Summer 6-22-2021

How Social Support Affects Career Adaptability through the Academic Career

Megan Fox

How Social Support Affects Career Adaptability through the Academic Career

Megan Fox

A dissertation submitted in partial fulfillment

of the requirements for the degree of

Doctor of Philosophy

in

Clinical Psychology

Seattle Pacific University

June 2021

Approved by:

Lynette Bikos, Ph.D., ABPP
Professor of Clinical Psychology
Dissertation Chair

Joel Jin, Ph.D.
Assistant Professor of Clinical Psychology
Committee Member

Jacqui Smith-Bates, Ph.D.
Executive Director for the Center for Career and Calling
Committee Member

Reviewed by:

Jacob Bentley, Ph.D.
Chair
Department of Clinical Psychology

Keyne C. Law, Ph.D.
Director of Research
Department of Clinical Psychology

Katy Tangenberg, Ph.D.
Dean School of Psychology, Family, & Community

ACKNOWLEDGMENTS

Social support – my dissertation and research interest, the thing that drives my clinical work, and the foundation of my theoretical orientation. Social support is foundational in my life, without it I would not be here. I am a product of those around me and am oh so thankful for all those that got me here today.

To Trish, my high school swim coach, counselor, and mentor. She provided support to me during a critical time of my development, both as a person, a Christian, and a future psychologist. She encouraged me when I felt like the dumb kid. She always had her door open to all the drama and hardships that come in adolescence and that have come ever since. She walked beside me and coached me as I had a front row seat to mental health and mental illness in those around me. She made me want to be like her. She began my love for psychology and counseling.

To Rob, whose words of "if you make it through this you can make it through anything" consistently roll through my head. A coach that was more interested in my personal and spiritual development then my athletic development. He encouraged me to redefine success many years ago and is a lesson I am thankful for and that brought me here today. In a time of development that is marked with angst and hardship, he created and fostered a team that gave me more social support than I have ever known.

To Baird, my college advisor and mentor who in my first advising meeting told me I was PhD material. I was a fresh-faced freshman, who had no idea what I wanted to do and had never taken a psychology class. But he saw potential in me, he called it out first, and I laughed in his face that day and for years to come. But he was there with an open office and the right words as I figured out myself and grew into the person I am. He called out the bullshit in my life, from concussions to relationships. He gave me the support to heal and to grow in one of the hardest

seasons of my life. And he made sure that I took the time to acknowledge my own accomplishments, including getting into grad school.

To Bethy, my academic mentor who coerced me into psi chi, made me a career kitten, and who saw potential in me when I couldn't see it in myself. Her class was my first love of psychology and she made me into the academic I am today. From posters and presentations at conferences, to creating my interest in vocational psychology, to that day in her office when she told me I was capable of more than a masters and it was time for me to believe in myself and try for more. And then she was there for the many tears, panics, and essay edits that got me here.

To Anthony and Courtney, the world's best boss, who when the idea of a Ph.D. came up on the radar encouraged me to auto-bolt and see what was in God's plan not mine. They gave me a safe place to land and spoke so many words of wisdom into my emerging adult questions and angst. They fostered my faith and helped give it roots to endure these many years. They developed my love for theology and for working with adolescence and emerging adults. They showed me support and love at a crucial time in my life.

To my Parents, the ones who were wary about my decision to study psychology but have become my ultimate encouragers and supporters. They have provided me with a safe place to land in the midst of this stress. They took all my tear-filled phone calls and spurred me on when I didn't think I could continue. They taught me early on that my best was always enough no matter the grade. Most importantly, they didn't kill me when I brought my passions for psychology home.

To Cameron, the one who has perfected the art of tough love over the years, from his "suck it up buttercup," to his reverse psychology. But at the end of the day, he has one the

kindest and most loving hearts. I have always looked up to him more than anyone and his relationship is one of the most important in my life.

To my friends, there are too many to name, but they all have provided me with much needed grace, love, and laughter over the years. They have re-kindled me when I had nothing left, cried with me, laughed with me, and endured all my psychology moments over the years. I truly would not be here without the support of each one of them.

To Dr. Bikos, who believed in me enough to admit me (and fight over me). She pushed me along in this journey and provided me with the support and resources I needed get here. From all the edits my papers needed, to my resistance in statistics and R, and the much-needed reassurance, her support has been everything.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ABSTRACT

Emerging adulthood is a developmental period where individuals begin to learn about themselves, their interests and abilities, and begin to lay foundations for their adult occupations (Arnett, 2014). During this life stage, individuals are faced with increased challenges that they must navigate in order to launch into adulthood. Career adaptability refers to the ability for an individual to cope with these expected and unexpected challenges including career tasks, transitions, and traumas (Savickas, 2013). It has been shown that supportive networks can help individuals navigate these and move into a more successful career (Len, Hackett, and Brown, 1999; Creed et al., 2009; Cutrona, 1986; Duffy, 2010; Kenny et al., 2003). The primary purpose of this study is to investigate the covarying relationship between career adaptability, social support, and engagement in campus-wide career intervention. The population was 1578 college students (emerging adults) enrolled from fall 2018-winter 2021 in a private Christian institution. They were predominantly female (1208) and white (786). Multi-level modeling was used where social support was entered as a L1 (within person) and L2 (between person) variable. Results indicated that year in school had an effect career adaptability (-0.08, $p < .001$) and that social support had a strong effect on career adaptability at both L1 (L1; .28, $p < .05$) and L2 (L2; .50, $p < .001$). Social support had no effect on engagement (-0.12, $p > .05$) and engagement had no effect on career adaptability (0.04, $p > .05$). However, although not statistically significant, results reflected a trend where increased engagement in a career intervention led to an increased amount of career adaptability over the years so that the first years had identical slopes for level of engagement and by fourth year, these slopes were dramatically different. Overall results indicated that social support maybe an important piece in increasing career adaptability and helping emerging adulthood navigate the transition from student to work.

CHAPTER I—INTRODCUTION

Freud once said, "Love and work…work and love, that's all there is…love and work are the cornerstones of our humanness." This oft-quoted Freudian maxim identifies two hallmark components of mental health: love and work. Arnett (2000) investigated these hallmarks of love and work in the context of emerging adulthood where he suggested that critical identity formation occurs around three main areas: work, love, and worldviews. Emerging adulthood is a unique period of time in-between adolescence and adulthood, where individuals endeavor to become financially independent, establish a residence apart from parents, enter intimate relationships, and settle into a career (Arnett, 2000). These are termed *developmental tasks* by Arnett and they signal the transition into adulthood. This research focused on the components of two of these development tasks by analyzing the effect that social support had on career adaptability as it was influenced by engagement with an online career development intervention.

Work is a cornerstone of our humanness, particularly during the developmental stage of emerging adulthood. The transition into a career can result in positive psychological outcomes like happiness, hope, life satisfaction, and self-efficacy (Bronk, 2014; DeWitz et al., 2009; Peterson et al., 2005). However, a study by Deloitte found that 80% of US workers are dissatisfied with their jobs, with a quarter of Americans saying that work is the highest stressor in their lives (The 2016 Shift Index, 2017). These outcomes become even more important when examining the developmental stage of emerging adulthood. As demonstrated in recent research, emerging adults are balancing financial security with happiness and purpose. In a National Clark poll 79% of emerging adults agreed that it is more important for them to enjoy their job than to make a lot of money (Arnett & Schwab, 2012). Furthermore, 86% said it was important to have a career that positively impacts the world (Arnett & Schwab, 2012). Emerging adults are showing

that they understand the centrality of work to life. One construct that is important to consider when we investigate successfully navigating career-related tasks is *career adaptability*—a multi-dimensional construct developed to access these changing patterns and stressors in our work; it investigates the ability to handle unexpected career tasks, transitions, and traumas (Savickas & Porfeli, 2012).

