

DISSERTATION

RANDOMIZED TRIAL OF A NARRATIVE CAREER INTERVENTION ON COLLEGE
STUDENT CALLING AND CAREER DEVELOPMENT

Submitted by
Kaitlyn A. Dale
Department of Psychology

In partial fulfillment of the requirements
For the Degree of Doctor of Philosophy
Colorado State University
Fort Collins, Colorado
Summer 2022

Doctoral Committee:

Advisor: Bryan J. Dik

Mark Prince
Deana Davalos
Kathryn Rickard
Jackie Pela-Shuster

Copyright by Kaitlyn Ann Dale 2022

All Rights Reserved

ABSTRACT

RANDOMIZED TRIAL OF A NARRATIVE CAREER INTERVENTION ON COLLEGE STUDENT CALLING AND CAREER DEVELOPMENT

“Who am I?” and “What is my purpose?” are questions salient of emerging adulthood; a stage characterized by active self-exploration and reflection (Arnett, 2016). Autobiographical narrative reflection is a mechanism by which individuals develop greater continuity and clarity of self (Habermas & Bluck, 2000; McAdams, 2001). Recent career development theories apply this lens, emphasizing the importance of developing and maintaining a sense of vocational identity useful in navigating career transitions (Savickas, 2005). Consistent with these models, the concept of calling (i.e., a transcendent summons toward purposeful work that serves the greater good) offers a pathway through which individuals can connect their career lives with their deepest values and goals (Dik & Duffy, 2009). Although numerous studies have linked calling to positive career and wellbeing outcomes, research on calling interventions is sparse. The present study aims to address this gap in the research literature by experimentally testing a calling-infused narrative career intervention with the intention of boosting participant’s career calling and career development. This study also introduces a new mechanism for engaging in narrative meaning-making processes: peer-to-peer storytelling. Using a randomized control trial (RCT) design, this study compared the effectiveness of a writing intervention to a peer-sharing intervention with the intention of increasing participants’ career exploration, career adaptability, search and presence of calling, and search and presence of meaning. Potential moderators of these effects including participant gender and perceived authenticity were examined. While

many results were non-significant due to insufficient statistical power, several small to medium effect sizes were identified. Compared to the control condition, presence of calling increased in both experimental conditions. When search for calling was examined as an outcome variable, a significant interaction occurred; participants in the writing condition reported decreased search for calling and participants in the peer sharing condition reported increased search for calling. Results provide initial support that engaging in narrative reflection to foster a sense of calling is useful for promoting college student career development. Limitations and future directions are discussed.

ACKNOWLEDGEMENTS

First, I would like to acknowledge my academic advisor and mentor, Dr. Bryan Dik. Thank you for believing in me since day one and for challenging me to be the best version of myself as a person, researcher, and clinician. I will forever be grateful for your patience and support, as well as the ways you continue to help me discern and live out my own sense of calling each day.

To my committee members, thank you for your helpful insights and encouragement. Dr. Mark Prince, thank you for teaching me that statistics aren't scary; even after several (6?!) attempts. You model the patience and perseverance needed to move forward in this process, and you show up for your students every step of the way. Dr. Deana Davalos and Dr. Kathryn Rickard, thank you for your clinical supervision and your professional and research mentorship. Your reminders to take care of myself and your ongoing belief in my clinical potential are major reasons I'm the therapist (and soon to be psychologist!) I am today. Dr. Jackie Pela-Shuster, I am so grateful Bryan introduced us. Thank you for grounding me in the importance of my ideas and for reminding me of the significance of this work. Finally, many thanks to my honorary committee member, Mr. Jeff Dale. Jeff, you are the only person who has asked to read the entirety of this document for "fun." Your passion for all things academia is contagious; I am so appreciative of your ongoing questions, feedback, and praise.

Marissa, Matt, Dorothy, Mallory, Annaleigh, and Veronica: We did it! Our mid-day trips to Ramskeller, Workout Wednesdays, Wild Boar writing sessions, and frequent deck nights got me through. I'm so proud to have navigated this chapter with all of you.

To my academic big sisters and long-time friends, Celia and Grace, I just love you! Thanks for always being there to point out the next right step and for reminding me of home along the way. Homeschool Mondays and Vikings Game Days are some of my most treasured memories.

Mom and Dad, your support is the reason I'm where I'm at today. Dad, you were the first person to suggest I go after a doctoral degree. Thank you for your constant respect and belief in me. Mom, thank you for fielding my tearful phone calls and being my place of rest. To see myself through your eyes is to know I'm always enough.

Last but most certainly not least, all my thanks to my best friend and now husband, Nick Dale. Nick, your commitment to supporting this process and building a firm foundation is the best gift I've ever been given. Thank you for making me laugh, keeping me fed, and reminding me that there's always time for a living-room dance party. Being your partner is my favorite thing; I can't wait for all our adventures to come!

DEDICATION

“Before I can tell my life what I want to do with it,

I must listen to my life telling me who I am.”

– Parker J. Palmer

This work is dedicated to The Milkweed Group and all ChangeMakers. Thank you for using your gifts each day to support a better world.

TABLE OF CONTENTS

| | |
|--|-----|
| ABSTRACT | ii |
| ACKNOWLEDGEMENTS | iv |
| DEDICATION | vi |
| CHAPTER I: Introduction | 1 |
| Identity Development and Emerging Adulthood..... | 3 |
| Vocational Identity Development and Emerging Adulthood | 9 |
| Career Development Intervention Paradigms: “Who Am I?” | 11 |
| Calling and Career Development: “Who am I meant to be in, and for, the world?” | 15 |
| Career Development Intervention Research | 22 |
| The Present Study | 31 |
| CHAPTER II: Method | 41 |
| Participants and Power..... | 41 |
| Procedure | 41 |
| Measures | 43 |
| Data Analysis | 48 |
| CHAPTER III: Results | 51 |
| Attrition | 51 |
| Missing Data | 51 |
| Preliminary Analyses | 52 |
| Descriptive Statistics | 52 |
| Intervention Integrity | 53 |
| Satisfaction with Facilitator and Workshop Content | 54 |
| Outcomes at Post-Intervention..... | 54 |
| Outcomes Across Three Time Points | 56 |
| Moderations | 59 |
| CHAPTER IV: Discussion | 62 |
| Outcomes at Post-Intervention..... | 63 |
| Outcomes Across Three Time Points | 66 |
| Moderations | 69 |
| Implications for Career Intervention Research | 72 |
| Applications for Practice | 76 |
| Limitations | 79 |
| Conclusions and Future Directions | 82 |
| FIGURES | 84 |
| TABLES | 96 |
| REFERENCES | 100 |

CHAPTER I

Introduction

Individuals make decisions throughout their lives that dictate the roles and responsibilities they fulfill in, and for, this world. These decisions can seem small, such as what type of book one decides to read. They can also seem significant; such as what relationships one nurtures or what careers one pursues. These choices, whether made unconsciously or with thoughtful discernment, eventually influence a person's habits, interests, and identities (Oyserman, Elmore, & Smith, 2012). In a world that moves quickly, consisting of schemas that outline who and what to be (Stets & Burke, 2000), it becomes exceedingly important for individuals to have the space and tools to pause and listen deeply to their own voices; to allow themselves the opportunity to connect with and explore their interests, passions, values, and purpose. Without reflection and discernment of who one is, individuals lose the opportunity to make effective, valued choices that align with their most authentic self.

This need for self-exploration and reflection is foundational in the literature on effective identity and career development. Often, as is the case with emerging adults, these discernment processes positively affect both identity and career development simultaneously. One of the most foundational principles in the career development literature, termed person-environment fit (P-E fit), is that individuals select occupations and roles that best match their "work personality" (i.e., their make-up of several aspects of self; Parsons, 1909). According to this principle, only by first understanding aspects of who they are most authentically can individuals select occupations that best use their interests, abilities, personality, and values. Not only is the opportunity to engage in work that "fits" fulfilling to the individual (Holland, 1997), it also corresponds to numerous

benefits to their employers as these individuals are likely to be more engaged, committed, productive, and satisfied at work (Kristof-Brown, Zimmerman, & Johnson, 2005; Spokane, Meir, & Catalano, 2000; Verquer, Beehr, & Wagner, 2003). While there is ample literature linking P-E fit and effective career choice and development, the mechanisms by which individuals and counselors can facilitate career discernment processes are worthy pursuits of future study.

Somewhat newer to the career development literature, although discussed in the fields of religion, history, and philosophy for centuries, is the concept of calling (Rehm, 1990). This concept takes P-E fit theories of career development to the next level, asserting that not only must individuals match their work to their attributes, but that there is great value to engaging in work that one feels drawn to, is perceived as meaningful, and makes a difference (Duffy & Dik, 2013). Research reveals that perceiving a calling is linked to a variety of key career development outcomes, such as career commitment, satisfaction, and performance (Peterson, Park, Hall, & Seligman, 2009; Wrzesniewski, McCauley, Rozin, & Schwartz, 1997). Individuals also report that calling is a construct they consider as they make career-related decisions (Hunter, Dik, & Banning, 2010). In line with literature on effective identity and career development, discerning and living out one's calling is a life-long process. It requires continued discernment and decision-making. Surprisingly, there are few studies that have tested interventions to develop or increase individuals' sense of calling. Research exploring how individuals come to know who they are and how they are called to serve their communities would be of great value to both individuals and their employers.

The following study aims to bridge this gap in the literature through experimentally testing a calling-centered intervention, rooted in key principles of effective identity and vocational reflection. Specifically, this study utilizes a randomized control trial (RCT) design to

compare the effectiveness of a writing intervention to a peer-sharing intervention with the intention of increasing participants' career exploration, career adaptability, search and presence of calling, and search and presence of meaning.

Identity Development and Emerging Adulthood

Forming a coherent sense of self involves several discernment processes that facilitate the integration of many identities. Identity theories conceptualize one's self-concept as consisting of identity domains that develop and change over time due to a variety of internal and environmental factors (Goossens, 2001; Pastorino, Dunham, Kidwell, Bacho, & Lamborn, 1997). Gender, ethnicity, sexuality, socioeconomic status, religion, education, ability, occupation, and age are some among many dynamic identity domains that intersect, develop, and change across a lifespan. The focus of this paper is on individuals' vocational and career development, conceptualized as one of the many components of an individual's overall identity.

Stage theories of identity development. Postsecondary training is a particularly relevant time for fostering vocational development due to prominent environmental and developmental factors. American college students typically face numerous transitions as they enter university. Often, they leave behind salient roles like being a part of a specific club, sports team, music group, and/or volunteer organization. Moving to a new place can also leave students feeling disconnected from significant friendships or family connections. Alongside this disconnection from past relationships and roles, students face new environments and choices. They have greater autonomy over their lifestyle and involvements (Arnett, 2016). They may be exposed to individuals or ideas that challenge their views of themselves and the world. In these ways, the university environment is particularly conducive for fostering emerging adult identity exploration and vocational development.

While the college setting is slowly becoming the “new normal” for American emerging adults, several theories of human development suggest that adolescence and early adulthood is a critical time for identity exploration and vocational decision-making, regardless of the context. According to Erikson’s theory of development, a prominent stage-model of psychosocial development, adolescence (which he describes as the “teen years” consisting of individuals 12-19 years of age) is the time when consideration of identity issues is most prominent (Erikson, 1950). Erikson labeled this stage as “identity vs. role confusion” suggesting that the primary challenge that adolescents face is the need to try out and integrate various aspects of self. Current theories support Erikson’s conceptualization of this developmental stage, but argue that due to changing developmental and environmental factors (largely correlated with developed countries) this stage is becoming increasingly relevant to individuals later in their development (ages 18-25; Arnett, 2000). Some developmental psychologists even assert that this period, termed “emerging adulthood,” is a distinct and new developmental stage due to changing cultural contexts resulting in a prolonged period of independent role exploration (Arnett, 2016). Still, others challenge stage theories of development due to their perspective that development is a dynamic, interactive process that can be different for every identity domain and individual (Marcia, 1966). Regardless of the lack of consensus regarding exactly when identity exploration is most salient due to differing cultural norms, research suggests forming a coherent sense of self is an essential feature of development for individuals across their lifespan. Identity development is fostered most when individuals are in a time marked by instability, exploration, and self-focus (Arnett, 2000).

