Brown, D. W., Anda, R. F., Tiemeier, H., Felitti, V. J., Edwards, V. J., Croft, J. B., & Giles, W. H. (2009). Adverse childhood experiences and the risk of premature mortality. *American Journal of Preventive Medicine*, 37(5), 389-396.
- Brown, S. D., Krane, N. E. R., Brecheisen, J., Castelino, P., Budisin, I., Miller, M., & Edens, L. (2003). Critical ingredients of career choice interventions: More analyses and new hypotheses. *Journal of Vocational Behavior*, 62(3), 411-428.
- Brown, S. D., & Ryan Krane, N. E. (2000). Four (or five) sessions and a cloud of dust: Old assumptions and new observations about career counseling. In S. D. Brown, & R. W. Lent (Eds.), *Handbook of counseling psychology* (3rd ed., pp. 740-766). New York: Wiley.
- Brown, D. L., & Segrist, D. (2016). African American career aspirations: Examining the relative influence of internalized racism. *Journal of Career Development*, 43(2), 177-189.
- Browne, M. W., & Cudeck, R. (1993). Alternative ways of assessing model fit. *Sage focus editions*, 154, 136-136.
- Bucci, O., Creed, A., & Di Fabio, A. (2018). Career Interest Profile (CIP) as a Life Design Counseling Intervention: A Case Study on an Italian PhD Student Using Both FCA and LAQuA as Qualitative Evaluation Tools. In *Narrative Interventions in Post-modern Guidance and Career Counseling* (pp. 143-158). Springer, Cham.
- Buhrmester, M., Kwang, T., & Gosling, S. D. (2011). Amazon's Mechanical Turk: A new source of inexpensive, yet high-quality, data? *Perspectives on Psychological Science*, 6(1), 3-5.
- Bureau of Labor Statistics. (2012). The recession of 2007-2009. *BLS Spotlight On Statistics*. Retrieved from www.bls.gov/spotlight

- Bureau of Labor Statistics. (2014). *Labor force statistics from the current population survey*. Retrieved from <http://data.bls.gov/timeseries/LNS14000000>
- Burke, N. J., Hellman, J. L., Scott, B. G., Weems, C. F., & Carrion, V. G. (2011). The impact of adverse childhood experiences on an urban pediatric population. *Child Abuse & Neglect*, 35(6), 408-413.
- Cairns, R.B., & Cairns, B. (2006). The making of developmental psychology. In R.M. Lerner (Ed.), *Theoretical models of human development*. Volume 1 of the *Handbook of child psychology* (6th ed., pp.89-165). Editors-in-Chief: W. Damon & R.M. Lerner. Hoboken, NJ: Wiley.
- Cammarota, J. (2004). The gendered and racialized pathways of Latina and Latino youth: Different struggles, different resistances in the urban context. *Anthropology & Education Quarterly*, 35(1), 53-74.
- Center for Promise (US). (2015). Don't quit on me: what young people who left school say about the power of relationships.
- Chaves, A. P., Diemer, M. A., Blustein, D. L., Gallagher, L. A., DeVoy, J. E., Casares, M. T., & Perry, J. C. (2004). Conceptions of Work: The View From Urban Youth. *Journal of Counseling Psychology*, 51(3), 275.
- Chavous, T. M., Rivas-Drake, D., Smalls, C., Griffin, T., & Cogburn, C. (2008). Gender matters, too: The influences of school racial discrimination and racial identity on academic engagement outcomes among African American adolescents. *Developmental Psychology*, 44(3), 637.
- Chou, C.P., & Bentler, P.M. (1995). Estimates and tests in structural equation modeling. In R. Hoyle (Ed.), *Structural equation modeling: Issues, concepts, and applications* (pp. 37-55). Newbury Park, CA: Sage.
- Cole, E. R. (2009). Intersectionality and research in psychology. *American Psychologist*, 64(3), 170.
- Connors-Kellgren, A. (2017). *The role of caregiver work experience and social class in the development of young adults' vocational expectations* (Doctoral dissertation, Boston College).
- Connell, J. P., Gambone, M. A., & Smith, T. J. (2001). Youth development in community settings: Challenges to our field and our approach. In *Trends in youth development* (pp. 291-307). Springer, Boston, MA.

- Constantine, M. G., Erickson, C. D., Banks, R. W., & Timberlake, T. L. (1998). Challenges to the career development of urban racial and ethnic minority youth: Implications for vocational intervention. *Journal of Multicultural Counseling and Development, 26*(2), 83-95.
- Constantine, M. G., Wallace, B. C., & Kindaichi, M. M. (2005). Examining contextual factors in the career decision status of African American adolescents. *Journal of Career Assessment, 13*(3), 307-319.
- Cook, E. P., Heppner, M. J., & O'Brien, K. M. (2002). Career development of women of color and White women: Assumptions, conceptualization, and interventions from an ecological perspective. *The Career Development Quarterly, 50*(4), 291-305.
- Crocetti, E., Klimstra, T., Keijsers, L., Hale, W. W., & Meeus, W. (2009). Anxiety trajectories and identity development in adolescence: A five-wave longitudinal study. *Journal of Youth and Adolescence, 38*(6), 839-849.
- Crosnoe, R. (2009). Low-income students and the socioeconomic composition of public high schools. *American Sociological Review, 74*(5), 709-730.
- Dawis, R. V., & Lofquist, L. H. (1984). *A psychological theory of work adjustment: An individual-differences model and its applications*. University of Minnesota Press.
- Deci, E. L., & Ryan, R. M. (2002). Overview of self-determination theory: An organismic dialectical perspective. *Handbook of self-determination research, 3*-33.
- Dickens, D. D., & Chavez, E. L. (2018). Navigating the workplace: The costs and benefits of shifting identities at work among early career US Black women. *Sex Roles, 78*(11-12), 760-774.
- Diemer, M. A., & Ali, S. (2009). Integrating social class into vocational psychology: Theory and practice implications. *Journal of Career Assessment, 17*(3), 247-265.
- Diemer, M. A., & Blustein, D. L. (2006). Critical consciousness and career development among urban youth. *Journal of Vocational Behavior, 68*(2), 220-232.
- Diemer, M. A., & Blustein, D. L. (2007). Vocational hope and vocational identity: Urban adolescents' career development. *Journal of Career Assessment, 15*(1), 98-118.
- Diemer, M. A., Mistry, R. S., Wadsworth, M. E., López, I., & Reimers, F. (2013). Best practices in conceptualizing and measuring social class in psychological research. *Analyses of Social Issues and Public Policy, 13*(1), 77-113.