Social support networks are another hallmark in the developmental stage of emerging adulthood and an important resource to help navigate the transition to work. Over the last 20 years researchers have identified a link between social support, managing stress, and overall well-being. More specifically, social support is regarded as a critical element in coping with changes and challenges in work (Atac et al., 2018; Butterfield et al., 2010). Social support is defined as positive interactions between individuals and their family, friends, and significant others (Atac et al., 2018). The literature on the effects of social support is substantial and addressed across disciplines.

With the increasing awareness of the importance of work and its impact on wellbeing, there is a need to help individuals navigate the launch and adaptation into a career. Career interventions can be useful in this process by providing guidance and monopolizing on social support. Many countries around the world have identified the need to assist emerging adults in navigating and entering the world of work by providing structured programs and utilizing social support. For example, Scandinavian countries are regarded as a forerunner in career development by offering individualized plans with personal trainings directly linking to employers. Germany and Switzerland have an established history of creating apprenticeships to prepare new workers and link them to jobs (Arnett, 2014). In this respect, many American universities attempt to bridge the gap via career intervention courses (Arnett, 2006, 2014). These courses have

consistently shown themselves to be effective and useful in assisting emerging adults as they launch and navigate their careers (Brown et al., 2003; Brown & Ryan Krane, 2000)

The purpose of my dissertation was to explore the effects of social support and engagement with an online career intervention on career adaptability. The population included college students (emerging adults) enrolled at a private, Christian, predominantly liberal arts institution in the Pacific Northwest.

Emerging Adulthood

Across cultures, the primary criteria for reaching adulthood has been (a) accepting responsibility for yourself, (b) making independent decisions, and (c) becoming financially independent (Arnett, 2000). Over the last half century, dramatic changes in the world have led to the development of a new life stage for young people: *emerging adulthood* (Arnett, 2000). In 1940 in developed countries, 16% of 21-year-olds went to college; 80 years later the majority of 21-year-olds are in college (Arnett, 2014). Even as recently as 1960, the societal norm was to be married (or about to be), caring for a baby (or expecting one soon), finished with school, and settled into a long-term job at the age of 21 (Arnett, 2014). In 1970, the average age of marriage for women was 20.3 and men 22.8; by 2010 that number had risen to 26 for women and 28 for men (Arnett, 2014).

These changes have made the late teens to early twenties more than just a brief period of transition into adult roles; rather they are a distinct period in the life course, characterized by change and exploration. This developmental period is not an extended adolescence—there is more independence from parental control and independent exploration. This period is also distinct from young adulthood because most of the criteria that has been historically associated with adult status (i.e., marriage, parenthood, and stability in career) have not yet been met.

Rather, emerging adulthood is defined by its demographic outline: longer and more widespread educational involvement, prolonged entry into marriage and parenthood, and a delayed and more erratic transition to stable work. In sum, emerging adulthood is a time period of moving toward a more settled adult life and takes place between the ages of 18-29.

Five Features of Emerging Adulthood

The delineation of this new life stage has led to increased literature on what distinguishes emerging adulthood from adolescence and from adulthood (Arnett, 2000; Arnett, 2014). Arnett has identified five main features: identity exploration, instability, self-focus, feelings of in-between, and increased possibilities and optimism. The first feature of emerging adulthood is *identity exploration* and is where an individual answer's the questions of "who am I?" In the course of answering this question one explores different life options in both career and social supports (Arnett, 2006; Arnett, 2014). The second feature of emerging adulthood is marked by *instability* throughout life in elements of social networks, work, and even residence (Arnett, 2014). The identity exploration discussed earlier often leads to this time of instability where an individual may try out several careers, changing residences, and transitions social support networks. The third feature of emerging adulthood is characterized by *self-focus* where obligations to others are at a low (Arnett, 2014). It is important to distinguish self-focused from selfishness. Self-focus allows emergent adults to develop skills and build a foundation for their adult lives that will aid them in entering into a career. Fourth, is a unified *feeling of in-between* or transition that comes with being neither adult nor adolescence (Arnett, 2014). The final feature of emerging adulthood is *a sense of optimism and the presence of increased opportunities and possibilities.* This aspect of emerging adulthood is marked by the accompanying hope that these different options are possible; these hopes and dreams have yet to face the testing of life.

Emerging Adulthood and Career

Career is one of the pillars of life and emerging adulthood. According to a study in the UK, the average human spends 13 years and 3 months of their lives at their job, adding another year and two months for overtime (Curtis, 2017). Aside from sleeping, our jobs are where we spend much of our time. During emerging adulthood, individuals begin to think seriously about the kind of work they want to do. One of the key features of this time is identity development, particularly developing an identity in work. During emerging adulthood individuals begin to ask questions about their interests and abilities and how to apply them to the world of work. Emerging adults navigate their entrance to the world of work more intentionally than those in the generations that preceded them; they are looking to work for purpose and meaning not just as a means to an end (e.g., making money to pay for material goods and trips). This process of finding meaningful work takes several years of trial and error in different jobs and even different educational paths. During adolescence, work involves having many jobs lasting only a couple of months to simply make some extra money. In contrast, during emerging adulthood individuals begin to lay a foundation for adult occupations and ask more questions about what type of work they want to do long term; they being to learn about themselves, explore interests and abilities, and consider how these interests and abilities might align for a future occupation (Arnett, 2014). This identity development in their careers coupled with increased opportunities and possibilities contributes to frustrations which can result in what some have labeled a quarter life crisis. During this quarter life crisis there is a "tyranny of freedom" where there are too many choices and too little direction (Arnett, 2014). This crisis has been found to be particularly salient in the United States, where even less assistance is given to making this transition (Arnett, 2014). Career

development courses are one of the ways we can begin to alleviate this problem. Increases in *career adaptability* are one of the targeted goals for such interventions.

Career Adaptability

Career adaptability is the ability to cope with expected and unexpected career-related tasks, transitions, and traumas (Savickas et al., 2009; Savickas, 2013). This construct is particularly relevant to emerging adulthood because during this critical life stage individuals are confronted with increased tasks, transitions, and traumas that they must endure to successfully move from education-to-employment (Duffy, 2010; Savickas, 1997). Several studies have examined career adaptability during this specific transitional period; all provide evidence that higher career adaptability leads to a more successful transitions, higher overall well-being, can be a sign of thriving and is related to positive youth development (Duffy, 2010).

Career adaptability is imbedded in career construction theory where Savickas and Porfieli (2012) redefined it and created a multi-faceted construct and measure.

Career adaptability was born out of Super's (1953) construct of career maturity. In 1997, Savickas expanded and changed Super's construct, re-introducing it as career adaptability. Then in 2012, Savickas and Porfieli redefined career adaptability as a multi-faceted, psychosocial construct and measure, that imbedded it in career construction theory. As it stands, it explains an individual's ability to cope with current and anticipated tasks, transitions, and traumas that they will face in their occupation during the agency stage of development.

Career adaptability is a multi-dimensional model with three levels and four constructs (see Table 1). At the highest level are the four dimensions of career adaptability: *concern, control, curiosity,* and *confidence*. In the next level, each dimension is delineated into attitudes, beliefs, and competencies (ABC). These are the specific adapting behaviors that are needed to

navigate the different tasks, transitions, and/or traumas that happen at this level. The third level is made up of coping behaviors including *orientation*, *exploration*, *establishment*, *maintenance*, and *disengagement*. Career construction theory names these five coping behaviors as critical skills for an individual to have in order navigate through their career. In addition, each of the four dimensions (*concern*, *control*, *curiosity*, and *confidence)* have what Savickas calls a *career problem* that interferes with one's ability to move on to the other dimension.