Identity status models. While stage theories provide a model for when identity development is most salient for individuals, they fail to explain how identity development occurs. Identity status models and narrative identity conceptualizations suggest that identity

development involves authentically knowing oneself and making commitments based on this self-knowledge. Marcia's (1966) identity status theory was one of the first theories to operationalize Erikson's work by providing a framework for the underlying processes that aid in individual's transition from "identity role confusion" to "identity achievement." Marcia (1996) proposed two fundamental identity development processes: *exploration*, the process of actively searching among many potential identities in effort to find a well-fitting sense of self, and *commitment*, deciding whether or not to adhere to one or more set of goals, values, and beliefs. Essentially, healthy identity development involves breaking away from childhood beliefs through exploring and solidifying alternative identities.

In Marcia's identity status theory, exploration and commitment are subdivided into "present" and "absent" levels and crossed to create four identity status categories to describe processes of identity development: achievement, moratorium, foreclosure, and diffusion (Marcia, 1966). According to this framework, an individual can be at different identity statuses for different components of their identity at different times across their development (Kroger & Marcia, 2011). Identity foreclosure is characterized by identity commitment without exploration. This stage would be typical of a child or young adolescent who has accepted their childhood beliefs and ideas from their parents without question. However, as adolescents develop abstract reasoning abilities and are exposed to new situations and beliefs, they may begin to question their ideas and enter identity moratorium. This stage is characteristic of active exploration without identity commitment (Marcia, 1966). Joining new clubs or activities, attending different churches or switching a college major are some examples reflective of an individual in identity moratorium. This exploration is often followed by identity achievement. Identity achievement occurs when an individual commits to a particular identity or set of beliefs that they have

previously explored (Marcia, 1966). However, if an individual becomes overwhelmed in the process of identity development or does not have the ability to engage in active exploration, they may reside in Marcia's identity diffusion status. This stage summarizes individuals who have not engaged in identity exploration or commitment (Marcia, 1966).

Outcome research applying this framework suggests trends that higher levels of identity commitment (achieved or foreclosed statuses) tend to correlate with positive outcomes, including high life satisfaction, security, and self-esteem (Kroger & Marcia, 2011; Schwartz, Zamboanga, Luyckx, Meca, & Ritchie, 2014). In contrast, identity confusion, symptoms of anxiety and depression, and other forms of maladjustment, tend to be correlated with lower levels of identity commitment (diffusion and moratorium statuses; Meeus, Iedema, Helsen, & Vollebergh, 1999; Schwartz et al., 2011). Even though positive psychological outcomes are associated with both identity statuses high in commitment, adaptive identity development (as conceptualized in Western cultures) requires individuals to move from identity foreclosure to achievement. According to this conceptualization, movement through identity moratorium is important for reaching identity achievement, despite the experience of distress associated (Marcia, 1966; Berman et al., 2001). For individuals to effectively and most authentically solidify and integrate their self-concept, they must engage in a process of actively exploring alternative identities and roles.

This process of identity exploration, while advantageous and necessary for healthy development, can be highly distressing. Individuals in identity moratorium can often feel like they are lost or in a crisis and can be susceptible to emotional and behavioral problems associated with anxiety and depression-related symptoms (Schwartz, Zamboanga, Weisskirch, & Rodriguez, 2009). Although expanded identity status models such as the dual-cycle model

(Luyckx, Goossens, & Soenens, 2006), and the certainty-uncertainty model (Luyckx et al., 2008), introduce alternative layers and outcomes associated with moratorium, all models emphasize the importance of active exploration for the formation and evaluation of identity commitments and the potentiality for distress associated with lacking identity commitments. Even though identity foreclosure is associated with positive outcomes like self-satisfaction and low levels of internalizing symptoms (Schwartz et al., 2011), identity achievement provides individuals with a more adaptive, mature sense of self. Individuals who have made identity commitments after active exploration, eventually obtain a more stable, authentic sense of self which serves as the basis for adult expectations, goals, and beliefs (Whitbourne, 1987). Outcome research confirms the importance of this stage, linking identity achievement with greater identity coherence, emotional security, self-esteem, personal meaningfulness, increased critical thinking, and advanced moral reasoning (Waterman, 2007).

Importantly, the description of Marcia's Identity Status lends to the assumption that identity is "finalized" after engaging and making commitments in early adulthood. However, Marcia and expanded identity status models assert that this conceptualization of identity development is too simplistic and inaccurate (Kroger & Marcia, 2011; Stephen, Fraser, & Marcia, 1992). Current models continue to emphasize that, in line with Erikson's original conceptualization of identity development, identity development is a dynamic and continuous process.

Narrative approaches. Narrative approaches to identity development complement identity stage and status theories in that they provide a framework for further explaining the mechanisms by which individuals integrate identity domains to form an overarching, internalized, and evolving sense of self. An important contribution to this literature is McAdam's

(1985) life-story model of identity. McAdams argued that individual's self-concept is made up of three levels: traits, characteristic adaptations, and stories. According to this model, each level provides a deeper understanding of self (McAdams, 2001). Per this theory, an individual's traits consist of global, stable, and comparative dispositions, such as level of extraversion or agreeableness. Characteristic adaptations further explain human individuality by filling in more details consisting of individual's roles, goals and motives, coping strategies, values and beliefs, skills and interests, and other personal characteristics that are contextualized in time, place, or social role. Finally, "life stories," are conceptualized as themes that provide individuals with continuity, unity, and purpose (McAdams, 1995; McAdams, 2001; McAdams, 2005). According to this framework, identity is conceptualized as an integration of one's self-understandings and self-defining stories into an ongoing and internalized life story.

Since identity exploration and commitment are foundational processes to identity development, identifying ways to support emerging adults in effective exploration are worthy pursuits of future study. According to narrative approaches of identity development, autobiographical reflection is a mechanism by which individuals develop greater continuity and clarity of self (Habermas & Bluck, 2000). McAdams termed this process, *identity construction*, explaining that individuals continuously engage in this process of reflecting on past experiences and integrating contrasting elements of self into an organized, meaningful whole (McAdams, 2001). For example, an adolescent raised in a family of medical providers might experience discord between their early childhood memories of "playing doctor," with their current love of volunteering as a new-student orientation leader and serving as a mentor for underprivileged youth. When faced with the decision to pick their college major, they may experience distress associated with the task of integrating their seemingly contradictory past goals with their current

interests. Upon reflecting upon or retelling their early childhood experiences, they may realize their interest in becoming a doctor had more to do with their love of counseling and teaching, than with their attraction to medicine. Therefore, they may make the decision to pursue psychology; a decision that aligns with their reconstructed interests and goals. Much like in this example, McAdams (2005) argued that reflecting and reconstructing past narratives while imaginatively anticipating the future, ground the self within an ongoing life story. In this view, autobiographical reflection can be conceptualized as a useful form of identity exploration that allows individuals to continuously gain meaning, continuity, and clarity of self.

Vocational Identity Development and Emerging Adulthood

Identity stage theories, statuses models, and narrative approaches are assumed to operate for a variety of identity domains, including vocational identity. Additional stage theories extend Erikson's model with this focus because college students are in a period of discerning how their traits (e.g., goals, interests, abilities) match with future occupations. For example, born out of his experience and research in student affairs, Arthur Chickering (1993) named seven "vectors" or tasks that college students engage in while developing identity. These tasks consist of (1) developing intellectual, physical, and interpersonal competence, (2) managing emotions, (3) moving through autonomy towards interdependence, (4) developing mature interpersonal relationships, (5) establishing identity, (6) developing purpose, and (7) developing integrity (Chickering, 1993). Most relevant to the scope of this study is Chickering's sixth vector regarding college student's development of purpose. This task asserts the importance of developing clear educational and vocational goals, making lifestyle choices that support these goals, and establishing strong interpersonal commitments (Chickering 1993). According to this model, questions such as "What is really important in life?" and "What gives life meaning?"

arise and continue to be of concern for individuals at this stage of life. Chickering's direct experience and applied research illuminates the importance of asking questions of meaning and purpose, developing vocational identity, and making authentic career-related decisions for college students.

Super's (1990) theory of career development supports work by Erikson and Chickering, applying a lifespan development approach specific to individuals' career development. According to Super's theory, college-aged individuals are characterized as being in the exploration life stage. This stage is characterized by three processes: crystalizing a clear and stable self-concept, specifying educational/career choices to fit one's self-concept, and actualizing a choice (Super, 1990). Much like Marcia's conceptualization of identity development, Super's (1990) crystalizing phase involves engaging in new and different roles and experiences which leads to solidification of one's vocational skills, values, and identities. For adolescents and early adults, this task may include trying out new hobbies or leadership roles, exposing themselves to new courses or philosophies, and/or learning more about potential job opportunities. According to this framework, identity formation leads to the specification of individual's occupational and societal goals which shapes the roles they fulfill later in life (Schwartz et al., 2014; Super 1990). This perspective also aligns with Holland's (1997) concept of *workplace personalities*. That is, vocational identity formation leads to self-knowledge of individual characteristics, interests, and skills, which can then be matched with the tasks and environment of the workplace, leading to beneficial outcomes for the individual as well as their employer.

Parallel to both stage and status theories of identity development, research on vocational identity lends itself the following conclusions: (a) the development of vocational identity

requires authentic knowledge of career-related interests, values, abilities, and goals, (b) that are acquired through exploration and commitment processes, and (c) are characteristic of emerging adulthood.

Career Development Intervention Paradigms: “Who Am I?”

Knowledge of self remains a prominent aspect of career development theories. Much like the difference between stage theories and narrative theories of identity development, career theories can be divided into two differentiating paradigms. A paradigm is a conceptual model that is a widely accepted set of practices that define a scientific discipline at any particular period of time (Kuhn, 1996). This term is utilized to describe the following approaches to career development since they are both prominent approaches largely shaped by the contextual factors of the time in which they were developed.

Vocational guidance paradigm. Traditional theories of vocational guidance stem from Parson’s (1909) Person-Environment Fit Model. According to this approach, effective career decision-making requires three essential processes: knowledge of personal characteristics, knowledge of workplace characteristics, and matching the characteristics of the individual with the characteristics of the workplace. Prominent theories of career development expand this perspective, finding that beneficial outcomes (for both the individual and their workplace) depend on the amount of correspondence between individual’s personality, values, motivations, and abilities, with the workplace’s requirements, conditions of successes, advantages and disadvantages, and opportunities (Dawis & Lofquist, 1984; Holland, 1997). These approaches were born out of a social structure of work in which individuals selected a career path, obtained a position, and worked within an organization for the majority of their career life. Due to the relative stability associated with work life for majority populations during the 20th century, key

outcomes from this perspective include constructs like career decidedness, personality, and maturity (Savickas, 2012).

Vocational guidance intervention approach. According to the vocational guidance paradigm, effective career discernment and decision-making first and foremost requires knowledge of self. These approaches conceptualize “self” as a conglomeration of stable traits that make up an individual (Savickas, 2012). Therefore, vocational guidance career interventions aim to objectively assess an individual’s traits and match them to careers that bear resemblance.

A current example of the vocational guidance approach in application is The National Career Development Guidelines (NCDG) Framework (National Career Development Guidelines, 2004). This framework consists of three career competency domains with several underlying goals and learning strategies to help individuals reach said goals. The first goal the NCDG lists falls under the “Personal Social Development” domain and suggests individuals should first “develop an understanding of self to build and maintain a positive self-concept” (National Career Development Guidelines, 2004, pp. 1). The guidelines suggest that to do so, individuals must *identify* personal characteristics (i.e., interests, abilities, strengths, skills, talents personal characteristics, and work values/needs), *apply* characteristics to their experiences and behavior, and *reflect* on the impact of their characteristics on their career development (National Career Development Guidelines, 2004). Several meta-analyses of career intervention research summarize applications of the vocational guidance perspective utilizing a variety of intervention modalities with many different populations (e.g., Brown & Ryan Krane, 2000; Oliver & Spokane, 1988; Whiston et al., 1998; Whiston et al., 2003; see following section “Career Counseling Interventions” for additional information). Broadly, these meta-analyses suggest that P-E Fit approaches serve as an effective framework for helping individuals make career-related

decisions through objective assessment and matching of their traits with their workplace requirements.

Life design paradigm. The digital revolution in the 21st century brought about significant changes for individuals' work life. Whereas individual's career trajectories were more secure and stable in the 20th century, the work world of the 21st century tends to be more characteristic of instability and impermanence. Careers often consist of temporary assignments and time-limited projects that replace permanent positions (Savickas, 2012). In fact, the Bureau of Labor Statistics reports that the average college graduate holds 11.9 jobs before the age of 50 (U.S. Department of Labor Statistics, 2017). According to a recent LinkedIn survey, the number of career changes among college graduates in their first five years after graduation has increased steadily over the past 30 years (Berger, 2016). These changes in the social organization of work requires new conceptualizations of effective career development interventions and outcomes. Life Design approaches to career intervention were born out of the need to accommodate for this recent shift from predictable career trajectories to career destabilization.