- Diemer, M. A., & Li, C. H. (2011). Critical consciousness development and political participation among marginalized youth. *Child Development, 82*(6), 1815-1833.
- Dooley, D., Fielding, J., & Levi, L. (1996). Health and unemployment. *Annual Review of Public Health, 17*, 449-465.
- Dorman, J. P. (2008). The effect of clustering on statistical tests: an illustration using classroom environment data. *Educational Psychology, 28*(5), 583-595.
- Douglass, R. P., Velez, B. L., Conlin, S. E., Duffy, R. D., & England, J. W. (2017). Examining the psychology of working theory: Decent work among sexual minorities. *Journal of Counseling Psychology, 64*(5), 550.
- Dube, S. R., Anda, R. F., Felitti, V. J., Chapman, D. P., Williamson, D. F., & Giles, W. H. (2001). Childhood abuse, household dysfunction, and the risk of attempted suicide throughout the life span: findings from the Adverse Childhood Experiences Study. *JAMA: The Journal of the American Medical Association, 286*(24), 3089-3096.
- Duffy, R. D., & Autin, K. L. (2013). Disentangling the link between perceiving a calling and living a calling. *Journal of Counseling Psychology, 60*(2), 219.
- Duffy, R. D., Autin, K. L., Allan, B. A., & Douglass, R. P. (2015). Assessing work as a calling: An evaluation of instruments and practice recommendations. *Journal of Career Assessment, 23*(3), 351-366.
- Duffy, R. D., Autin, K. L., & Bott, E. M. (2015). Work volition and job satisfaction: Examining the role of work meaning and person–environment fit. *The Career Development Quarterly, 63*(2), 126-140.
- Duffy, R. D., Autin, K. L., & Douglass, R. P. (2016). Examining how aspects of vocational privilege relate to living a calling. *The Journal of Positive Psychology, 11*(4), 416-427.
- Duffy, R. D., Blustein, D. L., Diemer, M. A., & Autin, K. L. (2016). The psychology of working theory. *Journal of Counseling Psychology, 63*(2), 127.
- Duffy, R. D., Diemer, M. A., & Jadidian, A. (2012). The development and initial validation of the Work Volition Scale–Student Version. *The Counseling Psychologist, 40*(2), 291-319.
- Duffy, R. D., Diemer, M. A., Perry, J. C., Laurenzi, C., & Torrey, C. L. (2012). The construction and initial validation of the Work Volition Scale. *Journal of Vocational Behavior, 80*(2), 400-411.

- Duffy, R. D., Gensmer, N., Allan, B. A., Kim, H. J., Douglass, R. P., England, J. W., ... & Blustein, D. L. (2019). Developing, validating, and testing improved measures within the Psychology of Working Theory. *Journal of Vocational Behavior, 112*, 199-215.
- Duffy, R. D., Kim, H. J., Gensmer, N. P., Raque-Bogdan, T. L., Douglass, R. P., England, J. W., & Buyukgoze-Kavas, A. (2019). Linking decent work with physical and mental health: A psychology of working perspective. *Journal of Vocational Behavior, 112*, 384-395.
- Duffy, R. D., Velez, B. L., England, J. W., Autin, K. L., Douglass, R. P., Allan, B. A., & Blustein, D. L. (2018). An examination of the Psychology of Working Theory with racially and ethnically diverse employed adults. *Journal of Counseling Psychology, 65*(3), 280.
- Eccles, J. S., & Gootman, J. A. (2002). Features of positive developmental settings. *Community programs to promote youth development, 86-118*.
- Elder Jr, G. H. (1996). Human lives in changing societies: Life course and developmental insights. *Developmental Science, 31-62*.
- Elder, G. H. (1998). The life course as developmental theory. *Child Development, 69*(1), 1-12.
- Erikson, E. H. (1959). Identity and the life cycle. *Psychological Issues, 1*, 1-171.
- Erikson, E.H. (1963). *Childhood and society*, New York: W.W. Norton & Co.
- Erikson, E. H. (1968). *Identity: Youth and crisis*. New York: Norton.
- Erikson, E. H. (1982). *The life cycle completed*. Ontario: Norton.
- Evans Jr, J. H., & Burck, H. D. (1992). The effects of career education interventions on academic achievement: A meta-analysis. *Journal of Counseling & Development, 71*(1), 63-68.
- Fassinger, R. E. (1987). Use of structural equation modeling in counseling psychology research. *Journal of Counseling Psychology, 34*(4), 425.
- Felitti, V. J., & Anda, R. F. (2010). The relationship of adverse childhood experiences to adult medical disease, psychiatric disorders, and sexual behavior: Implications for healthcare. *The impact of early life trauma on health and disease: The hidden epidemic, 77-87*.

- Ferry, N. M. (2006). Factors influencing career choices of adolescents and young adults in rural Pennsylvania. *Journal of Extension, 44*(3), 1-6.
- Field, A. (2013). *Discovering statistics using IBM SPSS statistics*. Sage.
- Finch, H. (2005). Comparison of the performance of nonparametric and parametric MANOVA test statistics when assumptions are violated. *Methodology, 1*(1), 27-38.
- Flanagan, S.K., Zaff, J.F., Varga, S.M., & Margolius, M. (In press). Webs of Supportive Relationships: A Positive Youth Development Approach to Career and Workforce Development with Risk-Immersed Youth. In M. Yuen, W. Beamish, & V.S. Solberg (Eds.), *Career Development and Transitions for Students with Special Educational Needs*. New York, NY: Springer.
- Flum, H. (2001). Relational dimensions in career development. *Journal of Vocational Behavior, 59*(1), 1-16.
- Ford, D. H., & Lerner, R. M. (1992). *Developmental systems theory: An integrative approach*. Sage Publications, Inc.
- Fouad, N. A., & Byars-Winston, A. M. (2005). Cultural context of career choice: meta-analysis of race/ethnicity differences. *The Career Development Quarterly, 53*(3), 223-233.
- Freire, P. (1973). *Education for critical consciousness* (Vol. 1). Bloomsbury Publishing.
- Freire, P. (1993). *Pedagogy of the city*. Burns & Oates.
- Freud, A. (1958). Child Observation and Prediction of Development 1: A Memorial Lecture in Honor of Ernst Kris. *The psychoanalytic study of the child, 13*(1), 92-116.
- Freud, A. (1965). *Normality and pathology in childhood; assessments of development*. New York: International Universities Press.
- Freud, A. (1989). *Normality and pathology in childhood assessments of development* (New ed.). London: Karnac Books.
- Ginwright, S., & Cammarota, J. (2002). New terrain in youth development: The promise of a social justice approach. *Social Justice, 29*(4 (90)), 82-95.
- Ginzberg, E., Ginsburg, S. W., Axelrad, S., & Herma, J. L. (1951). *Occupational choice*. New York.