To begin, the first dimension of career adaptability is *concern*. Concern is conceptualized as an individual becoming attentive to their future as a worker. It denotes a future orientation that indicates an importance to prepare for tomorrow. Concern connects one's present vocational situation to a preferred future. This construct's attitude, belief, and competency is in planning for the future and in maintaining an optimism that allows an individual to foresee how today's work will lead to tomorrow's success.

The second dimension of career adaptability is *control*. Control involves self-discipline and requires being conscientious, deliberate, organized, and decisive in navigating the vocational development task and making occupational transitions. The attitude, belief, and competency of control therefore lies in the art of decisiveness and decision making. A lack of career control presents as confusion, dependence, and impulsivity (Savickas, 2013).

From a sense of control comes the third dimension, *curiosity*, which denotes a desire to learn about types of work and different occupational opportunities. The attitude, belief, and competency here is an inquisitiveness and exploration about fit between oneself and the world of work. This curiosity will produce information-seeking behaviors and lead to an increased knowledge that will aid in making choices (Savickas, 2013).

Lastly, career construction theory describes *confidence* as feelings of self-efficacy towards an individual's ability to successfully execute and implement appropriate educational and vocational choices (Savickas, 2013). Confidence is required for an individual to act on their interests to solve complex problems that will arise. The attitude, belief, and competency of confidence is in feeling efficacious and having problem solving abilities to solve the different challenges that may present themselves.

Because career adaptability captures an individual's interaction with the world of work and provides important insights into their well-being, it is particularly salient during emerging adulthood. During this transitional time, emerging adults must come up with a career direction (concern), they are responsible for making the transition happen (control), they are required to perform research and explore their options (curiosity), and they have to maintain the motivation to go through the obstacles to get hired (confidence; Hui et al., 2018).

Table 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

Note: Adapted from *Savickas, 2013*

Social Support

Social support refers to a positive exchange between individuals and their family, friends, and any other significant people in their life. This positive exchange helps individuals and offers a sense of relief against stress and tension. Barrera (1986) conceptualized social support into three, orthogonal, subconstructs: enacted social support, perceived social support, and social integration. Within the construct of social support, I will investigate *perceived support*. This subconstruct is regarded as an essential and effective resource in coping with changes and challenges in work (Atac et al., 2018; Butterfield et al., 2010) and is essential during emerging adulthood.

Perceived Social Support and Career Adaptability

I focused on perceived social support which encompasses an individual's subjective belief that friends, and family provide quality assistance in times of stress. Lent, Hackett, and Brown (1999) suggested that a supportive network can help pave the way for more concrete and stable career decisions to be made, as well as the possibility of more differentiated occupational identities.

The predictive relationship from social support to career adaptability has strong research support (Blustein et al., 2000; Han & Rojewski, 2015; Hirchi, 2009; Hou et al., 2019; Kenny & Bledrose, 2005;). For example, research has indicated that perceived support protects against career stress. Additionally, it is correlated with an increased ability to cope with work transitions, likelihood to attain leadership roles, and likelihood of being successful in one's career (Creed et al., 2009; Cutrona, 1986; Duffy, 2010; Kenny et al., 2003). In a sample of 322 ninth-grade students in public schools in the U.S., support from family, teachers, and close friends contributed significantly to each of the four dimensions of career adaptability (Kenny &

Bledrose, 2005). Additionally, a longitudinal study of eighth graders in Sweden reported that perceived support from parents, friends, relatives, and teachers resulted in higher career adaptability and that perceived support is a significant predictor for increased career adaptability throughout the entire school year. (Hirschi, 2009) Overall, research continues to document that higher perceived support results in higher levels of career adaptability (Han & Rojewski, 2015; Hirschi, 2009; Kenny & Bledrose, 2005; Wang & Fu, 2015).

Career Interventions

Emerging adults may lack the structure and supports needed to prepare them for the world of work (Arnett, 2014). Career interventions have consistently demonstrated efficacy in assisting emerging adults in launching and navigating their careers (Brown, et al., 2003; Brown & Ryan Krane, 2000). Further, career interventions can be designed to enact social support -- combining the two pillars in emerging adulthood of work and relationship. The intervention evaluated in my dissertation was developed with best practices in mind. These included (a) creating structured courses (Smith, 1981), (b) providing individual career exploration (Blustein, 1989), and, (c) including five key components: written exercises, individual feedback, occupational exploration, role modeling, and developing a social network (Brown, et al., 2003).

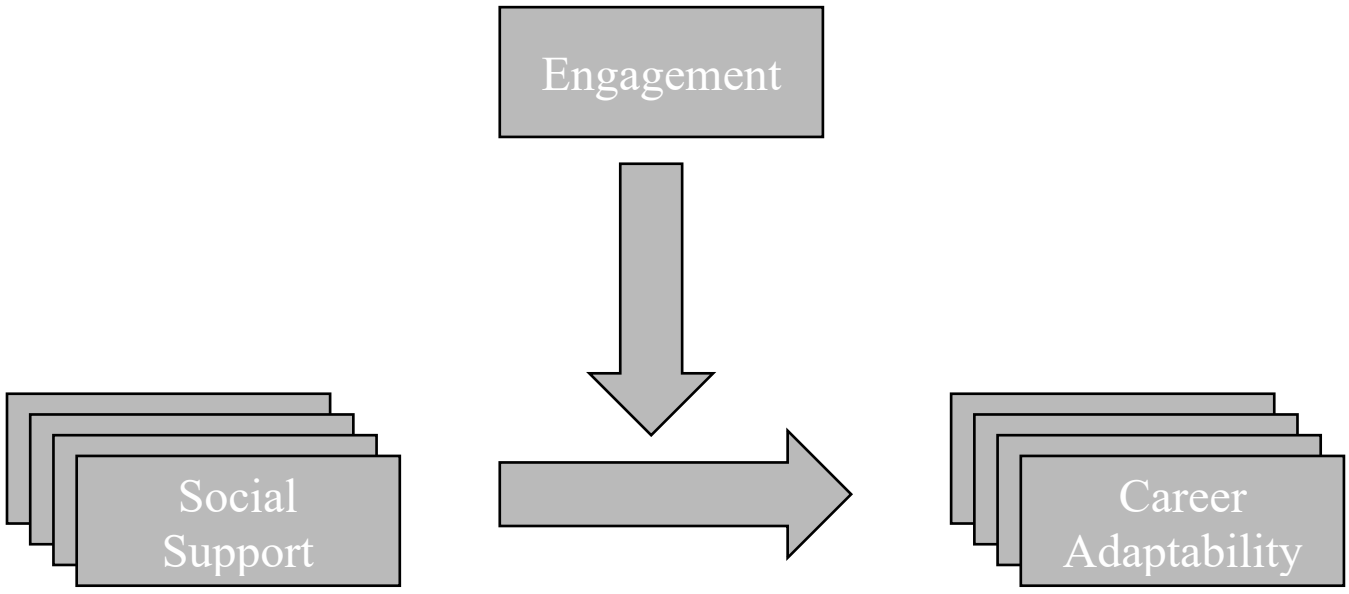
Current Study

The primary purpose of this study was to investigate the time-covarying relationship between career adaptability and social support as a function of engagement in a campus-wide career intervention as students matriculated through their undergraduate degree. Data was collected up to four different time points in each academic year over a three and half years. I hypothesized that social support would influence career such that an increase in social support

would be associated with an increase in career adaptability. Further, I predicted that increased engagement with the career intervention will influence both in a positive direction.

Figure 1

Model of proposed path diagram of the effect of social support on career adaptability through engagement in a career intervention



CHAPTER II — METHODS

Participant Characteristics and Sampling Procedures

Participants

Participants in this study were undergraduate students enrolled at a private Christian university and enrolled from fall 2018 through winter 2021 (N = 1578). Participants were freshman, sophomore, and juniors admitted when the study began and were followed for 2.5 years throughout their academic career. All participants were 18 and older, ages ranging from 17 to 53 (M = 19.71, SD = 4.37).