Whereas P-E Fit theories emphasize the importance of effective career choice, Life Design theories emphasize the importance of developing and maintaining a sense of self and social identity useful in navigating career transitions. Instead of viewing identity as the sum of stable traits, the Life Design perspective conceptualizes identity as the ways in which individuals think of themselves in relation to social roles (Savickas et al., 2009). Much like narrative approaches to identity development, Life Design theories of career development posit that identity is constructed and reconstructed through stories or micronarratives. These micronarratives serve to provide individuals with coherence, continuity, and an overarching sense of purpose as they inevitably experience career-related transitions (Savickas, 2012).

Therefore, career counselors from this perspective focus on assessing key outcomes like reflexivity, adaptability, intentionality, and narrative coherence.

Life design intervention approach. Intervention strategies born out of the Life Design paradigm seek to enhance self-knowledge via engaging individuals in activities that promote meaning-making, identity shaping, and career constructing (Savickas, 2012). These activities utilize storytelling or autobiographical reflection processes that lead clients through a process of connecting their past experiences with their future goals. A prominent model developed from this epistemological Life Design approach is Savickas' (2005) career construction theory. Career construction interventions aim to help individuals: (a) construct career through small stories, (b) deconstruct these stories and reconstruct them into an identity narrative, and (c) co-construct future career-related intentions and action (Savickas, 2013). This approach focuses less on individual's career-related traits, and more on understanding individuals based on their vocational personality, or the ways in which they adapt when navigating career obstacles (Savickas, 2013). A thorough understanding of one's vocational personality informs their effective career decision-making as it allows individuals to come to their own conclusions based on key considerations gleaned from making meaning from their past experiences.

Despite their differences, both paradigms of career development point to the importance of *knowledge of self* when navigating career-related decisions. Theories of identity development also support that emerging adulthood is a time when emerging adults are asking themselves the foundational, exploratory question of self: "Who am I?" Evaluating one's career-related characteristics and experiences through a narrative lens provides a framework for individuals to begin to explore their answers to this relevant question. With a greater understanding of self, individuals are more equipped to make career decisions that fit their authentic motives and goals.

Calling and Career Development: “Who am I meant to be in, and for, the world?”

For centuries philosophers, historians, religious leaders, and practitioners have advocated for an approach to work that moves beyond asking the question, “Who am I?” to asking questions that evoke considerations of purpose and calling (Rehm, 2000). “Who am I meant to be in, and for, this world?” or “How can I use my passions and gifts to benefit others?” are just a couple of examples of such invitations to move beyond the self and consider individual’s sense of purpose and calling. The benefits of having a purpose has been investigated both generally and specific to the work environment (Dik, Byrne, & Steger, 2013). One specific expression of purpose, which has recently emerged in the vocational development literature, is the concept of perceiving a calling. Since its recent emergence in the vocational development literature, research on calling continues to quickly increase from only 21 published articles prior to 2007 to over 600 studies published in the last decade.

Conceptualizing calling. To investigate the benefits and drawbacks associated with any psychological construct, researchers must first develop an understanding of its definition and distinction from other related constructs. Unsurprisingly, defining and differentiating calling from other vocational psychology constructs is a prominent area of study in the calling literature.

Although individuals can experience multiple callings in a variety of life roles, calling has been most often defined and assessed as it relates to one’s career. Researchers tend to further classify calling into two categories: “neoclassical” conceptualizations and “modern” conceptualizations. Neoclassical approaches encompass calling’s historical roots in philosophy and religion, and therefore emphasize a sense of “destiny” or “external summons” in addition to a sense of prosocial duty (Bunderson & Thompson, 2009). Modern approaches tend to be more focused on individual’s sense of self-fulfillment, actualization, and personal happiness (Duffy &

Dik, 2013). For example, these approaches have defined calling as an expression of one's purpose (Hall & Chandler, 2005), a fulfillment important to one's identity (Berg, Grant, & Johnson, 2010), and as a "consuming, meaningful passion people experience towards a domain" (Dobrow & Tosti-Kharas, 2011, p. 1003). In part to address conceptualization differences, Dik and Duffy (2009) proposed a multidimensional conceptualization of calling that forms the basis of the most widely used scale designed to measure calling. According to their definition, perceiving a calling involves three components: (a) a transcendent summons to a career that is, (b) perceived as meaningful, and (c) makes a prosocial difference (Dik & Duffy, 2009). They highlight that this conceptualization of calling does not mean one must be religious to experience a calling. Instead, while some may equate the "transcendent summons" dimension with a voice or gesture from a higher power, others may experience this dimension as an intense feeling of passion, sense of purpose, or internal pull toward a particular work-related role (Dik & Duffy, 2009). Importantly, the meaning of the term calling has, and will likely continue to shift over time, as society continues to evolve. Dik and Shimizu (2019) outline this phenomenon and its current challenges for research, urging researchers investigate the distinctions between the different ways calling is understood and expressed using empirical methods (e.g., taxometric analyses, cluster and factor analyses).

Regardless of conceptualization differences, the positive outcomes associated with perceiving a calling tend to be consistent across studies (Duffy et al., 2018). Most researchers also seem to agree that all individuals (no matter their job title, religious beliefs, socioeconomic status, cultural background, etc.) can experience an honest calling if they feel drawn towards and connected to the prosocial components of their work and experience meaning as a result (Duffy et al., 2018). For example, a university cafeteria worker, despite feeling overworked in a

minimum wage position, may live out her calling by nourishing and caring for the wellbeing of the students she serves. She may go out of her way to connect with her students; asking about their days, comforting them when they are stressed, or telling jokes while serving their food. She may also decide to brighten her staff workers' days by bringing them homemade meals when they are sick, remembering their birthdays, or decorating the cafeteria on holidays. None of these purpose-centered actions are required by the cafeteria worker; they are not listed in her job description or rewarded with increases in pay. Yet, she is still motivated to go above and beyond in her work due to experiencing meaning from making a difference in the lives of the staff and students around her. She may even begin to feel drawn to utilize her gift of warmth, connection, and mentorship outside of work, thus experiencing a sense of calling and fulfillment in a variety of settings and roles.

The example of the cafeteria worker demonstrates how living out one's calling can facilitate a sense of individual meaning and fulfillment at work. While meaningful work is a similar career-related construct, it can be distinguished from a sense of calling because it does not include feeling a transcendent summons or guiding force to a particular career or work role (Rosso, Dekas, & Wrzesniewski, 2010). For example, if the cafeteria worker was engaging in prosocial actions in order to experience meaning and fulfillment from caring for her students, she might classify her work as meaningful. However, if she had a sense that she is *summoned* or *called* to engage in prosocial behaviors through her work as a cafeteria worker, she might classify her job as a calling. In this sense, calling can be considered a more comprehensive construct, one that involves experiencing meaning in work.

When individuals perceive a calling, they may also experience increased awareness and clarity of the reasoning behind their prosocial actions or goals. In the example of the cafeteria

worker, she may believe she exists to serve as a warm parent figure for students while serving their meals. In this way, perceiving a calling also includes experiencing a sense of purpose. Although there are a variety of definitions of purpose, the most commonly cited aspect of purpose is the “why?” or *reasoning* behind ones’ actions (Bundick, 2011; Kashdan & McKnight, 2009; Keyes, 2011; Rockind, 2011; Ryff, 1989a). Many researchers expand on this definition, noting that purpose is both meaningful to the self and of consequence to the world beyond the self (Bundick, 2011; Damon, Menon, & Cotton Bronk, 2003). Others conceptualize purpose as a general “life aim,” “framework,” or “compass,” that provides direction and creates goals for the future (Kashdan & McKnight, 2009). Regardless of the slight differences in conceptualization, definitions converge on their assertion that purpose evokes a sense of goal directedness for an individual. Since calling involves experiencing purpose, this experience of goal directedness may also occur when one perceives a calling.

Some authors advocate for a specific kind of purpose, termed *authentic purpose* (Mercurio, 2017). This conceptualization of purpose is similar to existing research that conceptualizes purpose as being goal-directed and prosocial. However, this conceptualization is qualified with the assertion that when purpose is authentic (i.e., genuine and real) it becomes an ultimate motivator. The formal definition of authentic purpose is “individuals’ genuine and original reason for existence that is useful to others and society” (Mercurio, 2017, p. 23). This is similar to perceiving a calling in that both involve engaging in intentional prosocial behaviors. Calling expands this conceptualization by highlighting presence of an external summons to an activity that is perceived as meaningful. In this lens, developing a calling can help individuals clarify their reasoning behind their prosocial actions or goals (i.e., their sense of purpose). Applying the same logic, when individuals take the time to deeply and continuously reflect and

develop an *authentic* sense of calling, they may experience positive outcomes associated to a greater degree.

Calling relevance, correlates, and consequences. Literature on calling suggests it is a prevalent and relevant construct for many individuals. It appears many adults are seeking work that is experienced as purposeful and meaningful, rather than simply a means to make a living (Steger & Dik, 2009). In fact, the first known population estimate of calling posits that 63% of adults in the United States endorse at least “moderately true” feelings of experiencing a calling (White et. al, in press). Importantly, the relevance of calling is not limited to the United States, as there are more than 20 international countries now represented in the calling literature (Dik, Reed, & Alayan, 2019). Calling can also be experienced in any area of work or career-related task, despite level of difficulty, time-commitment, or prestige (Hagmaier & Abele, 2012; Hirschi & Herrmann, 2013; Rothmann & Hamukang’andu, 2013; Zhang, Dik, Wei, & Zhang, 2015). For these reasons, calling is a broadly prevalent and relevant construct for individuals across a variety of life and career stages.

While calling pertains to many individuals, it is an especially salient consideration for college students in the process of discerning their career trajectory. Studies link calling with a variety of career-related constructs that are relevant to emerging adults facing career-related decisions. For example, critical features of emerging adult career development include occupational identity, career maturity, and career decidedness, all of which have been linked with perceiving a calling (Duffy & Sedlacek, 2007; Hirschi & Herrmann, 2013). College students also outwardly report the importance of calling; with more than two thirds indicating calling as an important and relevant construct in their career decision-making, and 40%

endorsing presence of calling to a particular line of work (Duffy & Sedlacek, 2010; Hunter et al., 2010; White et. al, 2018).

There are a plethora of benefits to individuals and the organizations they serve, when a sense of calling is perceived and enacted. Work as a calling theory (WCT) is the first integrative theory that explains the link between perceiving and living a calling, as well as how living a calling is promotes positive and potentially negative outcomes (Duffy et al., 2018). From a general wellbeing standpoint, numerous studies have linked calling to greater wellbeing, meaning in life, and life satisfaction (Allan & Duffy, 2014; Davidson & Caddell, 1994; Duffy, Allan, & Bott, 2012; Duffy, Manuel, Borges, & Bott, 2011; Duffy & Sedlacek, 2010; Hirschi & Herrmann, 2012; Peterson et al., 2009; M.F. Steger, Pickering, Shin, & Dik, 2010; Wrzesniewski et al., 1997). The same trends apply to constructs inherent in perceiving a calling; experiencing meaning and purpose in one's career is also linked to hedonic and eudemonic wellbeing (Steger & Dik, 2009). A recent Gallup survey of over 2,000 recent graduates concluded that graduates with a high sense of purpose in work are almost 10 times more likely to also have high wellbeing (Gallup, 2019). Overall, it appears that individuals with a calling tend to experience greater levels of meaning and are more satisfied with their lives than those who do not.