- Glass, G.V. (1972). Consequences of failure to meet assumptions underlying the analysis of variance and covariance. *Review of Educational Research*, 42, 237–288.
- Goodman, J. K., Cryder, C. E., & Cheema, A. (2013). Data collection in a flat world: The strengths and weaknesses of Mechanical Turk samples. *Journal of Behavioral Decision Making*, 26(3), 213-224.
- Gottfredson, L. S. (2002). Gottfredson's theory of circumscription, compromise, and self-creation. *Career Choice and Development*, 4, 85-148.
- Guan, Y., Yang, W., Zhou, X., Tian, Z., & Eves, A. (2016). Predicting Chinese human resource managers' strategic competence: Roles of identity, career variety, organizational support and career adaptability. *Journal of Vocational Behavior*, 92, 116-124.
- Hahm, H. C., Lee, Y., Ozonoff, A., & Van Wert, M. J. (2010). The impact of multiple types of child maltreatment on subsequent risk behaviors among women during the transition from adolescence to young adulthood. *Journal of Youth and Adolescence*, 39(5), 528-540.
- Hall, D. T. (1996). *The career is dead—long live the career: A relational approach to careers*. Jossey-Bass: San Francisco.
- Hall, D. T., & Mirvis, P. H. (1995). The new career contract: Developing the whole person at midlife and beyond. *Journal of Vocational Behavior*, 47(3), 269-289.
- Hartung, P. J. (2019). Life Design: A Paradigm for Innovating Career Counselling in Global Context. In *Handbook of Innovative Career Counselling* (pp. 3-18). Springer, Cham.
- Hartung, P. J., Porfeli, E. J., & Vondracek, F. W. (2005). Child vocational development: A review and reconsideration. *Journal of Vocational Behavior*, 66(3), 385-419.
- Hartung, P. J., Porfeli, E. J., & Vondracek, F. W. (2008). Career adaptability in childhood. *The Career Development Quarterly*, 57(1), 63-74.
- Havighurst, R. J. (1953). *Human development and education*. Oxford, England: Longmans, Green.
- Hawkins, J. D., Oesterle, S., Brown, E. C., Arthur, M. W., Abbott, R. D., Fagan, A. A., & Catalano, R. F. (2009). Results of a type 2 translational research trial to prevent adolescent drug use and delinquency: A test of Communities That Care. *Archives of Pediatrics & Adolescent Medicine*, 163(9), 789-798.

- Hill, M.S. (1992). *The Panel Study of Income Dynamics: A user's guide*. Newbury Park, CA: Sage Publications.
- Hirschi, A. (2009). Career adaptability development in adolescence: Multiple predictors and effect on sense of power and life satisfaction. *Journal of Vocational Behavior*, 74(2), 145-155.
- Hirschi, A., & Valero, D. (2015). Career adaptability profiles and their relationship to adaptivity and adapting. *Journal of Vocational Behavior*, 88, 220-229.
- Hoe, S. L. (2008). Issues and procedures in adopting structural equation modeling technique. *Journal of Applied Quantitative Methods*, 3(1), 76-83.
- Holland, J. L. (1997). *Making vocational choices: A theory of vocational personalities and work environments*. Psychological Assessment Resources.
- Holmbeck, G. N. (1997). Toward terminological, conceptual, and statistical clarity in the study of mediators and moderators: examples from the child-clinical and pediatric psychology literatures. *Journal of Consulting and Clinical Psychology*, 65(4), 599.
- Hope, E. C., & Spencer, M. B. (2017). Civic engagement as an adaptive coping response to conditions of inequality: An application of phenomenological variant of ecological systems theory (PVEST). In *Handbook on positive development of minority children and youth* (pp. 421-435). Springer, Cham.
- Howard, K. A., & Walsh, M. E. (2010). Conceptions of career choice and attainment: Developmental levels in how children think about careers. *Journal of Vocational Behavior*, 76(2), 143-152.
- Hoyle, R. H., & Panter, A. T. (1995). Writing About Structural Equation Models. In R. H. Hoyle (Ed.), *Structural equation modeling: Concepts, issues and applications* (pp. 158-176). Thousand Oaks, CA: Sage.
- Hu, L.T., & Bentler, P. M. (1995). Evaluating model fit. In R. H. Hoyle (Ed.), *Structural equation modeling: Concepts, issues and applications* (pp. 76-99). Thousand Oaks, CA: Sage.
- Hu, L.T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, 6, 1-55.

- Hughes, J. M. (2011). Influence of discrimination awareness on the occupational interests of African American children. *Journal of Applied Developmental Psychology, 32*(6), 369-378.
- Hurley, A. E., Scandura, T. A., Schriesheim, C. A., Brannick, M. T., Seers, A., Vandenberg, R. J., & Williams, L. J. (1997). Exploratory and confirmatory factor analysis: Guidelines, issues, and alternatives. *Journal of Organizational Behavior, 18*(6), 667-683.
- International Labor Organization. (2008). Work of work report 2008: Income inequalities in the age of financial globalization. Retrieved from http://www.ilo.org/wcmsp5/groups/public/@dgreports/@dcomm/@publ/documents/publication/wcms_100354.pdf
- International Labor Organization. (2012). Decent work indicators: Concepts and definitions. Retrieved from [http://www.ilo.org/wcmsp5/groups/public/---dgreports/--integration/documents/publication/wcms_229374 .pdf](http://www.ilo.org/wcmsp5/groups/public/---dgreports/--integration/documents/publication/wcms_229374.pdf)
- International Labor Organization. (2018). *Women and men in the informal economy: A statistical picture* (3rd ed.). Geneva: International Labour Office.
- Jacobs, R., & Hawley, J. (2009). Emergence of workforce development: Definition, conceptual boundaries, and implications. In R. MacLean & D. Wilson (Eds.), *International handbook of technical and vocational education and training* (pp. 2537-2552). Amsterdam: Kluwer.
- Jadidian, A., & Duffy, R. D. (2012). Work volition, career decision self-efficacy, and academic satisfaction: An examination of mediators and moderators. *Journal of Career Assessment, 20*(2), 154-165.
- Jay, W., Rajewski, R. C. W., & John, W. S. (1995). Effects of gender and academic-risk behavior on the career maturity of rural youth. *Journal of Research in Rural Education, 11*(2), 92-104.
- Johnson, L. S. (2000). The relevance of school to career: A study in student awareness. *Journal of Career Development, 26*(4), 263-276.
- Jin, R., Shah, C., & Svoboda, T. (1995). The impact of unemployment on health: A review of the evidence. *Journal of the Canadian Medical Association, 153*(3), 529-539.
- Kahn, J. H. (2006). Factor analysis in counseling psychology research, training, and practice: Principles, advances, and applications. *The Counseling Psychologist, 34*(5), 684-718.