Participants were predominantly female (1208), aligning with overall university demographics. Most participants identified as White (786), with 192 identifying as Asian, 179 identifying as Hispanic, 77 identifying as black or African American, 5 identifying as Hawaiian Native or Pacific Islanders, and 150 identifying with two or more races. There were 136 international students that participated and 514 first generation students.

Survey Administration

Data was collected fall quarter of 2018 through winter quarter of 2021. All students enrolled at the university had access to the survey and the career planning intervention via the institution's learning management system, Canvas. The career intervention that was used for this study, was the online intervention, *CALLED! SPU's Online Field Guide* (OFG; Orlando et al., 2018). Integrated into the intervention are *Quarterly CheckPoints* that were administered as ungraded surveys within Canvas. At the beginning of each academic term (and at the end of the academic school year), Graduate Career Advisors (e.g., teaching assistants) sent e-mail reminders to the students, asking them to complete the surveys.

Every student was required to review and complete an IRB consent process before being given access to the course. Specifically, in separate items students were asked to grant or deny researchers' access to their quarterly surveys and institutional data. Once these two items were completed, the course modules automatically opened. Students could change this decision at any time and this item was used to determine eligibility for inclusion in this data analysis. There was no institution-wide incentive for participating in the research project, but some faculty and departments required sections of the intervention to be completed as part of their class curriculum. For example, the psychology department has identified four courses in the psychology major where completion of OFG modules were worth a small (3-5%) portion of the course grade.

Sampling Size, Power, and Precision

In multi-level modeling, sample size is a complex issue. McCoach and Adelson (2010) indicated that power in multilevel models is a function of the number of clusters, the number of units per cluster, the intra class correlation, and the effect size. Cluster in this case indicates the number of participants and units are the number of repeated measures. McCoach and Adelson (2010) indicate that at least 100 clusters are necessary to have a reasonable estimate of the stand of errors of the level-two variance.

Measures

Career Adapt-Abilities

The Career Adapt-Abilities Scale (CAAS; Savickas & Porfeli, 2012) is a 24-item measure that assesses career adaptability, or the perceived ability of an individual to adapt to work-related situations. The measure is divided equally into four subscales measuring an individual's career *concern*, *control*, *curiosity*, and *confidence*. Participants rank how much they

agree with the 24 items on a 1-5 Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Sample items include "Becoming curious about new opportunities," "Thinking about what my future will be like," and "Overcoming obstacles."

An initial psychometric evaluation of the measure across 13 countries (Savickas & Porfeli, 2012) noted that the total career adaptability score varied across countries, but that validity and reliability coefficients were generally acceptable. An average score for each scale was computed as well as total score with higher scores indicating higher levels of career adaptability (Savickas & Porfeli, 2012). Confirmatory factor analysis supported the multidimensional and hierarchical model (Savickas & Porfeli, 2012). CAAS has strong internal consistency with the global scale at $\alpha = .92$; and across the subscales of ($\alpha = .83$), control ($\alpha = .74$), curiosity ($\alpha = .79$) and confidence ($\alpha = .85$) (Savickas & Porfeli, 2012).

Social Provisions Scale-10

Social Provisions Scale—Short version (SPS-10; Cutrona & Russell, 1987) is a shortened version of Cutrona and Russell's (1987) Social Provision Scale that measures perceived availability of social support and was used to investigate perceived social support. The original 24 item scale consisted of six subscales with four items per dimension: emotional support/attachment, social integration, reassurance of worth, tangible help, orientation, and opportunity for nurturance. The SPS-10 retains five subscales, excluding opportunity for nurturance. There are two items per dimension, one worded positively, one negatively. It is 12-question survey where participants indicate agreement with each statement on a 4-point Likert scale (1= *strongly disagree*, 4 = *strongly agree*). Higher scores indicate greater perceived support. Sample items include "There are people I can depend on to help me if I need it," "If

something went wrong, no one would come to my assistance" (reverse scored), and "There is trustworthy person I could turn to for advice if I were having problem."

The SPS-10 is a widely used measure of perceived support and has excellent internal consistency with global scale of α = .88 and the five subscales ranging from (.528-.690; Caron, 2013). It has strong concurrent validity with the original 24 items (r = .930) and retains 95% of its predictive power (Caron, 2013).

Engagement with the OFG

CALLED! - SPU's Online Field Guide (*OFG;* Orlando et al., 2018), is a multi-disciplinary compilation of best practices in vocational career development that functions much like an online course throughout undergraduate students' enrollment at Seattle Pacific University. Each year, students encounter 6 to 9 developmentally targeted assignments. In addition to resources for adapting to the college environment and traditional career exploration, students receive information and complete exercises related to understanding *calling* from the perspectives of theology and psychological science. Further, they are invited to engage in Ignatian style discernment practices. Simple exercises that are in the tradition of St. Ignatius Loyola, begin with the notion that "God is in all things." These may include reflection on the day (what was difficult, easy; for what is one grateful), reflection on Scripture, and contemplating on feelings about decisions made with the "flip of a coin."

As implemented by the university, Graduate Career Advisors (GCAs) facilitate reflection and engagement with the materials. "Quarterly CheckPoints" (assessments), up to four per year, occur throughout a student's enrollment and continue one year after graduation. Although optional, they provide up to 20 longitudinal waves of psycho-social-spiritual data. These assessments change each fall, applied only to the newly admitted cohorts of students.

There are a variety of ways engagement in a career intervention can be assessed (Brown & Krane, 2000; Spokane & Oliver, 1983; Whiston et al., 1998). I used meta-data from the online learning management system, Canvas, to obtain the number of page views, hours spent in the intervention, and number of assignment submissions. Our visual inspection of the data suggested that number of page views was a better indicator as (a) there were multiple outliers on the "hours spent in the intervention" variable due to ability to leave pages up (b) many students appeared to be engaging with the OFG through viewing pages and far fewer were submitting activities/assignments.

Research Design

Study approval

The date for this dissertation was a part of a larger study approved by Seattle Pacific University Institutional Review Board (IRB), #171801007. This IRB was first approved 11/27/17 and has been renewed (IRB # 181902015R, expiring 09/19/2021).

Data Analytic Plan

Longitudinal studies produce data with a hierarchical structure in which the repeated measures (level 1 [L1]) are clustered within individuals (level 2 [L2]). Due to the dependent nature of the repeated measures data we used multilevel modeling (MLM) with the R package *lme4* (v.1.1-26) . Further, we used a compositional effects (Enders & Tofighi, 2007) approach to center the social support variable. That is, we entered an estimate of social support at the two levels of the multilevel model. At L1 (repeated measures level), we applied group-mean centering (centering within context) so that the score entered reflected each individual's variation around their own social support mean. At L2 (between persons level) we entered the individual's

mean social support. This approach allowed us to completely capture within- and between-person variance.

In model development and evaluation, we used a systematic and sequential structure that is consistent with recommendations for complex models (Joreskog, 1993). Specifically, we followed Singer and Willett's (2003) recommendations by creating and reporting on taxonomy of statistical models, where each model in the taxonomy extends a prior model in some sensible way. We started with an intercept-only model (Model A) and then sequentially entered L1 (Model B), L2 (Model C), and a cross-level interaction (Model D). At each stage we observed variance and fit to determine our final model.

CHAPTER III — RESULTS

Data Preparation and Missing Data

Longitudinal data often results in increased amounts of missing dating due to attrition in later waves (Enders, 2010). Visual inspection of a chart of missing value patterns suggested that the missingness reflected a trend of monotonicity (e.g., once an individual skipped an item, they discontinued the survey) with minimal haphazard responding. In this study missingness was most commonly represented in attrition between checkpoints.