Calling is associated with several outcomes that are especially salient for college student identity and career development. As described previously, identity development is a major task of emerging adulthood; one that involves active introspection, reflection, and discernment of one's personal traits and values. Developing a clear sense of one's work-related attributes fosters more effective career decision-making (Parsons, 1909). Since college students are often faced with career-related decisions (e.g., choosing a major), vocational self-clarity and vocational identity achievement are vital outcomes; both of which have been positively linked with sense of

calling (Duffy & Dik, 2013; Duffy & Sedlacek, 2007; Hirschi & Herrmann, 2012). A theoretical explanation for this link is that perceptions of calling is an aspect of one's global meaning system, which is theorized to develop in conjunction with other processes, such as the development of identity, relationships and goals (Park, 2012; Steger, Oishi, & Kashdan, 2009). This conceptualization also explains calling's link with aspects of career maturity like career exploration, planning, and decidedness (Hirschi & Herrmann, 2013). Not only do college students with a calling have greater career maturity, they are also more confident in their ability to make upcoming decisions related to their career development. In a study of university college students, calling's association with career-decision making self-efficacy and work hope resulted in greater academic satisfaction (Duffy, Allan, & Dik, 2011). Finally, developing a calling seems to improve career development motivation and engagement in behaviors that foster active career exploration and choice. This assertion is supported by results from a longitudinal study of young adults which found that calling predicted work effort and career strategies, including work involvement, seeking career guidance, creating career opportunities, and self-presentation (Praskova, Hood, & Creed, 2014). Not only do emerging adults report that calling is a salient consideration, calling appears to promote a plethora of positive career development attitudes and behaviors during this developmental period.

Although calling is linked with a variety of positive well-being and work-related outcomes for individuals, there are instances in which calling has been associated with detrimental outcomes. Work as a calling theory is the first attempt to explain the variety of correlates and consequences of both perceiving a calling and being afforded opportunities to "live out" one's calling with a theoretical model (Duffy, Allan, Autin, & Bott, 2013; Duffy et al., 2018). Individuals who perceive a sense of calling but have not had the opportunity to live it out

may experience more stress and regret over missed fulfillment of their callings, compared to individuals without callings (Berg et al., 2010). Conversely, it appears individuals can also live out their callings to their own detriment. For example, a study of zookeepers found that those with a calling to their work also reported greater rates of workaholism and personal sacrifice, both of which contributed to experiences of organizational exploitation (Bunderson & Thompson, 2009).

There is far more research supporting the benefits of experiencing a calling, but it is also important to consider explanations for when fostering a calling is detrimental. Calling can be conceptualized as an aspect of one's work identity (Cardador & Caza, 2012). Applying identity development theory, too strong of a commitment to one's calling and too rigid of an understanding of one's calling may explain associations between calling, regret, and burnout. Much like the development of various identity domains, developing a calling likely requires active exploration and commitment processes (Kroger & Marcia, 2011). Theoretically, when an individual commits to a particular call without active exploration, they may experience similar outcomes associated with identity foreclosure. This may lead them to set goals and pursue paths related to an inauthentic or underdeveloped sense of calling. Overall, when promoting calling development, it is important to facilitate the development of flexible and authentic callings via continuous exploration and reflection processes.

Career Development Intervention Research

Since research investigating interventions to increase calling is sparse, calling theory—as well as research from both vocational guidance and life design intervention research—can be utilized to inform best practice.

Career choice intervention research. Vocational guidance approaches are prevalent in the field of career counseling. Therefore, several meta-analyses summarize P-E Fit informed interventions with a particular emphasis on what modalities and critical ingredients are effective for aiding an individual's career choice. The effects of career intervention research appear to be highly beneficial for participants; a recent meta-analysis reported an average effect size of 0.35 across all outcome categories (i.e., vocational interest congruence, vocational identity, career maturity, career decision making self-efficacy, perceived environmental supports, perceived career barriers, career choice goals, and outcome expectations; Whiston, Li, Goodrich Mitts, & Wright, 2017) which is similar to the study it replicated, which had an effect size of 0.34 averaged across the same study with the exception of outcome expectations (Brown & Ryan Krane, 2000). Despite the prevalence and effectiveness of career choice interventions, recent meta-analyses show a decrease in career intervention outcome research (Whiston, Brecheisen, & Stephens, 2003; Whiston et al., 2017). This decrease is highly problematic for the future of empirically-supported career counseling and is thus a worthy pursuit of future study. Related to calling development, research on career choice interventions may also provide insight about what is useful in facilitating career development constructs related to calling, especially because college students are often focused on their individual callings as they apply to their career (Hunter et al., 2010). Several key findings from career choice interventions serve to inform the development of the present study.

Career choice intervention modalities. Research on what types of treatment modality have the largest has not yielded consistent results. Whereas a meta-analysis by Oliver and Spokane (1988) found career classes to be most effective, a meta-analysis by Whiston et al. (1998) found individual counseling had the largest effect. More recently, a meta-analysis by

Brown and Ryan Krane (2000) concluded that career counseling in a group setting is most effective. In an effort to further investigate these mixed results, Whiston et al. (2003) conducted a meta-analysis with the specific purpose of comparing different treatment modalities. Structured workshops emerged as most effective, yet the differences in terms of effectiveness between individual counseling, group counseling, workshops, and classes, were slight. Most importantly, there were moderators of these results: interventions were most effective when a counselor was present and when interventions were structured compared to non-structured (Whiston et al., 2003). These results, paired with research suggesting that career development workshops are widely utilized and efficient (i.e., reduce participant costs and counselor time constraints) provide rationale for using structured workshops to promote individuals' career development (LeViness, Bershad, & Gorman, 2017; National Association of Colleges and Employers, 2018)

Career choice intervention “critical ingredients.” Most recent meta-analyses by Whiston et al. (2017) supports the efficacy of counselor-driven structured workshops. With regard to specific components of interventions (i.e., “critical ingredients”), Whiston et al. (2017) found that counselor support, values clarification, and psychoeducational interventions were predictors of positive career decision-making and self-efficacy outcomes. They also highlighted that workbooks and written exercises were in the top five of critical ingredients ($ES = .42$), which replicates past results in which written exercises were the top predictor of career maturity compared to other critical ingredients (Brown & Ryan Krane, 2000). These findings provide rationale for the importance of counselor involvement, participant self-reflection of values, and the use of writing exercises to facilitate individual career development. See below for a review of expressive writing and career development.

Life design intervention research. Researchers have more recently begun to empirically investigate socio-constructivist and narrative career development interventions. A recent meta-analysis by Langher, Nannini, and Caputo (2018) supports this trend, comparing socio-constructivist career interventions to those based on social cognitive theory and person-environment fit theory. In this review, they included articles published between 2000 and 2015 that included an experimental or quasi-experimental design investigating career-related interventions with university or graduate students (Langher, Nannini, & Caputo, 2018). They concluded that of the eligible studies, there were better outcomes (i.e., increased career decision-making self-efficacy, decreased career decision-making difficulties, decreased career indecision, and decreased irrational career-related thoughts) for the socio-constructivist interventions (weighted ES = 2.51) compared to social cognitive career theory (weighted ES = .48) and person-environment fit (weighted ES = .33) interventions (Langher, Nannini, & Caputo, 2018). In their interpretation, researchers postulated that exploratory interventions aimed at fostering identity coherence and continuity improves one's ability to cope with career-related challenges which makes individuals more apt to report career decisiveness (Langher, Nannini, & Caputo, 2018). Importantly, only three of the 12 interventions examined in this meta-analysis were socio-constructivist career development interventions. Therefore, the conclusion of this meta-analysis must be interpreted with caution.

Importance of meaning-making and narrative reflection processes. It is also important to highlight that the lack of research on socio-constructivist informed interventions compared to other career interventions may be more due to differences in methodology and design, than to differences in effectiveness or popularity. Since many socio-constructivist approaches utilize narrative reflection as a meaning-making strategy, it is common for researchers to conduct case

studies or utilize other qualitative methods to assess intervention effectiveness. These studies were not included in most recent career development intervention meta-analysis. Other experimental socio-constructivist interventions were also ruled out due to implementation with a differing target audience (e.g., adolescents).

One of these experimental studies used a computerized life design-based intervention with group of middle-school-age students. Compared to the traditional intervention group, adolescents who participated in the life design intervention showed higher levels of career adaptability and life satisfaction (Nota, Santilli, & Soresi, 2016). Santilli, Nota, and Hartung (2018) also observed increases in career adaptability, as well as future orientation, in adolescents after they participated in a narrative-based group intervention compared to a traditional career intervention workshop. This intervention was based on the My Career Story (MCS) workbook which asks students to respond to four key questions about their role models, favorite magazines and TV shows, favorite story in the form of a book or movie, and favorite motto or saying (Savickas & Hartung, 2012). After telling short stories in response to these four questions, participants were prompted to further reflect upon how their answers reveal who they are, where they like to be, what they like want to do, and how they can best deal with their career concerns (Savickas & Hartung, 2012). Storytelling approaches of career development provide theoretical support for the efficacy of narrative based interventions in their assertion that as individuals move from “thin” to “thick” stories (i.e., engage in meaning-making), they develop more coherent life themes and identity narratives (McMahon & Watson, 2012). Narrative approaches have also been described in several case-study papers (e.g., Maree, 2016; Di Fabio & Maree, 2013), thus supporting the benefits of meaning-making and narrative reflection as a tool for career development.

Career as calling intervention research. Although research on beneficial correlates and outcomes of perceiving a calling has greatly increased in the past decade, research examining calling interventions is sparse. Two particularly informative studies aimed to increase college student perceptions of calling through participation in workshops are rooted in the vocational guidance paradigm of career development. Dik and Steger (2008) designed and implemented a two-session calling-infused workshop series consisting of individual career assessments, psychoeducation on person-environment fit (P-E Fit) theory, group activities to promote social support, goal setting exercises, and brief exposure to online sources of information. Calling was specifically fostered via psychoeducation (e.g., definition and relevance of calling as well as how calling can be developed), as well as group activities that helped participants identify avenues for infusing their work with significance and purpose (Dik & Steger, 2008). Researchers compared the calling-infused workshop to a standard person-environment fit workshop. They also compared the effects of counselor self-disclosure in each workshop condition. Results showed that both the calling and standard workshop conditions improved career decision-making self-efficacy (CDMSE). Contrary to what they expected, they did not find differences between the workshop conditions on increases in calling and meaning in life. However, there were significant differences between the calling workshop series and all other conditions when the counselor utilized self-disclosure throughout the workshop (Dik & Steger, 2008).

Dik, Scholljegerdes, Ahn, and Shim (2015) also found mixed results when investigating the effects of a calling-infused workshop series with college students from a Christian university. Their intervention consisted of individual career assessments, psychoeducation on P-E Fit, goal setting exercises, support building, and information about the world of work. Similar to the aforementioned study, calling was promoted via psychoeducation (e.g., framing the process of

career decision-making as calling discernment, providing theological instruction) and group exercises promoting reflection about prosocial functions of work. Participants also discussed challenges and opportunities related to discerning a calling and explored case examples of Christians living out their calling in diverse career paths. Again, researchers found mixed support for their hypothesis that the religiously tailored calling intervention would be more efficacious than the standard person-environment fit condition. Specifically, those in the standard condition reported significantly higher career decision self-efficacy compared to control. For individuals in the religiously-tailored condition, career decision self-efficacy scores fell between the standard condition and the control condition and were not significantly different from either group. Yet when presence of calling was an outcome variable, there was a marginally significant between-condition difference between those in the religiously tailored condition, who scored higher on presence of calling than those in the standard condition. Of note, the increases in presence of calling for individuals in the religiously-tailored condition were not maintained over time.

Researchers have also examined calling intervention modalities other than career development workshops. Dik, Steger, Gibson, and Peisner (2011) implemented a calling intervention with eighth grade students comprised of a values card sort and a board game that encouraged participants to think about the social function of their occupations. While the intervention did not show significant differences in sense of purpose, prosocial attitudes, or calling, participants showed significant increases in relevant career development constructs (i.e., sense of career direction, understanding of aspects of self, preparedness for the future) compared to the control group.

It appears that calling-infused interventions can have a positive impact on key career development outcomes like career maturity, goal-directedness, career decision-making self-

efficacy, and meaning in life. However, the effects of these short-term interventions may not be greater than standard person-environment fit interventions. They may also be more apt to demonstrate increases in relevant career development outcomes, instead of observable changes in calling. However, one study has been successful in increasing calling and global life satisfaction after six months by utilizing a web-based strengths intervention with employees (Harzer & Ruch, 2016). Overall, more research on calling interventions is needed to be able to draw conclusions about their effectiveness. Since most calling interventions have utilized a P-E Fit approach, future research could examine the effectiveness of a calling-infused intervention that utilizes a life-design approach to career development.