- Kalleberg, A. L. (2009). Precarious work, insecure workers: Employment relations in transition. *American Sociological Review*, 74(1), 1-22.
- Kenny, M. E., & Bledsoe, M. (2005). Contributions of the relational context to career adaptability among urban adolescents. *Journal of Vocational Behavior*, 66(2), 257-272.
- Kenny, M. E., Blustein, D. L., Chaves, A., Grossman, J. M., & Gallagher, L. A. (2003). The role of perceived barriers and relational support in the educational and vocational lives of urban high school students. *Journal of Counseling Psychology*, 50(2), 142.
- Kenny, M. E., Blustein, D. L., Gutowski, E., & Meerkins, T. (2018). Combatting marginalization and fostering critical consciousness for decent work. In *Interventions in Career Design and Education* (pp. 55-73). Springer, Cham.
- Kim, H. Y. (2013). Statistical notes for clinical researchers: assessing normal distribution using skewness and kurtosis. *Restorative Dentistry & Endodontics*, 38(1), 52-54.
- Kim, H. J., Duffy, R. D., Lee, S., Lee, J., & Lee, K.-H. (2019). Application of the psychology of working theory with Korean emerging adults. *Journal of Counseling Psychology*. Advance online publication.
- Kim, S. Y., Fouad, N., Maeda, H., Xie, H., & Nazan, N. (2018). Midlife work and psychological well-being: A test of the psychology of working theory. *Journal of Career Assessment*, 26(3), 413-424.
- King, N. J., & Madsen, E. (2007). Contextual influences on the career development of low-income African American youth: Considering an ecological approach. *Journal of Career Development*, 33(4), 395-411.
- Kline, R. B. (2005). *Principles and practice of structural equation modeling*. Guilford publications.
- Kline, R. B. (2015). *Principles and practice of structural equation modeling*. Guilford publications.
- Kozan, S., Işık, E., & Blustein, D. L. (2019). Decent work and well-being among low-income Turkish employees: Testing the psychology of working theory. *Journal of Counseling Psychology*, 66(3), 317.
- Lapan, R. T. (2004). *Career development across the K-16 years: Bridging the present to satisfying and successful futures*. American Counseling Association.

- LaPointe, K. (2010). Narrating career, positioning identity: Career identity as a narrative practice. *Journal of Vocational Behavior*, 77(1), 1-9.
- Leffert, N., Benson, P. L., Scales, P. C., Sharma, A. R., Drake, D. R., & Blyth, D. A. (1998). Developmental assets: Measurement and prediction of risk behaviors among adolescents. *Applied Developmental Science*, 2(4), 209-230.
- Lent, R. W., & Brown, S. D. (2006). On conceptualizing and assessing social cognitive constructs in career research: A measurement guide. *Journal of Career Assessment*, 14(1), 12-35.
- Lent, R. W., Brown, S. D., & Hackett, G. (1994). Toward a unifying social cognitive theory of career and academic interest, choice, and performance. *Journal of Vocational Behavior*, 45(1), 79-122.
- Leong, F. T., & Brown, M. T. (1995). Theoretical issues in cross-cultural career development: Cultural validity and cultural specificity. In W. B. Walsh & S. H. Osipow (Eds.), *Contemporary topics in vocational psychology. Handbook of vocational psychology: Theory, research, and practice* (pp. 143-180). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.
- Leong, F. T., & Pearce, M. (2011). Desiderata: Towards indigenous models of vocational psychology. *International Journal for Educational and Vocational Guidance*, 11(2), 65-77.
- Lerner, R. M. (2005). Promoting positive youth development: Theoretical and empirical bases. In White paper prepared for the workshop on the science of adolescent health and development, national research council/institute of medicine. Washington, DC: National Academies of Science.
- Lerner, R. M. (2006). Developmental science, developmental systems, and contemporary theories of human development. In R. M. Lerner & W. Damon (Eds.), *Handbook of child psychology: Theoretical models of human development* (pp. 1-17). Hoboken, NJ: John Wiley & Sons Inc.
- Lerner, R. M. (2012). Developmental science: Past, present, and future. *International Journal of Developmental Science*, 6(1-2), 29-36.
- Lerner, R. M., Almerigi, J. B., Theokas, C., & Lerner, J. V. (2005). Positive youth development a view of the issues. *The Journal of Early Adolescence*, 25(1), 10-16.
- Lerner, R.M., & Callina K., (2013) Relational Developmental Systems Theories and the Ecological Validity of Experimental Designs. *Human Development*, 56, 372-380.

- Lerner, R. M., & Castellino, D. R. (2002). Contemporary developmental theory and adolescence: Developmental systems and applied developmental science. *Journal of Adolescent Health, 31*(6), 122-135.
- Lerner, R. M., & Damon, W. (1998). Theoretical models of human development. *Handbook of Child Psychology* (Vol. 1).
- Lerner, R. M., & Overton, W. F. (2008). Exemplifying the integrations of the relational developmental system: Synthesizing theory, research, and application to promote positive development and social justice. *Journal of Adolescent Research, 23*(3), 245-255.
- Lerner, J. V., Phelps, E., Forman, Y., & Bowers, E. P. (2009). Positive youth development. In R. M. Lerner & L. Steinberg (Eds.), *Handbook of adolescent psychology: Vol 1. Individual bases of adolescent development* (3rd ed., pp. 524–558). Hoboken, NJ: Wiley.
- Ling, T. J., & O'Brien, K. M. (2013). Connecting the forgotten half: The school-to-work transition of noncollege-bound youth. *Journal of Career Development, 40*(4), 347-367.
- Little, T. D. (2013). *Longitudinal structural equation modeling*. New York: Guilford Press.
- Little, R. J. A., & Rubin, D. B. (2002). *Statistical analysis with missing data*. Wiley. New York.
- Loehlin, J. C. (1998). *Latent variable models: An introduction to factor, path, and structural analysis*. Lawrence Erlbaum Associates Publishers.
- Loehlin, J. C., & Beaujean, A. A. (2016). *Latent variable models: An introduction to factor, path, and structural equation analysis*. Taylor & Francis.
- MacCallum, R. C., & Austin, J. T. (2000). Applications of structural equation modeling in psychological research. *Annual Review of Psychology, 51*(1), 201-226.
- MacCallum, R. C., Browne, M. W., & Sugawara, H. M. (1996). Power analysis and determination of sample size for covariance structure modeling. *Psychological Methods, 1*(2), 130.
- MacCallum, R. C., Wegener, D. T., Uchino, B. N., & Fabrigar, L. R. (1993). The problem of equivalent models in applications of covariance structure analysis. *Psychological Bulletin, 114*(1), 185.