Available item analysis (AIA; Parent, 2013) is a strategy for managing missing data that uses available data for analysis and excludes cases with missing data points only for analyses in which the data points would be directly involved. Parent (2013) suggested that AIA is equivalent to more complex methods (e.g., multiple imputation) across a number of variations of sample size, magnitude of associations among items, and degree of missingness. Thus, we utilized Parent's recommendations to guide our approach to managing missing data.

Missing data analyses were conducted with the R packages mice (v. 3.7.0.) Considering all waves and all persons there was potential of having 6576 observations across 3020 people. The first step in managing missingness occurred through the calculation of scale scores by requiring 80% completion of each scale. After computing scale scores, we then deleted any wave that had more than 50% missingness across the scale scores. Our total observations at this stage were 1578 waves, with 285 of these having some missing value and 1293 having non-missing data. Multilevel modeling generally requires three observations (i.e., waves) per person, but in the presence of a robust dataset can accommodate fewer. When the model failed to converge, we deleted all cases that had only one observation. This change permitted convergence. In the end, our data set had 958 observations and a total of 361 cases. Because we

used an AIA approach the number of observations and cases differed by model and is reflected in Table 2.

Descriptive Analyses

Correlations and their means and standard deviations are presented in Table 1. The aggregate means of our predictor variables career adaptability (*M* = 3.45) and social support (*M* = 3.35) are higher than the midpoint of the scaling of the measure. The *years* variable (*M* = 1.28) represents the difference between the survey completion date and the institutional registration date. It was further centered by dividing the value by 364. The *page views* variable was obtained from Canvas meta-data and indicates how many pages were viewed by the student. Page views (*M* = .72) was rescaled to represent every 100 pages viewed. It was then further rescaled by dividing by the number of years a student had access to the program. These transformations were made to facilitate interpretation. For example, a third-year student who had viewed 300 pages would be represented by 1 (300 / 100 / 3), meaning that, on average, that student viewed 100 pages per year. In analysis, we also truncated this predictor such that the lowest value was zero (i.e., standard deviations around its mean would have resulted in a "negative" [impossible] pages viewed).

Table 2

Means, standard deviations, and correlations with confidence intervals

Variable	*M*	*SD*	1	2	3	4	5
1. CA	3.45	0.62					
2. Years	1.28	1.05	-.04 [-.10, .03]				
3. Page.ViewsR	0.72	0.87	.01 [-.06, .08]	.18** [.12, .24]			

4. SS	3.35	0.58	.31** [.25, .37]	.04 [-.02, .10]	.02 [-.05, .09]		
5. SSL1	0.00	0.35	.07* [.01, .14]	.02 [-.05, .08]	-.00 [-.07, .07]	.60** [.55, .64]	
6. SSL2	3.35	0.48	.31** [.25, .37]	.05 [-.02, .11]	.03 [-.03, .10]	.80** [.78, .82]	.00 [-.06, .06]

Note. M and *SD* are used to represent mean and standard deviation, respectively. Values in square brackets indicate the 95% confidence interval for each correlation. The confidence interval is a plausible range of population correlations that could have caused the sample correlation (Cumming, 2014). * indicates $p < .05$. ** indicates $p < .01$. CA=Career adaptability. Years = Years centered; survey date subtracted from registration date and divided by 365. Pagie.ViewsR = Page views rescaled to represent every 100 pages viewed and further divided by years center to reflect number of years student had access to program. SS = social support in its natural form and not entered in MLM. SSL1 = Social support within person mean. SSl2 = Social Support between person mean.

Preliminary Analyses

As shown in Table 2, we followed the model building approach recommended by O'Connell and colleagues (2013) by starting with an empty model that contains no predictors. Model A was an intercept-only model where we learned that the average career adaptability (all participants across all waves) was 3.44 ($p < .001$). Further, the intraclass correlation (ICC) was 0.64, suggesting that 64% of the variance was between subjects and its inverse (46%) was within-subjects variance; this supported our decision to use a multilevel approach.

Model B was an unconditional growth model, adding the L1 variable of academic year to the model. We coded years by subtracting the recorded date of their data collection from their initial registration date. In Model C we added the L2 variable of engagement to predict both intercept and slope at the sub models of the level equation. In Model D, we added our focal predictor social support as a L1 and L2 to examine the compositional effects of social support and the effect of the cross-level interaction on academic year and engagement.

Results, depicted in Figure 1, suggested that overall engagement did not have a significant effect on the social support slope, but that social support had a strong effect on career adaptability that was maintained across years. Years had a significant effect on career adaptability with a slope -0.08 (p = .000) indicating that as one progressed throughout college, career adaptability declined slightly. Level of engagement by page views had no significant effect directly on career adaptability (0.04, p = .371), nor in an interaction effect on years (-0.00, p = .874). When social support was added to the model there was no interaction effect for years (-0.10, p = .123), engagement (-0.12, p = .268), or interaction with engagement and years (0.11, p = .099). However, social support did have a strong effect on career adaptability both within person (L1; .28, p = .007) and between person (L2; .50, p = .000).

With regard to the model fit we are reporting marginal R^2 and conditional R^2. These two methods of calculating fit can be more reliable than a psuedo- R^2 and AIC in more complex models (Nakagawa & Schielzath, 2012). The marginal R^2 is the proportion of variance explained by fixed factors alone and the conditional is proportion of variance explained by both fixed and random factors. In Model C, 2.2% of the variance is explained by the fixed effects while 70% is explained due to fixed and random. In comparison, Model D explains 16% of the variance in

fixed factors alone, while 71% is explained by both fixed and random effects. This means that when social support is added to the model, more of the variance is explained by the fixed factors. In addition, Model D had the lowest AIC meaning this was a more parsimonious model and the preferred model.

Thus, social support was positively associated with an increase career adaptability throughout college. There was also an increase in significance of this slope for between person social support. However, engagement in the *career planning course* had a non-significant effect on social support or on career adaptability regardless of year.

Figure 2

The Change in Social Support and Career Adaptability by Number of Page Views

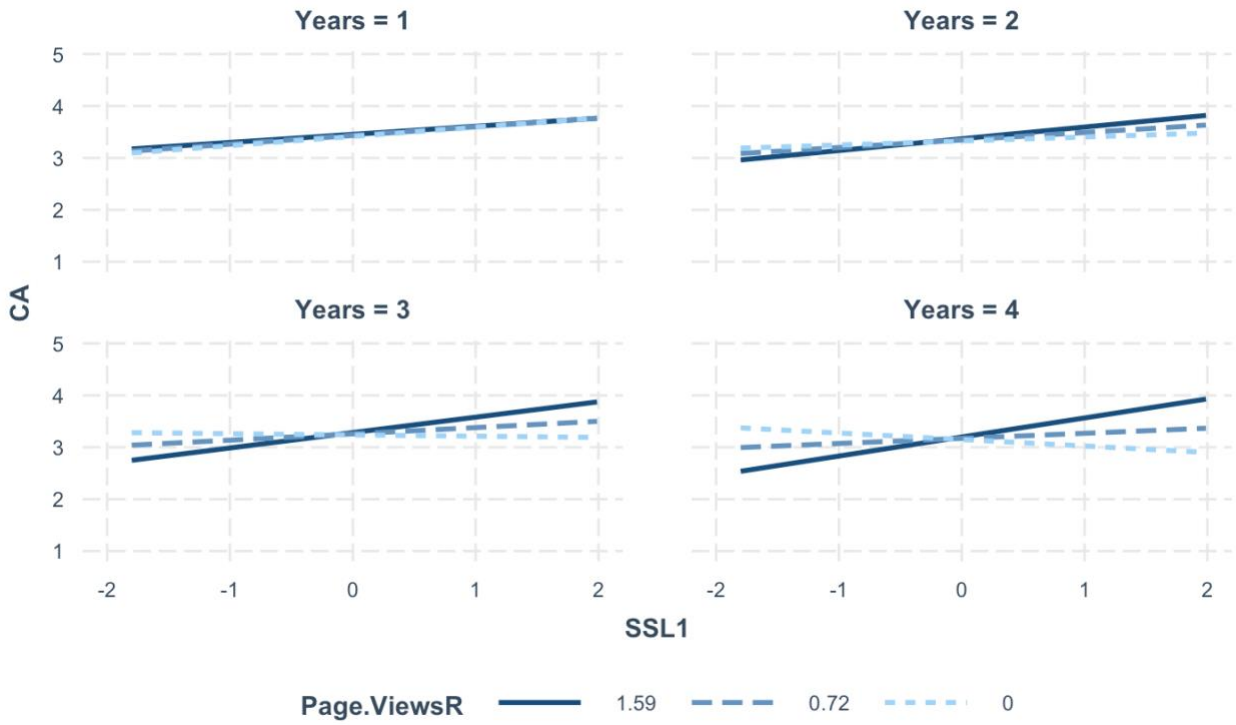


Figure 3: Page views is rescaled for every 100 so that 1.59 = 159 page views, .72= 72 page views, and 0=0 and further rescaled by dividing by number years student had access to program