Calling discernment processes. Since the literature on calling interventions is sparse, it is also helpful to consider theory about calling discernment and identity development to aid in the creation of an effective, evidence-based intervention. Theoretical conceptualizations of calling are a useful starting point when considering how to foster a healthy sense of calling. It is important to highlight that the beneficial outcomes associated with experiencing a calling do not need to be associated with experiencing a calling to a particular career. In fact, research suggests that individuals can experience multiple callings, to a variety of career, leisure, and life roles (e.g., being a parent; Berg, Grant, & Johnson, 2010). Studies also show that experiencing a calling can wax and wane over time (Dik & Duffy, 2009; Dobrow, 2013). These findings suggest that developing callings is a life-long process; one that requires continuous self-reflection. When considering calling in emerging adulthood, it is especially important to emphasize that the process of discerning a calling is not complete once an individual has selected their career path. Instead, college students likely benefit from understanding that their sense of calling can and should change as they continue to engage in and reflect on new roles and experiences.

Identity perspectives can also be applied to offer theoretical guidance around the development of calling. Perceiving a calling can be conceptualized as an aspect of one's identity or global meaning system that allows individuals to cultivate and experience meaning in their work (Dik & Duffy, 2015; Park 2012). Research supports this notion, as studies have documented that how one thinks about their work roles is closely connected with one's sense of self (Pratt & Ashforth, 2003). It is likely that developing a calling emphasizes this strong personal identification with one's work, because developing a calling requires deep reflection around how one can use their personal values and passions to make a meaningful difference at work (Dobrow, 2004; Pratt & Aschforth, 2003; Wrzesniewski et al., 1997). Since the development of one's sense of calling is so closely tied to emerging adult identity development, the same key identity development processes (i.e., exploration and commitment) can be applied to foster the development of a calling. Therefore, developmentally appropriate interventions for first-year college students might focus more on increasing "search" for calling instead of expecting participants to have a fully formed sense of calling early on in their college years.

Research on meaning in life (a similar construct to calling) also provides theoretical support for the assertion that calling can be developed via identity exploration and commitment. Identity *coherence* (i.e., knowing oneself) emerges as a key factor involved in developing meaning in life (e.g., Baumeister, 1991; Damon, Menon, & Bronk, 2003; Frankl, 1963; Reker & Wong, 1988; Ryff, 1989a). Further, knowledge of how one's personal attributes fit and interact with the world around them provides individuals with *comprehension*, or a cognitive understanding of the meaning behind their fragmented daily experiences (Steger 2012). This understanding can serve to link old experiences with new experiences and inform an individual's ongoing sense of purpose and goals. Since calling can be considered to be a component of one's

meaning system, it is likely that the same processes that aid in the development of meaning also forward one's development of calling. Applying theory on the development of global meaning, the first step to developing a calling is to explore and solidify knowledge of self.

The meaning literature's focus on establishing a coherent sense of self via meaning-making is similar to narrative approaches to identity development which assert that retelling (e.g., "storying") personal narratives fosters the development of a continuous sense of self (e.g., a metanarrative; McAdams, 2001). According to this approach, an individual's changes in identity is linked with the ability to form rich and comprehensive autobiographical narratives (McLean & Pratt, 2006; McLean & Thorne, 2003). Applying Marcia's identity status model, reflection on one's experiences could be conceptualized as a specific type of identity exploration, which would eventually promote identity commitment (McLean & Pratt, 2006). A plethora of studies link meaningful reflection of autobiographical narratives to identity development, in addition to career development and psychological health (Fivush, Habermas, Waters, & Zaman, 2011; Hartung, 2013; Singer, 2004). Since calling can be conceptualized as a specific identity domain, and reflection on autobiographical narratives promotes identity and career development, it is feasible that these processes would positively increase individuals' perceptions of calling.

The Present Study

Applying identity, career development, and calling theories, the following key considerations for promoting emerging adults' perceptions of calling emerge: developing a calling requires lifelong, active exploration and discernment of one's authentic self as it relates to their (career-related) roles. Narrative approaches suggest that one way an individual can engage in reflective exploration is through retelling and making meaning from past experiences. However, experimental research on the effectiveness of narrative career development

interventions is sparse. For college students, calling interventions should promote active career exploration and search for calling, rather than consider career choice and presence of calling as the key outcomes. Workshops that facilitate written and peer sharing of autobiographical narratives emerge as a mechanism for teaching exploration and reflection while also facilitating college students' sense of calling and its associated benefits.

Importance of autobiographical reflection. While experimental research on narrative career development interventions is sparse, outcome research on meaning-making and narrative reflection processes in other psychological domains provide evidence for the use of autobiographical reflection strategies in the career development domain. Expressive writing and peer sharing of personal narratives emerge as two potential intervention strategies for promoting college student identity and career development.

Autobiographical reflection via writing. Expressive writing as a tool for career development brings to mind decades of research in the field of clinical psychology. Initial studies asked participants to write about traumatic experiences for 20 minutes for three to four consecutive days. Pennebaker and Beall (1986) found that individuals who participated in this paradigm experienced beneficial health outcomes and visited their doctor less often than individuals who wrote about superficial topics. Since this study, hundreds of subsequent replications in the clinical setting have revealed many positive outcomes including improved physical health, mood, and well-being (e.g., Broderick, Junghaenel, & Schwartz, 2005; Campbell & Pennebaker, 2003; Esterling, Antoni, Fletcher, Margulies, & Schneiderman, 1994; Junghaenel, Schwartz, & Broderick, 2008; Pennebaker, Hughes, & O'Heeron, 1987; Petrie, Booth, Pennebaker, & Davison, 1995; Smyth, True, & Souto, 2001).

The benefits associated with expressive writing have since been investigated in a variety of other psychological domains including positive psychology, personality psychology, and vocational psychology. Laura King (2001) adopted Pennebaker's paradigm by comparing the positive effects of individuals writing about traumatic events with their "best possible future self," finding that this paradigm improved participants' wellbeing, without upsetting them by having them discuss traumatic events. Burton and King's (2004) study confirmed that expressive writing about positive experiences is effective, as participants who wrote about "intensely positive experiences" reported better mood and fewer doctor visits compared to controls.

Research investigating why expressive writing is a useful tool for intervention highlights the importance of emotional expression and cognitive restructuring/reappraisal as two key mechanisms of change. These conclusions are based off of numerous qualitative studies linking the presence of emotional words and narrative coherence with improved health and wellbeing outcomes (Baerger & McAdams, 1999; Waters, 2014; Waters & Fivush, 2015; Wilson & Ross, 2003). There are many parallels between these findings and the narrative-based career counseling theories (e.g., career construction theory; Savickas, 2005). For example, both emphasize the importance of the benefits of self-disclosure and the *process* of story construction; specifically, that translating experience into language allows individuals to gain and integrate meaningful insights into a broader narrative.

Unsurprisingly, writing about one's personal experiences emerges as a useful intervention strategy in the vocational psychology literature. Narrative career counseling approaches described above, including Cochran's (1997) narrative career counseling approach, McMahon and Watson's (2010) story telling approach, Pryor and Bright's (2003, 2006) chaos theory, and Savickas's (2005) career construction theory, support the use of writing to evoke key

meaning-making processes that provide individuals with a sense of causality and continuity about their career path. Research has also linked expressive writing to key career development variables such as faster reemployment after job loss (Spera, Buhrfeind, & Pennebaker, 1994), and higher student grades (Lumley & Provenzano, 2003; Pennebaker & Francis, 1996). For this reason, the present study adopts this approach for one of its treatment conditions. It is possible that reflecting on personal narratives via writing will increase perceived sense of calling by way of clarifying an individual's life story regarding one's work.

Autobiographical reflection via social sharing. Similar to expressive writing, verbal self-disclosure or social sharing also involves emotional expression and cognitive restructuring/reappraisal. To my knowledge, social sharing has not been investigated in the career development literature. Instead, the literature predominately focuses on the clinical functions that social sharing of emotions fulfills.

It appears that emotional sharing promotes cognitive rehearsing, reminding, or reexperiencing through talking about one's experiences (Rimé, 2009). Similar to expressive writing, story-telling and narrative construction are central. Clinical research suggests that social sharing of emotion also serves socio-affective functions, which may or may not be facilitated via expressive writing. Studies suggest that emotional sharing helps individuals gain attention, become more empathetic, and feel more validated and connected with their targets (Rimé, 2009). In certain conditions, individuals may experience decreases in negative emotionality as well as increased meaning production and perceived social connectedness (Rimé, 2009). Importantly, positive effects of social sharing may depend on a variety of factors such as gender and level of comfortability with disclosure partner. Research suggests that while both women and men engage in emotional disclosure, women are more apt to self-disclose to a wider array of

individuals (Rimé, Mesquita, Boca, & Philippot, 1991). The clinical setting may also be a moderating factor, as these results were with individuals who participated in self-disclosure of emotionally-salient topics, typically to a trusted therapist or confidant. Still, it is possible that individuals experience the same beneficial effects in peer-to-peer disclosures of career-related topics. Therefore, exploring social sharing of autobiographical career-related narratives emerges as a beneficial intervention modality for future investigation.

As previously mentioned, few studies exist comparing written to socially shared modes of self-disclosure, none of which exist in the vocational psychology literature. The reason for this gap in research is likely because the paradigms differ in a host of ways, for example: the publicness of disclosure, target intimacy, nature of the behavior, communication channels, and so on (for a summary, see Balon & Rimé, 2016). Still it remains relevant to attempt to compare these paradigms in the career development literature, as they both offer a method of reflecting on autobiographical narratives.

Research in the clinical domain comparing written and socially shared self-disclosure of emotion is mixed. Murray, Lamnin and Carver (1989) found more beneficial changes from psychotherapy interviews compared to single writing tasks. However, this effect could largely depend on depth of reflection, as writing benefits were comparable to those obtained from psychotherapy interviews after the number of sessions increased to four (Donnelly & Murray, 1991). To further examine the potential confounding variable of speaking to a therapist, Murray and Segal (1994) compared writing with speaking into a tape recorder. Both conditions yielded positive effects, however, both failed to stimulate positive mood. More recently, Balon and Rimé (2016) attempted to compare writing to a more generalizable social sharing condition by having participants share with a same-aged male experimenter. While they did not assess outcomes of

the writing condition compared to the social sharing conditions, they investigated differences in the content of the narratives. Consistently, individuals in the writing condition showed a higher proportion of emotion words than in the oral condition, whereas individuals in the oral condition showed a higher proportion of cognitive words, compared to the writing condition. Authors postulated that the more “reserved disclosures” in the social sharing condition depended upon participants’ level of comfortability with their social sharing partner. Although this study may suggest that writing about autobiographical narratives facilitates greater emotional expression than peer sharing, more research is needed before this conclusion can be generalized to other fields. Discussing career-related content may be different from discussing other, perhaps more emotionally-salient, topics.

Calling-infused narrative career development interventions. Due to the changing world of work in the 21st century, developing a stable sense of self to navigate ongoing career-related decisions is an urgent need (Savickas, 2012). Emerging adults benefit from continuous exploration and reflection to most effectively match aspects of their identity to their work-related roles and responsibilities (Dawis & Lofquist, 1984; Marcia, 1966; Parsons, 1909). Teaching college students how to self-reflect may promote ongoing career exploration and adaptability, two processes that are vital to healthy career development throughout one’s lifetime (Hirschi & Herrmann, 2013; Savickas, 2012). Reflection on calling emerges as a particularly useful construct for college students to consider as they are developing their work-related identity (Dik & Duffy, 2015). Research on calling has grown in the past decade and is tied to a variety of beneficial career and wellbeing outcomes. However, research on calling interventions is sparse. Theoretical links between calling and vocational identity suggest that these processes occur simultaneously, with developments in one affecting developments in the other. Both identity and

career development theories highlight meaning-making and narrative reflection as key mechanisms underlying this process. Given the literature on the benefits of reflection via autobiographical reasoning, it appears worth exploring whether or not written compared to peer sharing exercises promote college student career exploration, career adaptability, search and presence of calling, and meaning in life.

The present study aims to examine these ideas by testing a calling-infused narrative intervention with the intent of increasing college students' career exploration, adaptability, search and presence of calling, and search and presence of meaning. Four research questions guide this study, providing opportunity to test several hypotheses. The research questions and hypotheses for this study are as follows.

Research Question 1: Can a narrative intervention, consisting of written autobiographical narratives or peer-sharing of autobiographical narratives, help individuals increase their career exploration, career adaptability, search and presence of calling, and search and presence of meaning?

Theories of career development suggests that effective vocational decision making requires self-exploration and reflection (Parsons, 1909; Super 1990). Results from several career development intervention meta-analyses highlight the effectiveness of using writing interventions to promote positive career-related outcomes for individuals (e.g., Brown & Ryan Krane, 2000; Whiston et al. 2017). Therefore, I expect a narrative writing strategy will foster positive outcomes for participants, compared to a waitlist control group.