- Maggiore, C., Rossier, J., & Savickas, M. L. (2017). Career adapt-abilities scale–short form (CAAS-SF) construction and validation. *Journal of Career Assessment, 25*(2), 312-325.
- Marcia, J. E. (1966). Development and validation of ego-identity status. *Journal of Personality and Social Psychology, 3*(5), 551.
- Marcia, J. E. (1980). Identity in adolescence. *Handbook of Adolescent Psychology, 9*(11), 159-187.
- Marcia, J. E. (1991). Identity and self-development. *Encyclopedia of Adolescence, 1*, 529-533.
- Marsh, H. W., Muthén, B., Asparouhov, T., Lüdtke, O., Robitzsch, A., Morin, A. J., & Trautwein, U. (2009). Exploratory structural equation modeling, integrating CFA and EFA: Application to students' evaluations of university teaching. *Structural Equation Modeling, 16*(3), 439-476.
- Martens, M. P. (2005a). The use of structural equation modeling in counseling psychology research. *The Counseling Psychologist, 33*(3), 269-298.
- Martens, M. P. (2005b). Future directions of structural equation modeling in counseling psychology. *The Counseling Psychologist, 33*(3), 375-382.
- Martens, M. P., & Haase, R. F. (2006). Advanced applications of structural equation modeling in counseling psychology research. *The Counseling Psychologist, 34*(6), 878-911.
- Masdonati, J., & Fournier, G. (2015). Life design, young adults, and the school-to-work transition. In L. Nota & J. Rossier (Eds.), *Handbook of life design: From practice to theory and from theory to practice* (pp. 117–133). Boston, MA: Hogrefe Publishing.
- McAdams, D. P. (2004). The redemptive self: Narrative identity in America today. *The self and memory, 95*-115.
- McAdams, D. P. (2006). The redemptive self: Generativity and the stories Americans live by. *Research in Human Development, 3*(2-3), 81-100.
- McAdams, D. P., & Olson, B. D. (2010). Personality development: Continuity and change over the life course. *Annual Review of Psychology, 61*, 517-542.

- McArdle, S., Waters, L., Briscoe, J. P., & Hall, D. T. T. (2007). Employability during unemployment: Adaptability, career identity and human and social capital. *Journal of Vocational Behavior, 71*(2), 247-264.
- McClain, S., Beasley, S. T., Jones, B., Awosogba, O., Jackson, S., & Cokley, K. (2016). An examination of the impact of racial and ethnic identity, impostor feelings, and minority status stress on the mental health of Black college students. *Journal of Multicultural Counseling and Development, 44*(2), 101-117.
- McDonald, R. P., & Ho, M. H. R. (2002). Principles and practice in reporting structural equation analyses. *Psychological Methods, 7*(1), 64.
- McKee-Ryan, F., Song, Z., Wanberg, C. R., & Kinicki, A. J. (2005). Psychological and physical well-being during unemployment: a meta-analytic study. *Journal of Applied Psychology, 90*(1), 53.
- McMahon, M., Watson, M., & Patton, W. (2014). Context-resonant systems perspectives in career theory. In *Handbook of career development* (pp. 29-41). Springer, New York, NY.
- Measure of America (2017). Promising Gains, Persistent Gaps: Youth Disconnection in America.
- Medvide, M. B., Kozan, S., Blustein, D. L., & Kenny, M. E. (2019). School to Work Transition of Non-college Bound Youth: An Integration of the Life Design Paradigm and the Psychology of Working Theory. In *Handbook of Innovative Career Counselling* (pp. 157-172). Springer, Cham.
- Meeus, W. (1996). Studies on identity development in adolescence: An overview of research and some new data. *Journal of Youth and Adolescence, 25*(5), 569-598.
- Meijers, F., & Lengelle, R. (2012). Narratives at work: The development of career identity. *British Journal of Guidance & Counselling, 40*(2), 157-176.
- Mercy, J. A., & Steelman, L. C. (1982). Familial influence on the intellectual attainment of children. *American Sociological Review, 53*, 532-542.
- Merino-Tejedor, E., Hontangas, P. M., & Boada-Grau, J. (2016). Career adaptability and its relation to self-regulation, career construction, and academic engagement among Spanish university students. *Journal of Vocational Behavior, 93*, 92-102.
- Mertler, C. A., & Vannatta, R. A. (2005). *Advanced and multivariate statistical procedures*. Glendale.

- Molenaar, P. C., Lerner, R. M., & Newell, K. M. (Eds.). (2013). *Handbook of developmental systems theory and methodology*. Guilford Publications.
- Murphy, G. C., & Athanasou, J. A. (1999). The effect of unemployment on mental health. *Journal of Occupational and Organizational Psychology*, 72(1), 83-99.
- Muthén, B., Kaplan, D., & Hollis, M. (1987). On structural equation modeling with data that are not missing completely at random. *Psychometrika*, 52(3), 431-462.
- Muthen, L. K., & Muthén, B. O. (2017). *Mplus user's guide, v. 6.1*. Los Angeles, CA: Muthen and Muthen, UCLA.
- Nasser-Abu Alhija, F., & Wisenbaker, J. (2006). A Monte Carlo study investigating the impact of item parceling strategies on parameter estimates and their standard errors in CFA. *Structural Equation Modeling*, 13(2), 204-228.
- Neblett Jr, E. W., Philip, C. L., Cogburn, C. D., & Sellers, R. M. (2006). African American adolescents' discrimination experiences and academic achievement: Racial socialization as a cultural compensatory and protective factor. *Journal of Black Psychology*, 32(2), 199-218.
- Negru-Subtirica, O., Pop, E. I., & Crocetti, E. (2015). Developmental trajectories and reciprocal associations between career adaptability and vocational identity: A three-wave longitudinal study with adolescents. *Journal of Vocational Behavior*, 88, 131-142.
- Niles, S. G., & Herr, E. L. (2013). Public Policy and the Psychology of. *The oxford handbook of the psychology of working*, 311.
- Nurius, P. S., Logan-Greene, P., & Green, S. (2012). Adverse childhood experiences (ACE) within a social disadvantage framework: Distinguishing unique, cumulative, and moderated contributions to adult mental health. *Journal of Prevention & Intervention in the Community*, 40(4), 278-290.
- Oliver, L. W., & Spokane, A. R. (1988). Career-intervention outcome: What contributes to client gain?. *Journal of Counseling Psychology*, 35(4), 447.
- Olson, C. L. (1979). Practical considerations in choosing a MANOVA test statistic: A rejoinder to Stevens. *Psychological Bulletin*, 86(6), 1350-1352.
- Overton, W. F. (2006). Developmental psychology: Philosophy, concepts, methodology. In R. M. Lerner & W. Damon (Eds.), *Handbook of child psychology: Theoretical models of human development* (pp. 18-88). Hoboken, NJ: John Wiley & Sons Inc.