Table 3

Multi-Level Modeling Results

	ModA		**ModB**		**ModC**		**ModD**	
Predictors	*Estimates*	*std. Error*	*Estimates*	*std. Error*	*Estimates*	*std. Error*	*Estimates*	*std. Error*
(Intercept)	3.44 ***	0.03	3.53 ***	0.04	3.50 ***	0.05	1.82 ***	0.22
Years			-0.08 ***	0.02	-0.09 **	0.03	-0.09 ***	0.03
Page.ViewsR					0.04	0.05	0.02	0.05
Years * Page.ViewsR					-0.00	0.02	0.00	0.02
SSL2							0.50 ***	0.06
SSL1							0.28 **	0.10
Years * SSL1							-0.10	0.07
Page.ViewsR * SSL1							-0.12	0.11
(Years * Page.ViewsR) * SSL1							0.11	0.07
Random Effects								
σ^2	0.13		0.12		0.11		0.11	
τ_{00}	0.24 id		0.25 id		0.24 id		0.20 id	
τ_{11}			0.02 id.Years		0.01 id.Years		0.01 id.Years	
ρ_{01}			-0.25 id		-0.20 id		-0.14 id	
ICC	0.64		0.68		0.69		0.65	
N	360 id		357 id		318 id		314 id	
Observations	936		932		833		780	
Marginal R^2 / Conditional R^2	0.000 / 0.643		0.017 / 0.686		0.022 / 0.696		0.164 / 0.708	
Deviance	1354.552		1325.440		1132.342		992.167	
AIC	1360.552		1348.590		1169.807		1018.167	

** p<0.05 ** p<0.01 *** p<0.001*

CHAPTER IV – DISCUSSION

We analyzed the effects that social support and engagement in the OFG had on career adaptability throughout the academic matriculation in a sample of college student who participated in an online career intervention. I hypothesized that career adaptability would be influenced by social support such that an increase in social support would lead to an increase in career adaptability; and increase in engagement with career the intervention would influence both in a positive direction.

Results were partially supportive of our hypotheses. Social support had a strong effect on career adaptability such that an increase in social support reflected an increase in career adaptability throughout all four years of the college academic career. This aligns with previous literature that indicates social support can have a direct and buffering effect on career stress which is captured in career adaptability with the career tasks, transitions, and traumas (Blustein et al., 2000; Han & Rojewski, 2015; Hirchi, 2009; Hou et al., 2019; Kenny & Bledrose, 2005). Our multilevel design allowed us to disentangle the within and between person effects of social support. We learned that both matter. That is, individual fluctuations are positively correlated with participants fluctuations in career adaptability. Additionally, those with overall higher levels of social support have stronger career adaptability.

Our hypothesis regarding the role of engagement in increasing social support and career adaptability was not supported. However, although not statistically significant, our results reflected a trend where increased engagement in a career intervention did lead to an increased amount of career adaptability. There was increased separation in the slopes of career adaptability by the level of engagement in the career intervention across academic years so that first years had identical slopes for level of engagement and by fourth years these slopes were dramatically

different. This trajectory across academic years makes sense, first years have not yet had to practice career adaptability so scores would look similar regardless of engagement. However, as one progresses through college, selects a major, applies for internships, and eventually applies for jobs, the degree of engagement in the career intervention would differ and correspondingly would differentially impact career adaptability. Ciarocco (2018) found this to be true, that seniors were typically more focused on job search and application skills, which career intervention could aid, than their younger counterparts. In addition, as illustrated in Figure 2, in year three and four participation in the intervention was associated with the highest levels of career adaptability and the strongest social support.

In addition to our hypothesis, career adaptability also had a small, but statistically significant decrease across academic matriculation. This finding reflects what we know about emerging adulthood. As Arnett (2016) indicated, one of the key features of emerging adulthood is a sense of optimism, particularly related to careers. First year students are more likely to feel this optimism as they have not yet experienced the same level of rejection or hardship that fourth year students may have endured through job and internship searches and positions. As an individual progresses through emerging adulthood and gains more experiences with these hardships we would hope to see that career adaptability would increase.

Implications for Research and Practice

Online career interventions are still a relatively new tool and further studies are needed to yield more information on how they can be effectively implemented. In addition, emerging adulthood is also a relatively new developmental period where further research is needed, particularly on how emerging adulthood might appear differently across cultures. More research is needed on how to support and help this population navigate the transition to

adulthood, especially in the element of career. Previous research indicates that traditional vocational activities like resume building, networking, and others can lead to positive outcomes (Dik, Duffy, & Eldridge, 2009).

Monopolizing social support in these career interventions might be a way to continue to boost these positive effects and help emerging adults across institutions and cultures launch into careers. As designed, interaction with GCAs within the OFG provides some level of social support. In addition to providing direct (written) responses on OFG activities/assignments, the GCAs are equipped to provide referrals to numerous campus resources. The interaction with GCA is one area that social support could be bolstered by providing more consistent interactions or by creating more interactions similar to those of professors in a typical academic course.

The results also have implications for the career services office on college campuses. Most career services offer some combination of individual counseling and workshops, networking events, and mentoring. It may be advantageous to expand on these events and create more structured opportunities to monopolize social support within them. This may look like expanding career mentor programs, offering more coaching/workshops for students, creating smaller one-on-one events with employers, professors, and staff. In addition to providing individual counseling and workshops, offering single-session and multiple session events where peer, mentoring, and networking relations can be found.

In addition, as we become increasingly aware of the challenges facing marginalized populations and the urgency to be socially and culturally responsive in academia, there may be a need to provide more targeted interventions. For example, Bikos and Furry (1999) reported on positive results from a multi-session job search club specifically for international students. Other groupings might focus on issues related to race/ethnicity (Leong and Flores, 2015), disability

(Lenz and Osborn, 2017), first generation status, and sexual identity. These population may experience greater benefits in social support groups with both peers and professionals. There may also be an increased benefit in specific apprenticeships or alumni connection groups that connect these students to alumni from similar backgrounds.

These recommendations apply to the larger institution as well. To the degree that students feel socially connected and involved in the residence halls, Greek system, on-campus employment/work study, classes, sports, and clubs, they are more likely to be career adaptable (Creed et al., 2009; Cutrona, 1986; Duffy, 2010; Kenny et al., 2003).

Limitations

These results should be considered in light of the study's limitations. First, our population was limited to undergraduate students, with a sample that predominantly identified as White and female, making it difficult to generalize to other populations. Marginalized populations, like first generation students or commuter students, may have different baseline levels of social support and career adaptability and may also experience different level of effect of social support on career adaptability. In addition, the population was a private Christian university where environment and access to certain resources may differ from general populations. Second, participation in the career intervention was largely self-motivated with a relatively small number of classes (across campus) requiring some (but never complete) participation. That is to say, there is no campus requirement of participation in any portion of the OFG. This may have caused a self-selection bias, those who would chose to use free time to participate in a career intervention may have higher baselines on our measures. Finally, a year and half of our data collection took place during the COVID-19 pandemic. There was a decreased level of participation in both the overall intervention and the quarterly checkpoints. The pandemic has

also caused several long-term implications in both social and economic realms. This could have impacted the self-report on our measures for social support and career adaptability.