Hypothesis 1: It is hypothesized that those completing written narratives regarding aspects of self in relation to work will show significant increases in their career

exploration, career adaptability, search and presence of calling, and search and presence of meaning, compared to individuals in a waitlist control group.

Narrative theories highlight autobiographical reflection as a potential intervention strategy for promoting identity and career development (McAdams 1985; Savickas 2005). Although (to my knowledge) no studies exist comparing written to socially shared narratives in the career development literature, research on emotional sharing suggests that social sharing of autobiographical narratives promotes emotional expression, identity coherence, and positive well-being-related outcomes (Rimé, 2009). Since both written and social sharing promote narrative exploration and reflection, it is possible that individuals will experience positive career-related outcomes when discussing topics related to purpose and calling. Therefore, I expect a narrative social sharing strategy will foster positive outcomes for participants, compared to those in a waitlist control group.

Hypothesis 2: It is hypothesized that those engaging in peer-sharing of autobiographical narratives regarding aspects of self in relation to work will show significant increases in their career exploration, career adaptability, search and presence of calling, and search and presence of meaning, compared to individuals in a waitlist control group.

Research Question 2: How do the effects of a narrative intervention consisting of written autobiographical narratives compare to the effects of a narrative intervention consisting of social sharing of autobiographical narratives?

Research comparing writing and social sharing of autobiographical narratives is sparse. Therefore, this hypothesis serves to explore differences between two potentially efficacious autobiographical reflection paradigms.

Hypothesis 3: There will be a significant difference between the written narrative intervention compared to the peer-sharing narrative intervention on career exploration, career adaptability, search and presence of calling, and search and presence of meaning.

Research Question 3. Does the presence of authenticity moderate the effectiveness of the interventions on career exploration, career adaptability, search and presence of calling, and search and presence of meaning?

Theories of career development postulate that effective decision-making requires individuals to select career-related roles that match their workplace personality (Parsons, 1909; Holland, 1997). Individuals who report greater cognitive self-awareness and genuine self-appraisals may make career-related decisions that better “fit” with their authentic sense of self. When these individuals perceive better P-E Fit, they will likely experience a plethora of positive career-related outcomes (Holland, 1997; Spokane, Meir, & Catalano, 2000; Verquer, Beehr, & Wagner, 2003). Therefore, I expect that the positive outcomes of both narrative intervention conditions will depend on participants’ level of perceived authenticity.

Hypothesis 4: It is hypothesized that authenticity will increase the effectiveness of the narrative intervention compared to those in the control group. Specifically, it is hypothesized that greater cognitive awareness and genuine self-appraisals will moderate the effects of the intervention groups on career exploration, adaptability, calling, and meaning such that those who are in an intervention group and who report more authenticity will experience the highest level of calling and meaning compared to others in the study.

Research Question 4. Does participant gender moderate differences between the effectiveness of the written narrative intervention compared to the peer-sharing narrative intervention?

Individuals may be less likely to express emotion when engaging in social sharing of autobiographical narratives compared to writing autobiographical narratives. This difference in level of emotional disclosure may depend upon participants' comfortability with their social sharing partner (Balon & Rimé, 2016). Since women tend to self-disclose emotional content to a wider array of individuals compared to men, and narrative coherence requires integration of emotional and cognitive aspects of one's experiences, women may experience higher levels of positive career-related outcomes in the social sharing condition compared to men (Rimé et al., 1991; Smyth, True, & Souto, 2001). Therefore, I expect that the effectiveness of the written narrative intervention compared to the peer sharing narrative intervention will depend on participants' gender.

Hypothesis 5: It is hypothesized that gender will moderate the effects of both narrative intervention conditions on career exploration, adaptability, calling, and meaning, such that women in the peer sharing condition will report greater career exploration, adaptability, calling, and meaning, compared to men in the peer sharing condition and men in the writing condition will report greater career exploration, adaptability, calling, and meaning, compared to women in the writing condition.

CHAPTER II

Method

Participants and Power

Participants who volunteered for the study were compensated with research credit for their introductory psychology course. Of the 102 participants who provided usable data for the pre-, post-, and follow-up surveys, 50% identified as female, 49% as male, 1% as other or gender nonbinary. In terms of ethnicity, the majority of students (76%) identified as White; the rest identified as Hispanic or Central/South American (10%), Asian or Pacific Islander (8%), African-American or African (3%), American Indian or Alaskan Native (1%), and other (4%). 50% participants were in their first year at college, 31% were in their second year, 16% were in their third year, 3% were in their fourth year, and 1% were in their fifth year or more. The average self-reported grade-point average (GPA) of the sample was 3.39 ($SD = .58$). Please refer to Table 1 for additional demographic information, including academic majors.

Procedure

Participants signed up for the workshop conditions based on the time slot for which they indicated they were available. They were not made aware of which version of the workshop they would be attending. Participants were then directed to an online informed consent document that described the potential risks and benefits of participating in the study and assured confidentiality of their responses. After electronically signing the consent form, participants were provided a link to the initial survey using Qualtrics, an online survey software program. This survey consisted of survey items assessing the following: demographics, career exploration, career adaptability, search and presence of calling, search and presence of meaning, mood and

authenticity. At the end of the initial survey, they were reminded to attend the three-hour career development workshop that would take place the following week.

The career development workshops drew from Career Construction Theory (CCT), using autobiographical, narrative reflection strategies to promote college student career and calling development. All workshops were conducted by this author, a trained, masters-level therapist. At the workshop each participant received the “My Career Story Workbook” (MCS; Savickas & Hartung, 2012) as well as several worksheets infusing calling psychoeducation and reflection. The introduction to the workshop consisted of psychoeducation on how autobiographical reflection and meaning-making facilitates identity and career development. Next, participants were given three prompts from the MCS to facilitate reflection on their own narratives (either through writing or through peer sharing). The first prompt asked participants to tell about three heroes or heroines that they admired when they were growing up. The second prompt asked them to tell about three of their favorite blogs or television shows. The third prompt asked participants to tell about their favorite story from a book or movie. Finally, participants were asked to tell about a time in which they felt called or summoned to make a difference. Participants then used the MCS workbook and calling worksheets to further reflect on major themes that they heard themselves say or write about throughout the workshop. They crafted a purpose statement and were asked to consider what career paths might allow them to live out their sense of purpose at work (i.e., their calling). Finally, participants were asked to write two personal goals for their career development and consider who they might enlist for support in achieving their goals.

All follow-up survey links were made available through the online platform that the participants used to sign up for the study. Participants who attended the workshops were asked to complete a 15-minute survey the day after the workshop and one month after attending the

workshop. Participants in the waitlist control condition were asked to complete the initial survey as well as the 15-minute shortened surveys both one week and one month after the initial survey. After participants completed the final survey, they were provided with an online debriefing form that described the study's purpose and provided the contact information for the primary investigator. They were also given a link to record their attendance and obtain research credits for their participation. Participants in the control group were then invited to attend the career development workshop if they desired.

No identifying information was collected. The online platform automatically assigned research credits for participation when they finished the final survey. All participant survey responses were stored in a protected electronic folder. Each workshop was audio recorded so that two trained research assistants could independently complete treatment integrity checklists for each workshop. The audio recordings were stored on a password protected device and were deleted after both research assistants rated counselor adherence and the principle investigator and research assistants reviewed rating discrepancies.

Measures

Surveys were administered to participants via Qualtrics software prior to attending the career development workshop and at each posttest measurement timepoint. The surveys included the following measures. Table 2 reports means, standard deviations, and internal consistency reliabilities for scores on continuous outcome variables collected prior to the intervention: career exploration, career adaptability, search for calling, presence of calling, search for meaning in life, and presence of meaning in life.

Demographics. Participants answered items related to age, gender, ethnicity, year in school, grade point average, major and minor program of study.

Career exploration. Prior to the intervention and at each posttest interval, participants endorsed their degree of both self- and environmental exploration. Career exploration was assessed with the 10-item Career Exploration Scale (Hirschi, 2009). Participants were asked to indicate on a 5-point scale ranging from 1 (*seldom/few*) to 5 (*very much/a lot*) how much they engaged in self-exploratory behaviors (e.g., “reflected on what your vocational interests are”) and environmental exploratory behaviors (e.g., “collected information about particular employers”) over the past month. Of note, since participants were evaluated one month after their participation in the workshop, the scale instructions were adapted from “How often in the last three months have you...” to “How often in the last month have you...” for more accurate assessment of participant’s change in explorative behaviors between the pre- and post-intervention periods. Supporting the reliability of the Career Exploration Scale scores, studies have reported good internal consistency of approximately .90 (e.g., Hirschi, 2010; Hirschi, Niles, & Akos, 2011). Supporting its construct validity, small, but significant and positive correlations have been found between scores on the Career Exploration Scale and career decidedness and choice congruence (Hirschi, 2010). As Table 1 indicates, internal consistency reliability values for scores on the Career Exploration Scale were high for the present sample ($\alpha = .90$).

Career adaptability. Prior to the intervention and at each posttest, career adaptability was assessed using the 12-item Career Adapt-Abilities Scale-Short Form (CAAS-SF; Maggiori, Rossier, & Savickas, 2015). Participants were asked to rate on a 5-point scale ranging from 1 (*not a strength*) to 5 (*greatest strength*) how much they endorse personal strengths in four dimensions of career adaptability: concern, control, curiosity, and confidence. This scale is a shortened version and has strong evidence of convergence ($r = .98$) with the well-established Career Adapt-Abilities Scale (CAAS; Savickas & Porfeli, 2012). Regarding construct validity,

small, positive, and significant correlations have been found between scores on the CAAS and job satisfaction and occupational self-efficacy. These correlations were very similar to correlations between CAAS-SF scores and job satisfaction and occupational self-efficacy (Maggiori et al., 2015). As Table 1 indicates, internal consistency for scores on the Career Exploration Scale was high for the present sample ($\alpha = .87$).

Search and presence of calling. Prior to the intervention and at each posttest, participants endorsed their degree of perceived search for and presence of calling. Search and presence of calling were assessed with the four-item Brief Calling Scale (BCS) from Dik, Eldridge, Steger, and Duffy (2012). Participants were presented with a description of what it means to have a calling to a specific area of work and responded to four items assessing their perceived level of calling. Participants were asked to indicate on a 5-point scale ranging from 1 (*not at all true of me*) to 5 (*totally true of me*) how much they agreed with the following statements: “I have a calling to a particular kind of work,” “I have a good understanding of my calling as it applies to my career,” “I am trying to figure out my calling in my career,” and “I am searching for my calling as it applies to my career.” Supporting its reliability, scores on the BCS have been found to have high item response correlations for search ($r = .75$) and presence ($r = .81$) of calling. Supporting its construct validity, scores have correlated strongly and positively with scores derived from other measures of calling, and positively and moderately with career decidedness, self-clarity, career decision self-efficacy, meaning in life, and intrinsic work motivation (Dik et al., 2012). In the current study, scores on the two-item short forms demonstrated high item response correlations for search ($r = .79$) and presence ($r = .78$) of calling.

Meaning in life. Participants' sense of meaning in their lives was assessed to examine whether or not the intervention impacted broader well-being outcomes. Search and presence of meaning was assessed with the 10-item Meaning in Life Questionnaire which consists of two subscales: search for and presence of meaning in life (MLQ; Steger et al., 2006). Participants were asked to indicate on a 7-point scale ranging from 1 (*absolutely untrue*) to 7 (*absolutely true*) how much they agree with five items measuring search for meaning in life (e.g., "I am looking for something that makes my life feel meaningful") and presence of meaning in life (e.g., "I understand my life's meaning"). Scores on the MLQ have been found to have good internal consistency for each subscale, ranging from .80 to .93 (e.g., Steger et al., 2006; Steger & Kashdan, 2007; Steger et al., 2009; Duffy & Raque-Bogdan, 2010). Scores have also shown good test-retest reliability and strong evidence of convergent, discriminant, and structural validity (Steger et al., 2006; Steger, Kashdan, Sullivan, & Lorentz, 2008). As Table 1 indicates, internal consistency for scores on the search and presence of meaning in life subscales were high for the present sample ($\alpha = .91$) and ($\alpha = .90$), respectively.