- Overton, W. F. (2010). Life-Span Development. *The handbook of life-span development*.
- Overton, W. F. (2013). A new paradigm for developmental science: Relationism and relational-developmental systems. *Applied Developmental Science, 17*(2), 94-107.
- Overton, W. F. (2015). Processes, relations, and relational-developmental systems. *Handbook of child psychology and developmental science*.
- Palazzeschi, L., Creed, A., Gori, A., & Di Fabio, A. (2018). Life Design Counseling Intervention: Two Case Studies on Italian Workers Using Career Construction Interview and LAQuA and CCIO as Qualitative Evaluation Tools. In *Narrative Interventions in Post-modern Guidance and Career Counseling* (pp. 159-180). Springer, Cham.
- Paolacci, G., Chandler, J., & Ipeirotis, P. G. (2010). Running experiments on amazon mechanical turk. *Judgment and Decision Making, 5*(5), 411-419.
- Paul, K. I., & Moser, K. (2009). Unemployment impairs mental health: Meta-analyses. *Journal of Vocational Behavior, 74*(3), 264-282.
- Parsons, F. (1909). *Choosing a vocation*. Houghton Mifflin.
- Patton, W., & McMahon, M. (2006). The systems theory framework of career development and counseling: Connecting theory and practice. *International Journal for the Advancement of Counselling, 28*(2), 153-166.
- Patton, W., & McMahon, M. (2014). *Career development and systems theory: Connecting theory and practice* (Vol. 2). Springer.
- Patton, W., & McMahon, M. (2016). Constructivism: What does it mean for career counselling? In *Career Counselling* (pp. 21-34). Routledge.
- Perry, J. C., Liu, X., & Pabian, Y. (2010). School engagement as a mediator of academic performance among urban youth: The role of career preparation, parental career support, and teacher support. *The Counseling Psychologist, 38*(2), 269-295.
- Piaget, J. (1936). *The origins of intelligence in children*. (Trans, by Margaret Cook.) New York: Internat. Univer. Press, 1952.
- Piaget, J. (1937). *The construction of reality in the child*. (Trans, by Margaret Cook.) New York: Basic Books, 1954.

- Porche, M.V., Zaff, J.F., & Pan, J. (2017). *Barriers to success: Toward a deeper understanding of adversity's effects on adolescents*. Washington, DC: America's Promise Alliance.
- Porfeli, E. J. (2009). A five-dimensional measure of vocational identity status for adolescents. Paper presented at the Society for Research on Child Development, Denver, CO.
- Porfeli, E. J., Lee, B., Vondracek, F. W., & Weigold, I. K. (2011). A multi-dimensional measure of vocational identity status. *Journal of Adolescence*, 34(5), 853-871.
- Porfeli, E. J., & Savickas, M. L. (2012). Career Adapt-Abilities Scale-USA Form: Psychometric properties and relation to vocational identity. *Journal of Vocational Behavior*, 80(3), 748-753.
- Porter, S. R., Whitcomb, M. E., & Weitzer, W. H. (2004). Multiple surveys of students and survey fatigue. *New Directions for Institutional Research*, 2004(121), 63-73.
- Preacher, K. J., & Hayes, A. F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods*, 36(4), 717-731.
- Prilleltensky, I. (1997). Values, assumptions, and practices: Assessing the moral implications of psychological discourse and action. *American Psychologist*, 52(5), 517.
- Prilleltensky, I. (2005). Promoting well-being: Time for a paradigm shift in health and human services. *Scandinavian Journal of Public Health*, 33(66_suppl), 53-60.
- Prilleltensky, I., & Stead, G. B. (2014). Critical Psychology, Well-Being, and. *The Oxford handbook of the psychology of working*, 19.
- Pufall Jones, E. P., Flanagan, S., Zaff, J. F., McClay, C., Hynes, M., & Cole, M. (2016). *Relationships come first: How four career development and workforce readiness programs prepare young people for work and life*. Washington, DC: America's Promise Alliance.
- Pufall Jones, E. P., Flanagan, S., Zaff, J. F., McClay, C., Varga, S., Rollock, M., Hynes, M., & Cole, M. (2017). *Turning points: How young people in four career pathways programs describe the relationships that shape their lives*. Washington, DC: America's Promise Alliance.
- Quintini, G., Martin, J. P., & Martin, S. (2007). The changing nature of the school-to-work transition process in OECD countries. IZA Discussion Paper No. 2582.

Forschungsinstitut zur Zukunft der Arbeit/Institute for the Study of Labor. Bonn, Germany. <http://www.oecd.org/employment/emp/38187773.pdf>

- Richardson, M. S. (1996). From career counseling to counseling/psychotherapy and work, jobs, and career. In M. L. Savickas & W. B. Walsh (Eds.), *Handbook of career counseling theory and practice* (pp. 347-360). Palo Alto, CA: Davies-Black Publishing.
- Richardson, M. S. (2000). A new perspective for counsellors: From career ideologies to empowerment through work and relationship practices. *The future of career*, 197-211.
- Richardson, M. S. (2012). Counseling for work and relationship. *The Counseling Psychologist*, 40(2), 190-242.
- Roelfs, D., Shor, E., Davidson, K., & Schwartz, J. (2011). Losing life and livelihood: A systematic review and meta-analysis of unemployment and all-cause mortality. *Social Science & Medicine*, 72, 840-854.
- Rossegger, A., Wetli, N., Urbaniok, F., Elbert, T., Cortoni, F., & Endrass, J. (2009). Women convicted for violent offenses: Adverse childhood experiences, low level of education and poor mental health. *BMC Psychiatry*, 9(1), 81.
- Rossier, J. (2015). Career adaptability and life designing. In L. Nota & J. Rossier (Eds.), *Handbook of the life design: From practice to theory and from theory to practice* (pp. 153-167). Boston, MA: Hogrefe Publishing. doi:10.1027/00447-000
- Rubin, D. B. (1976). Inference and missing data. *Biometrika*, 63(3), 581-592.
- Rudolph, C. W., Lavigne, K. N., & Zacher, H. (2017). Career adaptability: A meta-analysis of relationships with measures of adaptivity, adapting responses, and adaptation results. *Journal of Vocational Behavior*, 98, 17-34.
- Ryan, P. (2001). The school-to-work transition: a cross-national perspective. *Journal of Economic Literature*, 39(1), 34-92.
- Savickas, M. L. (1993). Career counseling in the postmodern era. *Journal of Cognitive Psychotherapy*, 7(3), 205-215.
- Savickas, M. L. (1997). Career adaptability: An integrative construct for life-span, life-space theory. *The Career Development Quarterly*, 45(3), 247-259.
- Savickas, M. L. (2002). Career construction. In D. Brown (Ed.) *Career choice and development*, 149, 205. John Wiley & Sons.