Summary and Conclusion

Our research results suggest that social support is an important contributor to career adaptability and that career adaptability has a notable change throughout the college career. In this study, I analyzed how social support would affect career adaptability and the role that engaging in a career intervention might have on social support and career adaptability. In turn, further research and practice should explore utilizing social support in an attempt to better support emerging adults as they transition into their careers.

.

REFRENCES

Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist*, *55*(5), 469–480. https://doi.org/10.1037/0003-066X.55.5.469

Arnett, J. J. (2006). Emerging adulthood: Understanding the new way of coming of age. In *Emerging Adults in America: Coming of Age in the 21st Century* (1st ed.). American Psychological Association.

Arnett, J. J. (2014). *Emerging Adulthood: The winding road from the late teens through the twenties*. Oxford University Press. https://doi.org/10.1093/acprof:oso/9780199929382.001.0001

Arnett, J. J. (2016). College students as emerging adults: The developmental implications of the college context. *Emerging Adulthood*, *4*(3), 219–222. https://doi.org/10.1177/2167696815587422

Arnett, J. J., & Schwab, J. (2012). *The Clark university poll of emerging adults: Thriving, struggling, and hopeful.* http://www.clarku.edu.ezproxy.spu.edu/clark-poll-emerging-adults/.

Ataç, L. O., Dirik, D., & Tetik, H. T. (2018). Predicting career adaptability through self-esteem and social support: A research on young adults. *International Journal for Educational and Vocational Guidance*, *18*(1), 45–61. https://doi.org/10.1007/s10775-017-9346-1

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Prentice-Hall, Inc.

Barerra, M. (1986). Distinctions between social support concepts, measures, and models. *American Journal of Community Psychology*, *14*(4), 413–445.

Bikos, L. H., & Furry, T. S. (1999). The Job Search Club for International Students: An Evaluation. *The Career Development Quarterly*, *48*(1), 31–44. https://doi.org/10.1002/j.2161-0045.1999.tb00273.x

Blustein, D. L. (1989). The role of career exploration in the career decision making of college students. *Journal of College Student Development*, *30*(2), 111–117.

Blustein, D. L. (2001). The interface of work and relationships: Critical knowledge for 21st century psychology. *The Counseling Psychologist*, *29*(2), 179–192. https://doi.org/10.1177/0011000001292001

Blustein, D. L., Juntunen, C. L., & Worthington, R. L. (2000). The school-to-work transition: Adjustment challenges of the forgotten half. In S. D. Brown & R. W. Lent, *Handbook of Counseling Psychology* (3rd ed., pp. 435–470). John Wiley & Sons Inc.

Bronk, K. C. (2014). *Purpose in life: A critical component of optimal youth development*. Springer.

Brown, S. D., & Ryan Krane. (2000). Four (or five) sessions and a cloud of dust: Old assumptions and new observations about career counseling. In *Handbook of Counseling Psychology* (3rd ed., pp. 740–766). John Wiley & Sons Inc.

Brown, S. D., Ryan Krane, N. E., 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. https://doi.org/10.1016/S0001-8791(02)00052-0

Butterfield, L. D., Borgen, W. A., Amundson, N. E., & Eriebach, A. C. (2010). What helps and hinders workers in managing change. *Journal of Employment Counseling*, *47*, 12.

Caron, J. (2013). A validation of the Social Provisions Scale: The SPS-10 items. *Santé Mentale Au Québec*, *38*(1), 297–318. https://doi.org/10.7202/1019198ar

Ciarocco, N. J. (2018). Traditional and New Approaches to Career Preparation Through Coursework. *Teaching of Psychology*, *45*(1), 32–40. https://doi.org/10.1177/0098628317744963

Creed, P. A., Fallon, T., & Hood, M. (2009). The relationship between career adaptability, person and situation variables, and career concerns in young adults. *Journal of Vocational Behavior*, *74*(2), 219–229. https://doi.org/10.1016/j.jvb.2008.12.004

Curtis, G. (2017). *Your life in numbers*. The Sleep Matters Club. Your Life In Numbers - The Sleep Matters Club. The Sleep Matters Club. Retrieved 15 May 2020, from https://www.dreams.co.uk/sleep-matters-club/your-life-in-numbers-infographic/

Cutrona, Carolyn E. (1986). Objective determinants of perceived social support. *Journal of Personality and Social Psychology*, *50*(2), 349–355.

Cutrona, C.E., & Russell, D. W. (1987). The provisions of social relationships and adaptation to stress. *Advances in Personal Relationships*, *1*(1), 37–67.

DeWitz, S. J., Woolsey, M. L., & Walsh, W. B. (2009). College Student Retention: An Exploration of the Relationship Between Self-Efficacy Beliefs and Purpose in Life Among College Students. *Journal of College Student Development*, *50*(1), 19–34. https://doi.org/10.1353/csd.0.0049

Dik, B. J., Duffy, R. D., & Eldridge, B. M. (2009). Calling and vocation in career counseling: Recommendations for promoting meaningful work. *Professional Psychology: Research and Practice*, *40*(6), 625–632. https://doi.org/10.1037/a0015547

Duffy, R. D. (2010). Sense of control and career adaptability among undergraduate students. *Journal of Career Assessment, 18*(4), 420–430. https://doi.org/10.1177/1069072710374587

Enders, C. K., & Tofighi, D. (2007). Centering predictor variables in cross-sectional multilevel models: A new look at an old issue. *Psychological Methods*, *12*(2), 121–138. https://doi.org/10.1037/1082-989X.12.2.121

Flum, H. (2001). Relational dimensions in career development. *Journal of Vocational Behavior*, *59*(1), 1–16. https://doi.org/10.1006/jvbe.2000.1786

Full Text. (n.d.). Retrieved May 28, 2021, from https://www.erudit.org/fr/revues/smq/2013-v38-n1-smq0877/1019198ar.pdf

Han, H., & Rojewski, J. W. (2015). Gender-specific models of work-bound korean adolescents' social supports and career adaptability on subsequent job satisfaction. *Journal of Career Development*, *42*(2), 149–164. https://doi.org/10.1177/0894845314545786

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. https://doi.org/10.1016/j.jvb.2009.01.002

Hou, C., Wu, Y., & Liu, Z. (2019). Career decision-making self-efficacy mediates the effect of social support on career adaptability: A longitudinal study. *Social Behavior and Personality: An International Journal*, *47*(5), 1–13. https://doi.org/10.2224/sbp.8157

Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, *6*(1), 1–55. https://doi.org/10.1080/10705519909540118

Hui, T., Yuen, M., & Chen, G. (2018). Career adaptability, self-esteem, and social support among hong kong university students. *The Career Development Quarterly*, *66*(2), 94–106. https://doi.org/10.1002/cdq.12118

Jöreskog, K. G. (n.d.). Testing Structural Equation Models. In K. A. Bollen & J. S. Long, *Testing Structural Equation Models* (pp. 294–316). Sage.

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. https://doi.org/10.1016/j.jvb.2004.10.002

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), 142–155. https://doi.org/10.1037/0022-0167.50.2.142

Lent, R. W. (2013). Social cognitive career theory. In S. D. Brown & R. W. Lent, *Career Development and Counseling: Putting Theory and Research to Work* (p. 32). John Wiley & Sons, Incorporated.