Authenticity. Authenticity was assessed using two subscales (e.g., awareness and unbiased processing) from the 45-item Authenticity Inventory (AI; Kernis & Goldman, 2006). Participants were asked to indicate on a 7-point scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*) how much they agree with statements reflecting *awareness* (of one's motives, feelings, desires, strengths and weaknesses, and self-relevant cognitions; e.g., "For better or worse I am aware of who I truly am") and *unbiased processing* (not denying, distorting, exaggerating or ignoring private knowledge or internal experiences; e.g., "I am very uncomfortable objectively considering my limitations and shortcomings"). In their chapter, Kernis and Goldman (2006) summarize theories and research on authenticity as a

multidimensional construct. They report adequate test-retest reliability and internal consistency reliability ($\alpha = .83$) for scores derived from the full AI measure. Evidence from their confirmatory factor analysis supported four distinct but interrelated authenticity components (i.e., awareness, unbiased processing, behavior, and relational orientation). Regarding construct validity, scores on the awareness subscale correlated significantly in the expected direction with measures of life satisfaction, self-esteem, and negative affect. Scores on the unbiased processing subscale were significantly positively correlated with life satisfaction, but weakly correlated with scores on measures of self-esteem and negative affect (Kernis & Goldman, 2006). In the present sample, internal consistency reliability was adequate to high for the unbiased processing ($\alpha = .77$) and awareness ($\alpha = .83$) subscale scores.

Mood. To control for the effect of participants' mood on their survey ratings, participants endorsed subjective ratings of their current moods prior to the intervention and at each posttest interval (Diener & Emmons, 1984). Participants were presented with 14 adjectives related to positive affect (e.g., happy, joy, pleased) and negative affect (e.g., angry, fear/anxiety, sad). They were asked to indicate on a scale ranging from 1 (*not at all*) to 8 (*extremely much*) the extent to which each adjective describes their current mood. Supporting its reliability, this measure has been found to have good internal consistency for both positive ($r = .87$) and negative affect ($r = .86$; Brown & Ryan Krane, 2003) items. Supporting its validity, a factor analysis of these items delineated two distinct factors for positive and negative affect and items correlated in hypothesized directions within and between subjects (Diener & Emmons, 1984). Internal consistency reliability was high for scores in the present sample for positive ($\alpha = .95$) and negative affect ($\alpha = .90$).

Ratings of writing/peer sharing content. Directly after the intervention participants rated on a five-point scale ranging from 1 (*not at all*) to 5 (*extremely much*) how important, emotional, difficult, and helpful their writing or peer sharing experience was. This measurement approach is consistent with King's (2001) study of written interventions. The items were adapted for the peer sharing condition to elicit participants' ratings of the sharing content. For example, instead of being asked "how important was the writing experience?" participants were asked "how important was the sharing experience?" Internal consistency reliability was adequate in the present sample ($\alpha = .74$).

Ratings of facilitator. Participants rated their satisfaction with the intervention facilitator on one item with a five-point scale ranging from 1 (*not at all satisfied*) to 5 (*extremely satisfied*).

Data Analysis

This study aimed to identify the extent to which a calling-infused career development workshop promoted meaningful changes in college student career exploration, career adaptability, search for and presence of calling, and search for and presence of meaning in life from pretest (Time 1) to posttest (Time 2) and the extent to which changes were maintained over time (Time 3).

One-way analyses of covariance (ANCOVAs) with pre-intervention scores entered as covariates for post-intervention scores on the same variables were used to examine changes in each of the outcome variables experienced by the intervention and control groups. This approach was selected because it is recommended for randomized controlled trials (Cribbie & Jamieson, 2000) and because it examines participant differences at post-test, while controlling for their initial pre-test scores (Fitzmaurice, Laird, & Ware, 2004).

To examine how the intervention effect changed over the course of three timepoints, one-way within-subjects analyses of variance (ANOVAs) were used for each outcome variable. Researchers examined 1) if there was a linear effect of the outcome variable across the three timepoints and 2) if the effect varied due to intervention condition. When there were significant interactions, post hoc comparisons using Tukey's test were examined. This approach was selected because it allowed for further examination of group by time interactions to see if patterns of change differed significantly across groups.

A secondary aim of the current study was to examine the possibility that perceived authenticity and/or gender moderates the relationship between the intervention condition and each outcome variable. This was tested using Hayes (2013) PROCESS macro for SPSS which can be used to implement mediation and moderation analyses. To test the effects of the proposed moderation hypotheses, PROCESS (model 1) with 5000 bootstrap samples and 95% corrected CIs was utilized. Perceived authenticity and gender were included as separate moderating variables.

Given the modest sample size, lack of statistical power for interaction tests, and potential inconsistencies between the effect sizes and the p-values (e.g., small-to-medium effect sizes and nonsignificant p-values), there was a concern that Null Hypothesis Significance Testing (NHST) would result in making Type II errors (i.e., concluding there was no effect when an effect was present) in all analyses. In response, throughout the results section, I interpreted effect sizes to avoid dichotomous (i.e., significant vs. non) decision-making. The advantage of examining effect sizes is that they provide standardized information about the magnitude and direction of the effects and they are not dependent on sample size (Cumming, 2013). Effects were considered

non-trivial when greater than .01 for Partial n^2 and R^2 , and greater than .2 for Cohen's d (Cumming, 2013), as these are the recommended cutoffs for small effects.

CHAPTER III

Results

Attrition

A total of 171 participants provided usable data for the pre-intervention (Time 1) survey: 54 in the control condition, 63 in the peer sharing condition, and 54 in the writing condition. Of these participants, 148 attended their assigned intervention condition and completed the post-intervention (Time 2) survey: 46 in the control condition, 52 in the peer sharing condition, and 50 in the writing condition. After one month, 133 participants completed the final follow-up (Time 3) survey: 42 in the control condition, 46 in the peer sharing condition, and 45 in the writing condition. After collecting participant responses for all three timepoints, participant responses were matched using participants' uniquely created identification numbers and demographics. A total of 97 participants were matched using identification numbers and five participants were matched by triangulating their demographic information. Therefore, 102 participants provided useful responses that could be matched across all three timepoints. Figure 1 shows a CONSORT diagram of participant progress through the study.

Missing Data

Prior to running analyses, Little's Missing Completely at Random (MCAR) test was conducted to determine if missing values were randomly distributed across all observations. A non-significant Little's MCAR test, $\chi^2(45, N = 102) = 10.75, p = .121$, revealed that the data were missing completely at random (Little, 1988). Since the data were consistent with MCAR, cases with missing data were dropped listwise from subsequent analyses (Garson, 2015). That is, cases were dropped if they had one or more missing values specific to each analysis. Deleted

cases ranged from 0-2 depending on the variables included in the analyses. Datasets that exclude 10-20% of the cases lead to substantial bias (Arbuckle, 1996). Since listwise deletion reduced the sample size by just 1.96% in the current study, it was determined that listwise deletion would not bias regression results (Garson, 2015).

Preliminary Analyses

Several preliminary analyses were conducted prior to investigating the main research questions. First, the assumption of normality was assessed for all continuous variables. Upon visual inspection of the histograms, each scale appeared to be sufficiently normally distributed, with no outliers. Tests of skewness and kurtosis supported this analysis because for scores on every continuous variable, the skewness values fell within the advised range of ± 2 and the kurtosis values fell within the advised range of ± 7 (Garson, 2012).

A series of one-way analyses of variance (ANOVAs) were conducted to evaluate possible pre-intervention differences across intervention conditions (i.e., Writing workshop, Peer Sharing workshop, control). No significant differences were found for career exploration, search for calling, presence of calling, and search for meaning. There was a significant difference between the workshop conditions for career adaptability $F(2, 99) = 3.45, p = .04$, Partial $\eta^2 = .07$, and presence of meaning $F(2, 99) = 3.11, p = .05$, Partial $\eta^2 = .06$. Post hoc comparisons using the Tukey test were carried out. Individuals in the Peer Sharing workshop rated their initial career adaptability significantly lower than those in the control group ($p = .03$, Cohen's $d = .35$). Individuals in the writing group rated their initial presence of meaning significantly lower than those in the control group ($p = .04$, Cohen's $d = .05$).

Descriptive Statistics

Next, descriptive statistics were analyzed for all variables of interest including means, standard deviations, and bivariate correlations. The internal consistency values for scores on each scale were assessed using Cronbach's alpha reliability calculations (See Table 2). All scales demonstrated adequate internal consistency reliability (DeVellis, 2016). Correlational analyses between time one criterion variables of interest (i.e., career exploration, career adaptability, search and presence of calling, and search and presence of meaning) are reported with descriptive statistics (See Table 2).

Intervention Integrity

Two independent raters coded intervention integrity using a 35-item checklist consisting of all prescribed elements of the intervention. Of the checklist items, 27 were consistent across both conditions, and 8 differed per condition, depending on whether participants were given instruction to write or share their reflections. Of the total 140 checklist items (35 items x 4 workshops), the two raters provided identical responses for 139 (99%). To resolve the item in which disagreement occurred, both raters and first author revisited the audio recordings and discussed the difference until consensus was reached. Apart from one instance of an example omitted (yet later included) by the counselor in one of the writing workshop conditions, all workshop elements were implemented as prescribed in the workshop manual. Thus, the workshops demonstrated both good treatment adherence and good treatment differentiation.

It is important to note that although the counselor implemented most checklist items correctly, there is still potential for differentiation between workshop conditions, due to participant individual differences. For example, in one of the writing workshops, a participant voiced their belief that perceiving a calling is a myth, which may have altered other participants beliefs about the intervention. In all conditions, participants were given opportunity to share their

individual reflections and purpose statements. The variability in their responses could have contributed to different experiences between participants, regardless of treatment condition.

Satisfaction with Facilitator and Workshop Content

Both conditions rated their satisfaction with facilitator and their satisfaction with the workshop content. Overall, participants were highly satisfied with the facilitator, as their mean scores fell closer to the “extremely satisfied” anchor of the scale in both the writing ($M = 3.42$, $SD = .64$), and peer sharing ($M = 4.65$, $SD = .60$) conditions. The difference in participant’s ratings of the facilitator between workshop conditions was nonsignificant ($t[70] = 8.36$, $p = .24$).

Of note, there were significant differences in ratings of participants’ satisfaction with the workshop content. Individuals in the peer sharing condition ($M = 3.26$, $SD = .94$) rated their satisfaction with the workshop content significantly higher than the individuals in the writing condition ($M = 2.97$, $SD = .61$), ($t[70] = 1.62$, $p = .02$).

Outcomes at Post Intervention

The effects of a narrative career workshop intervention (relative to the control condition) on career exploration, adaptability, calling, and meaning in life were first assessed using one-way analysis of covariance (ANCOVAs), with pre-intervention scores entered as covariates for post-intervention scores on the same variables. Between-group differences were explored using simple contrasts for pairwise comparisons. Observed power ranged from .78 to .10, depending on the analysis. Since all analyses were underpowered, direction and magnitude of between condition and repeated measures effect sizes were examined. Results are presented in Table 3 and Table 4.

A significant, medium-to-large effect was found for the omnibus test of between group condition comparisons for search for calling ($p = .01$, Partial $n^2 = .09$, Observed Power = .78).

Post-hoc tests revealed a significant difference between the writing and peer sharing condition ($p = .00$), and the writing and control condition ($p = .04$). Calculations of repeated-measures effect sizes by condition revealed that for individuals in the peer sharing condition, there was a small ($d = .22$) increase in search for calling from pre-intervention to post-intervention. For individuals in the writing condition, there was a small ($d = -.36$) decrease in search for calling from pre-intervention to post-intervention. There was a nonsignificant, trivial effect size ($d = .16$) for pre- to post-intervention changes in search for calling in the control condition.

For presence of calling, a marginally significant, small-to-medium effect size was found between group conditions ($p = .08$, Partial $n^2 = .05$, Observed Power = .50). Post-hoc tests revealed a significant difference between the control and writing condition ($p = .05$), and the control and peer sharing condition ($p = .05$). Repeated-measures effect sizes by condition revealed a nonsignificant, small ($d = .31$) increase in presence of calling for individuals in the peer sharing condition and a nonsignificant, medium ($d = .53$) increase in presence of calling for individuals in the writing condition. There was a nonsignificant, trivial effect size ($d = .18$) for pre- to post-intervention changes in presence of calling in the control condition.

No significant differences were found across groups when career exploration, career adaptability, search for meaning and presence of meaning were the outcome variables. A small omnibus effect size was found for between condition comparisons of career exploration ($p = .13$, Partial $n^2 = .04$, Observed Power = .43). Post-hoc comparisons did not reveal significant differences between the three conditions; however, repeated measures effect sizes revealed a nonsignificant, small ($d = .29$) increase in career exploration for individuals in the writing condition. There were nonsignificant, trivial effect sizes ($d = .13$; $d = .03$) for pre- to post-intervention changes in career exploration in the peer sharing condition and control condition,

respectively.