- Savickas, M. L. (2005). The theory and practice of career construction. In S. Brown and R. Lent (Eds.) *Career development and counseling: Putting theory and research to work*, 1, 42-70.
- Savickas, M.L. (2012). Career construction theory and practice. In S. Brown and R. Lent (Eds.) *Career development and counseling: Putting theory and research to work*, 2, 147-183.
- Savickas, M.L. (2015). *Life-design counseling manual* (p. 88). Mark L. Savickas.
- Savickas, M. L., Nota, L., Rossier, J., Dauwalder, J., Duarte, M. E., Guichard, J. Van, et al. (2009). Life designing: A paradigm for career construction in the 21st century. *Journal of Vocational Behavior*, 75, 239–250.
<https://doi.org/10.1016/j.jvb.2009.04.004>.
- Scales, P. C., Benson, P. L., Moore, K. A., Lippman, L., Brown, B., & Zaff, J. F. (2008). Promoting equal developmental opportunity and outcomes among America's children and youth: Results from the National Promises Study. *The Journal of Primary Prevention*, 29(2), 121-144.
- Scales, P. C., & Leffert, N. (1999). *Developmental assets*. Minneapolis, MN: Search Institute.
- Scarr, S., & Weinberg, R. A. (1978). The influence of "family background" on intellectual attainment. *American Sociological Review*, 674-692.
- Schafer, J. L., & Olsen, M. K. (1998). Multiple imputation for multivariate missing data problems: A data analyst's perspective. *Multivariate Behavioral Research*, 33, 545–571.
- Schlomer, G. L., Bauman, S., & Card, N. A. (2010). Best practices for missing data management in counseling psychology. *Journal of Counseling Psychology*, 57(1), 1.
- Schuller, T. (2000). The complementary roles of human and social capital. *Canadian Journal of Policy Research*, 2(1), 18– 24.
- Schultheiss, D. E. P. (2008). Current status and future agenda for the theory, research, and practice of childhood career development. *The Career Development Quarterly*, 57(1), 7-24.
- Schwarz, N. (1999). Self-reports: how the questions shape the answers. *American Psychologist*, 54(2), 93.

- Seaton, E. K., Neblett, E. W., Cole, D. J., & Prinstein, M. J. (2013). Perceived discrimination and peer victimization among African American and Latino youth. *Journal of Youth and Adolescence*, 42(3), 342-350.
- Seider, S. C., Clark, S., & Soutter, M. (2015). A critically conscious approach to fostering the success of college students from underrepresented groups. *Journal of College and Character*, 16(4), 253-262.
- Sellers, R. M., Copeland-Linder, N., Martin, P. P., & Lewis, R. L. H. (2006). Racial identity matters: The relationship between racial discrimination and psychological functioning in African American adolescents. *Journal of Research on Adolescence*, 16(2), 187-216
- Skorikov, V. B., & Vondracek, F. W. (2007). Vocational identity. *Career development in childhood and adolescence*, 143-168.
- Smith, E. J. (1983). Issues in racial minorities' career behavior. *Handbook of vocational psychology*, 1, 161-222.
- Smith, N. A., Sabat, I. E., Martinez, L. R., Weaver, K., & Xu, S. (2015). A convenient solution: Using Mturk to sample from hard-to-reach populations. *Industrial and Organizational Psychology*, 8(2), 220-228.
- Solberg, V. S., Howard, K. A., Blustein, D. L., & Close, W. (2002). Career development in the schools: Connecting school-to-work-to-life. *The Counseling Psychologist*, 30(5), 705-725.
- Sorrentino, C., & Moy, J. (2002). U.S. Labor Market Performance in International Perspective. *United States Bureau of Labor Statistics Monthly Labor Review*. <http://www.bls.gov/opub/mlr/2002/06/art2full.pdf>
- Spencer, M. B. (1995). Old issues and new theorizing about African American youth: A phenomenological variant of ecological systems theory. *Black youth: Perspectives on their status in the United States*, 37-70.
- Spencer, M. B. (1999). Social and cultural influences on school adjustment: The application of an identity-focused. *Educational Psychologist*, 34(1), 43-57.
- Spencer, M. B. (2006). Phenomenology and ecological systems theory: Development of diverse groups. *Handbook of child psychology*.
- Spencer, M.B., Ashford, C., Thompson, T., & Hartman, T. (2002). Exploring African-American adolescents' home and school psychosocial contexts of career

- development. In *Edmund W. Gordon: Producing Knowledge, Pursuing Understanding* (pp. 35-74). Emerald Group Publishing Limited.
- Spencer, M.B., Dupree, D., Cunningham, M., Harpalani, V., & Muñoz-Miller, M. (2003). Vulnerability to violence: A contextually-sensitive, developmental perspective on African American adolescents. *Journal of Social Issues*, 59(1), 33-49.
- Spencer, M. B., Dupree, D., & Hartmann, T. (1997). A phenomenological variant of ecological systems theory (PVEST): A self-organization perspective in context. *Development and Psychopathology*, 9(04), 817-833.
- Spencer, M. B., Fegley, S. G., & Harpalani, V. (2003). A theoretical and empirical examination of identity as coping: Linking coping resources to the self processes of African American youth. *Applied Developmental Science*, 7(3), 181-188.
- Steiger, J. H. (1990). Structural model evaluation and modification: An interval estimation approach. *Multivariate Behavioral Research*, 25(2), 173-180.
- Steiger, J. H., & Lind, J. C. (1980). May, Statistically Based Tests for the Number of Factors. Paper presented at the Annual Meeting of the Psychometric Society (Iowa City, IA).
- Stephen, J., Fraser, E., & Marcia, J. E. (1992). Moratorium-achievement (Mama) cycles in lifespan identity development: Value orientations and reasoning system correlates. *Journal of Adolescence*, 15(3), 283-300.
- Sultana, R. G. (2014). Pessimism of the intellect, optimism of the will? Troubling the relationship between career guidance and social justice. *International Journal for Educational and Vocational Guidance*, 14(1), 5-19.
- Super, D. E. (1953). A theory of vocational development. *American Psychologist*, 8(5), 185.
- Super, D. E. (1967). *Floundering and trial after high school*. Teachers College, Columbia University.
- Super, D. E. (1990). A life-span, life-space approach to career development. In D. Brown & L. Brooks, *The Jossey-Bass management series and The Jossey-Bass social and behavioral science series. Career choice and development: Applying contemporary theories to practice* (pp. 197-261). San Francisco, CA: Jossey-Bass
- Super, D. E., Savickas, M. L., & Super, C. M. (1996). The life-span, life-space approach to careers. In Brown, D., Brooks, L. *Career choice and development*, 121-178.