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. https://doi.org/10.1177/1069072705281364

Lent, R. W., & Brown, S. D. (2019). Social cognitive career theory at 25: Empirical status of the interest, choice, and performance models. *Journal of Vocational Behavior*, *115*, 103316. https://doi.org/10.1016/j.jvb.2019.06.004

Lent, R. W., Brown, S. D., Brenner, B., Chopra, S. B., Davis, T., Talleyrand, R., & Suthakaran, V. (2001). The role of contextual supports and barriers in the choice of math/science

educational options: A test of social cognitive hypotheses. *Journal of Counseling Psychology*, *48*(4), 474–483. https://doi.org/10.1037/0022-0167.48.4.474

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. https://doi.org/10.1006/jvbe.1994.1027

Lent, R. W., Brown, S. D., & Hackett, G. (2000). Contextual supports and barriers to career choice: A social cognitive analysis. *Journal of Counseling Psychology*, *47*(1), 36–49. https://doi.org/10.1037/0022-0167.47.1.36

Lent, R. W., Brown, S. D., Talleyrand, R., McPartland, E. B., Davis, T., Chopra, S. B., Alexander, M. S., Suthakaran, V., & Chai, C.-M. (2002). Career choice barriers, supports, and coping strategies: College students' experiences. *Journal of Vocational Behavior*, *60*(1), 61–72. https://doi.org/10.1006/jvbe.2001.1814

Lent, R. W., Hackett, G., & Brown, S. D. (1999). A social cognitive view of school-to-work transition. *The Career Development Quarterly*, *47*, 297–311.

Lenz, J., & Osborn, D. (2017). Addressing Inequities in Accessing Career and Workforce Development Programs and Services in College Settings. In V. S. H. Solberg & S. R. Ali (Eds.), *The Handbook of Career and Workforce Development* (1st ed., pp. 124–146). Routledge. https://doi.org/10.4324/9781315714769-7

Leong, F. T. L., & Flores, L. Y. (2015). Career interventions with racial and ethnic minority clients. In P. J. Hartung, M. L. Savickas, & W. B. Walsh (Eds.), *APA handbook of career intervention, Volume 1: Foundations.* (pp. 225–242). American Psychological Association. https://doi.org/10.1037/14438-013

McAdams, D. P., & Olson, B. D. (2010). Personality development: Continuity and change over the life course. *Annual Review of Psychology*, *61*(1), 517–542. https://doi.org/10.1146/annurev.psych.093008.100507

McCoach, D. B., & Adelson, J. L. (2010). Dealing with dependence (Part I): Understanding the effects of clustered data. *Gifted Child Quarterly*, *54*(2), 152–155. https://doi.org/10.1177/0016986210363076

Nakagawa, S., & Schielzeth, H. (2013). A general and simple method for obtaining R2 from generalized linear mixed-effects models. *Methods in Ecology and Evolution*, *4*(2), 133–142. https://doi.org/10.1111/j.2041-210x.2012.00261.x

O'Connell, A. A., Logan, J. A. R., Pentimonti, M., & McCoach, D. B. (2013). *5 Linear and Quadratic Growth Models for Continuous and Dichotomous Outcomes*. 44.

Orlando, C. E., Petersen, K. S., McDonald, P., Campanario, S., Coyer, C., Cantorna, E., Fox, M., & Bikos, L. H. (2018). *CALLED! An online field guide*. Center for Career and Calling, Seattle Pacific University.

Parent, M. C. (2013). Handling item-level missing data: Simpler is just as good. *The Counseling Psychologist*, *41*(4), 568–600. https://doi.org/10.1177/0011000012445176

Perlman, D., & Jones, W. H. (1987). *Advances in personal relationships: A research annual.* JAI.

Peterson, C., Park, N., & Seligman, M. E. P. (2005). Orientations to happiness and life satisfaction: The full life versus the empty life. *Journal of Happiness Studies*, *6*(1), 25–41. https://doi.org/10.1007/s10902-004-1278-z

Reardon, R. C., Melvin, B., McClain, M.-C., Peterson, G. W., & Bowman, W. J. (2015). The Career course as a factor in college graduation. *Journal of College Student Retention:*

Research, Theory & Practice, *17*(3), 336–350. https://doi.org/10.1177/1521025115575913

Savickas, M. L. (1997). Career adaptability: An integrative construct for life-span, life-space theory. *The Career Development Quarterly*, *45*(3), 247–259. https://doi.org/10.1002/j.2161-0045.1997.tb00469.x

Savickas, M. L. (2011). New questions for vocational psychology: Premises, paradigms, and practices. *Journal of Career Assessment*, *19*(3), 251–258. https://doi.org/10.1177/1069072710395532

Savickas, M. L. (2013). Career construction theory and practice. In S. D. Brown & R. W. Lent, *Career Development and Counseling: Putting Theory and Research to Work*. John Wiley & Sons, Incorporated.

Savickas, M. L., Nota, L., Rossier, J., Dauwalder, J.-P., Duarte, M. E., Guichard, J., Soresi, S., Van Esbroeck, R., & van Vianen, A. E. M. (2009). Life designing: A paradigm for career construction in the 21st century. *Journal of Vocational Behavior*, *75*(3), 239–250. https://doi.org/10.1016/j.jvb.2009.04.004

Savickas, M. L., & Porfeli, E. J. (2012). Career adapt-abilities scale: Construction, reliability, and measurement equivalence across 13 countries. *Journal of Vocational Behavior*, *80*(3), 661–673. https://doi.org/10.1016/j.jvb.2012.01.011

Sheu, H.-B., & Lent, R. W. (2009). A social cognitive perspective on well-being in educational and work settings: Cross-cultural considerations. *International Journal for Educational and Vocational Guidance*, *9*(1), 45–60. https://doi.org/10.1007/s10775-008-9147-7

Sheu, H.-B., Lent, R. W., Brown, S. D., Miller, M. J., Hennessy, K. D., & Duffy, R. D. (2010). Testing the choice model of social cognitive career theory across Holland themes: A

meta-analytic path analysis. *Journal of Vocational Behavior*, *76*(2), 252–264. https://doi.org/10.1016/j.jvb.2009.10.015

Singer, J. D., & Willett, J. B. (2003). *Applied Longitudinal Data Analysis*. Oxford University Press. https://doi.org/10.1093/acprof:oso/9780195152968.001.0001

Smith, G. E. (1981). The effectiveness of a career guidance class: An organizational comparison. *Journal of College Student Personnell*, *22*, 120–124.

Söchting, I. (2014). *Cognitive behavioral group therapy: Challenges and opportunities*. John Wiley & Sons Inc.

Soper, D. S. (n.d.). *A-priori sample size calculator for structural equation models*. Http://Www.Danielsoper.Com/Statcalc.

Spokane, A. R., & Oliver, L. W. (1983). Outcomes of cocational intervention. *Handbook of Vocational Psychology*, 99–136.

Super, D. E. (1953). A theory of vocational development. *American Psychologist*, *8*(5), 185–190. https://doi.org/10.1037/h0056046

The 2016 shift index. (2017). Deloitte University Press. https://www2.deloitte.com/us/en/insights/multimedia/infographics/shift-index.html?icid=dcom_promo_featured%7Cus;en

Wang, Z., & Fu, Y. (2015). Social support, social comparison, and career adaptability: A moderated mediation model. *Social Behavior and Personality: An International Journal*, *43*(4), 649–659. https://doi.org/10.2224/sbp.2015.43.4.649

Whiston, S. C., Sexton, T. L., & Lasoff, D. L. (1998). *Career-intervention outcome: A replication and extension of Oliver and Spokane (1988)*. 16.

Wolf, E. J., Harrington, K. M., Clark, S. L., & Miller, M. W. (2013). Sample size requirements for structural equation models: An evaluation of power, bias, and solution propriety. *Educational and Psychological Measurement*, *73*(6), 913–934. https://doi.org/10.1177/0013164413495237