- Swanson, J. L. (2012). "Work and psychological health," in *APA Handbook of Counseling Psychology*, eds. N. A. Fouad, J. A. Carter, and L. M. Subich (Washington, D.C.: American Psychological Association), 3–27. doi: 10.1037/13755-001
- Swanson, D. P., Cunningham, M., & Spencer, M. B. (2003). Black males' structural conditions, achievement patterns, normative needs, and "opportunities". *Urban Education, 38*(5), 608-633.
- Tabachnick, B. G., & Fidell, L. S. (1996). *Using multivariate statistics*. Northridge, CA: Harper Collins.
- Tebbe, E. A., Allan, B. A., & Bell, H. L. (2019). Work and well-being in TGNC adults: The moderating effect of workplace protections. *Journal of Counseling Psychology, 66*(1), 1.
- Theokas, C., Almerigi, J. B., Lerner, R. M., Dowling, E. M., Benson, P. L., Scales, P. C., & von Eye, A. (2005). Conceptualizing and modeling individual and ecological asset components of thriving in early adolescence. *The Journal of Early Adolescence, 25*(1), 113-143.
- Tokar, D. M., & Kaut, K. P. (2018). Predictors of decent work among workers with Chiari malformation: An empirical test of the psychology of working theory. *Journal of Vocational Behavior, 106*, 126-137.
- Toothaker, L.E. (1993). *Multiple comparison procedures*. Newbury Park, CA: Sage.
- Varga, S. M., & Zaff, J. F. (2018). Webs of Support: An integrative framework of relationships, social networks, and social support for positive youth development. *Adolescent Research Review, 3*(1), 1-11
- Vanhalakka-Ruoho, M. (2010). Relational aspects in career and life-designing of young people. *International Journal for Educational and Vocational Guidance, 10*(2), 109-123.
- VanVoorhis, C. W., & Morgan, B. L. (2007). Understanding power and rules of thumb for determining sample sizes. *Tutorials in Quantitative Methods for Psychology, 3*(2), 43-50.
- Vondracek, F. W. (2001). The developmental perspective in vocational psychology. *Journal of Vocational Behavior, 59*(2), 252-261.
- Vondracek, F., Lerner, R. M., & Schulenberg, J. E. (1986). *Career development: A life-span developmental approach*. Lawrence Erlbaum.

- Vondracek, F. W., & Porfeli, E. J. (2008). Social contexts for career guidance throughout the world. Developmental-contextual perspectives on career across the lifespan. *International handbook of career guidance*, 209-225.
- Vondracek, F. W., & Reitzle, M. (1998). The viability of career maturity theory: A developmental—contextual perspective. *The Career Development Quarterly*, 47(1), 6-15.
- Vygotsky, L. S. (1980). *Mind in society: The development of higher psychological processes*. Cambridge: Harvard University Press.
- Vygotsky, L. (1978). Interaction between learning and development. *Readings on the Development of Children*, 23(3), 34-41.
- Wang, D., Jia, Y., Hou, Z. J., Xu, H., Zhang, H., & Guo, X. L. (2019). A test of psychology of working theory among Chinese urban workers: Examining predictors and outcomes of decent work. *Journal of Vocational Behavior*, 103325.
- West, S. G, Finch, J. F., & Curran, P. J. (1995). Structural equation models with nonnormal variables: Problems and remedies. In R. H. Hoyle (Ed.), *Structural equation modeling: Concepts, issues, and applications* (pp. 56–75). Thousand Oaks, CA: Sage.
- Weston, R., & Gore, P. A. (2006). A brief guide to structural equation modeling. *The Counseling Psychologist*, 34(5), 719-751.
- Whiston, S. C., Brecheisen, B. K., & Stephens, J. (2003). Does treatment modality affect career counseling effectiveness?. *Journal of Vocational Behavior*, 62(3), 390-410.
- Whiston, S. C., Li, Y., Mitts, N. G., & Wright, L. (2017). Effectiveness of career choice interventions: A meta-analytic replication and extension. *Journal of Vocational Behavior*, 100, 175-184.
- Whiston, S. C., Sexton, T. L., & Lasoff, D. L. (1998). Career-intervention outcome: A replication and extension of Oliver and Spokane (1988). *Journal of Counseling Psychology*, 45(2), 150.
- White, K. R. (1982). The relation between socioeconomic status and academic achievement. *Psychological Bulletin*, 91(3), 461.
- Wilcox, R. (2011). *Modern statistics for the social and behavioral sciences: A practical introduction*. Boca Raton, FL: CRC Press.

- Williams, J. L., Anderson, R. E., Francois, A. G., Hussain, S., & Tolan, P. H. (2014). Ethnic identity and positive youth development in adolescent males: A culturally integrated approach. *Applied Developmental Science, 18*(2), 110-122.
- Wilson, S. A. (2009). Exploring avenues toward activism: Using a phenomenological variant of ecological systems theory (PVEST) to examine the perceptions of Black youth engaged in community-focused, media skills training. Doctoral dissertation – University of Pennsylvania.
- Wilson, W. J. (1996). When work disappears. *Political Science Quarterly, 111*(4), 567-595.
- World Bank. (2019). *World Development Report 2019: The changing nature of work*. Washington, DC: World Bank. doi:10.1596/978-1-4648-1328-3.
- Worthington, R. L., & Whittaker, T. A. (2006). Scale development research: A content analysis and recommendations for best practices. *The Counseling Psychologist, 34*(6), 806-838.
- Zaff, J. F., Pufall Jones, E., Donlan, A. E., & Anderson, S. (2016). Comprehensive community initiatives creating supportive youth systems: A theoretical rationale for creating youth-focused CCIs. In J. F. Zaff, E. Pufall Jones, A. E. Donlan, & S. Anderson (Eds.), *Comprehensive community initiatives for positive youth development* (pp. 1-12). New York: Routledge.
- Zytowski, D. G. (1972). Four hundred years before Parsons. *Journal of Counseling & Development, 50*(6), 443-450.

CURRICULUM VITAE