A small omnibus effect size was also found for between-condition comparisons of presence of meaning ($p = .15$, Partial $n^2 = .04$, Observed Power = .40). Post-hoc comparisons did not reveal significant differences between the three conditions; however, repeated measures effect sizes revealed a nonsignificant, small ($d = .21$) increase in presence of meaning for individuals in the writing condition. There were nonsignificant, trivial effect sizes ($d = -.12$; $d = -.05$) for pre- to post-intervention changes in presence of meaning in the peer sharing condition and control condition, respectively.

Between-condition comparisons of career adaptability and search for meaning yielded trivial omnibus effect sizes. Post-hoc comparisons did not reveal significant differences between the three conditions. Repeated measures effect sizes were also trivial for these variables across pre-intervention and post-intervention (see Table 4), except for a small ($d = -.25$) decrease in career adaptability for individuals in the control condition.

Outcomes Across Three Time Points

Participants in all conditions were also assessed one month after the intervention. One way within-subjects ANOVAs were conducted for each outcome variable to examine if there was a linear effect of the outcome variable across the three time points and if the effect varied by workshop condition. Greenhouse-Geisser estimates of sphericity with corrected degrees of freedom were used when Mauchly's test revealed that assumptions of normality and homogeneity of variance were not met (Koen, Klehe & Van Vianen, 2012; Dik et al., 2015). Of note, due to the small sample size, the within-subjects ANOVAs were not conducted within each intervention condition in effort to conserve power. Instead, when there were significant interactions between the workshop condition and the outcome, post hoc comparisons using Tukey's test were

examined. Repeated measures effect sizes were examined for all outcome variable changes over time.

Repeated-measures ANOVA tests revealed a marginally significant main effect for time when career exploration was the outcome, $F(2, 198) = 6.76, p = .08$, partial $\eta^2 = .03$, Observed Power = .51 (see Figure 2). This effect did not vary by intervention condition, $F(4, 198) = 1.21, p = .31$, partial $\eta^2 = .02$, Observed Power = .38. Post hoc comparisons using the Tukey test did not reveal significant changes in career exploration between conditions across three time points. As seen in Figure 2, repeated measures effect sizes revealed a nonsignificant, small ($d = .23$) increase in career exploration from post intervention to one-month follow-up for individuals in the peer sharing condition. Repeated measures effect sizes were trivial for changes in career exploration from post-intervention to one-month follow-up for individuals in the control condition ($d = .04$) and writing condition ($d = -.15$).

When career adaptability was the outcome variable (see Figure 3), repeated measures ANOVA tests revealed a nonsignificant main effect for time $F(2, 198) = 1.27, p = .28$, partial $\eta^2 = .01$, Observed Power = .27, and nonsignificant time by condition interaction $F(4, 198) = 1.05, p = .38$, partial $\eta^2 = .02$, Observed Power = .32. Post hoc comparisons using the Tukey test did not reveal significant changes in career adaptability between conditions across three time points. Repeated measures effect sizes were trivial for changes in career adaptability from post-intervention to one-month follow-up for individuals in the control condition ($d = -.16$, peer sharing condition ($d = -.05$), and writing condition ($d = -.06$).

When search for calling was the outcome variable (see Figure 4), repeated measures ANOVA tests revealed a marginally significant main effect for time $F(2, 198) = 2.51, p = .08$, partial $\eta^2 = .03$, Observed Power = .50. There was a significant time by condition interaction,

meaning that changes in search of calling over time varied by condition, $F(4, 198) = 2.38, p = .05$, partial $\eta^2 = .05$, Observed Power = .68. Post hoc comparisons using the Tukey test did not reveal significant changes in search for calling between conditions across three time points. As seen in Figure 4, repeated measures effect sizes revealed a nonsignificant, small decrease in search for calling from post intervention to one-month follow-up for individuals in the control condition ($d = -.24$) and peer sharing condition ($d = -.35$). Repeated measures effect sizes were trivial for changes in search for calling from post-intervention to one-month follow-up for individuals in the writing condition ($d = .08$).

When presence of calling was the outcome variable (see Figure 5), repeated measures ANOVA tests revealed a significant main effect for time $F(1.83, 181.29) = 6.44, p < .05$, partial $\eta^2 = .06$, Observed Power = .88. There was a marginally significant time by condition interaction, meaning that changes in presence of calling over time varied by condition, $F(3.66, 181.29) = 2.12, p = .09$, partial $\eta^2 = .04$, Observed Power = .59. Post hoc comparisons using the Tukey test did not reveal significant changes in search for calling between conditions across three time points. As seen in Figure 5, repeated measures effect sizes revealed a nonsignificant, small ($d = .33$) increase in presence of calling from post intervention to one-month follow-up for individuals in the control condition. Repeated measures effect sizes were trivial for changes in presence of calling from post-intervention to one-month follow-up for individuals in the peer sharing condition ($d = -.10$) and writing condition ($d = -.02$).

When search for meaning in life was the outcome variable (see Figure 6), repeated measures ANOVA tests revealed a nonsignificant main effect for time $F(2, 198) = .67, p = .51$, partial $\eta^2 = .01$, Observed Power = .16, and nonsignificant time by condition interaction $F(4, 198) = , p = .96$, partial $\eta^2 = .00$, Observed Power = .08. Post hoc comparisons using the Tukey

test did not reveal significant changes in search for meaning between conditions across three time points. Since these analyses were underpowered, repeated measures effect sizes were examined. Repeated measures effect sizes were trivial for changes in presence of calling from post-intervention to one-month follow-up for individuals in the control condition ($d = -.02$), peer sharing condition ($d = .02$), and writing condition ($d = -.02$).

When presence of meaning in life was the outcome variable (see Figure 7), repeated measures ANOVA tests revealed a nonsignificant main effect for time $F(1.78, 176.39) = .468, p = .61$, partial $\eta^2 = .01$, Observed Power = .12., and nonsignificant time by condition interaction $F(3.56, 176.39) = 1.42, p = .23$, partial $\eta^2 = .03$, Observed Power = .41. Post hoc comparisons using the Tukey test did not reveal significant changes in presence of meaning between conditions across three time points. As seen in Figure 7, repeated measures effect sizes revealed a nonsignificant, small ($d = .23$) increase in presence of meaning from post intervention to one-month follow-up for individuals in the peer sharing condition. Repeated measures effect sizes were trivial for changes in presence of meaning from post-intervention to one-month follow-up for individuals in the control condition ($d = .13$) and writing condition ($d = -.06$).

Moderations

Moderating effects of gender. To examine if the effects of the intervention workshop on career exploration, adaptability, calling, and meaning in life, varied by participant gender moderation analyses were calculated for each outcome variable. Hayes (2013) PROCESS (model 1) with 5000 bootstrap samples and 95% corrected CIs was utilized for these analyses. In these models, workshop condition served as the predictor (X) variable, with participant gender serving as the moderator (W), and career exploration, career adaptability, search and presence of calling, and search and presence of meaning serving as separate outcome variables (Y). In all

analyses, the interaction term between gender and between group condition comparisons was nonsignificant.

Due to questions about observed power for these analyses, for all analyses, the R^2 and R^2 -change statistics were examined to determine how much the variance in the outcome variables was explained by the overall model as well as the inclusion of the interaction term. For all models, the R^2 values were large indicating that the models explained a large proportion of the variance in career exploration ($R^2 = .47$), career adaptability ($R^2 = .45$), search for calling ($R^2 = .41$), presence of calling ($R^2 = .46$), search for meaning ($R^2 = .51$), and presence of meaning ($R^2 = .61$) post-intervention. However, it should be noted that the vast majority of the variance was accounted for by controlling for the time one levels of the outcome variables.

To determine the unique effect of including the interaction term, R^2 -change statistics were examined. In general, the R^2 -change values were trivial to small, ranging from .00-.02. Per McClelland and Judd's (1993) guidelines, interactions were included in this report when the inclusion of the interaction term accounted for at least an additional 1% of the variance in the outcome over and above the main effects. This occurred when career exploration (R^2 -change = .01), career adaptability (R^2 -change = .02), and search for calling (R^2 -change = .01) were the post-intervention outcome variables. There did not seem to be a clear pattern for the moderating effect of gender on these outcomes (See Figures 8-10).

Moderating effects of authenticity. Hayes (2013) PROCESS (model 1) with 5000 bootstrap samples and 95% corrected CIs was also utilized to examine if the effects of the intervention workshop on career exploration, adaptability, calling and meaning, varied by participant's level of perceived authenticity. In all analyses, the interaction term between perceived authenticity and between group condition comparisons was nonsignificant.

Due to questions about observed power for these analyses, the R^2 and R^2 -change statistics were examined to determine how much the variance in the outcome variables was explained by the overall model as well as the inclusion of the interaction term. For all models, the R^2 values were large indicating that the models explained a large proportion of the variance in career exploration ($R^2 = .34$), career adaptability ($R^2 = .42$), search for calling ($R^2 = .40$), presence of calling ($R^2 = .48$), search for meaning ($R^2 = .50$), and presence of meaning ($R^2 = .62$) post-intervention. However, it should be noted that the vast majority of the variance was accounted for by controlling for the time one levels of the outcome variables.

To determine the unique effect of including the interaction term, R^2 -change statistics were examined. In general, the R^2 -change values were trivial to small, ranging from .00-.02. Per McClelland and Judd's (1993) guidelines, interactions were included in this report when the inclusion of the interaction term accounted for at least an additional 1% of the variance in the outcome over and above the main effects. This occurred when search for calling (R^2 -change = .01), and presence of calling (R^2 -change = .01) were the post-intervention outcome variables. A trend was observed in that individuals who reported high perceived authenticity reported decreased search for calling and increased presence of calling compared to those who reported medium and low levels of authenticity (see Figures 11 and 12).

CHAPTER IV

Discussion

The primary goal of present study was to test the extent to which a calling-infused career development workshop promoted meaningful changes in college student career exploration, career adaptability, search for and presence of calling, and search for and presence of meaning in life from pretest (Time 1) to posttest (Time 2) and the extent to which changes were maintained over time (Time 3). The workshop included autobiographical reflection activities via writing or peer sharing. Participants either wrote or told stories about their past interests and experiences, and then further reflected on the major themes that make up their vocational identity and sense of calling. The present study also aimed to examine the degree to which participant's authenticity and gender influenced the effectiveness of the workshops. Potential interactions between intervention conditions and participant's level of perceived authenticity and gender were also explored.

Due to the lack of statistical power and observed small-to-medium effects, there was a concern that interpreting the results relying exclusively on Null Hypothesis Significance Testing (NHST) approach would result in making Type II errors. To avoid making incorrect conclusions about the lack of effects, effect sizes were interpreted. Effect sizes provide information about the direction and magnitude of changes in the study's outcome variables. Per the recommended cutoff guidelines, Partial n^2 and R^2 effects were considered small when greater than .01, medium when greater than .06, and large when greater than .14. Cohen's d effects were considered small when greater than .2, medium when greater than .5 and large when greater than .8 (Cumming,

2013). Effects smaller than .01 for η^2 and R^2 and Cohen's d less than .2 were considered trivial.

Outcomes at Post Intervention

Broadly speaking, the results of the study were mixed. The first set of the hypotheses pertained to the effect of the intervention conditions on study outcomes at post-test. Except for when the outcome variable was search for calling, all ANCOVA results were nonsignificant. Across both workshop conditions, students did not report significantly higher career exploration, career adaptability, presence of calling, and search and presence of meaning compared to students in the wait-list control group. However, to avoid making Type II errors, effect sizes examining within-subjects changes in each outcome variable were also examined for each intervention condition. Positive, non-trivial effects were observed on some study outcomes in the writing and peer sharing conditions. There were no positive, non-trivial effects observed on study outcomes for those in the control condition. The writing condition yielded positive effect sizes for a greater number of study outcomes than the peer sharing condition. The writing condition had small, positive effects on career exploration and presence of meaning, and a medium, positive effect on presence of calling. The peer sharing condition had a small, positive effect on search for calling and presence of calling. Based on this, one might conclude that autobiographical reflection via writing has a more widespread and greater effect on career development outcomes than autobiographical reflection via peer sharing. However, due to the lack of significance and small magnitude of the effects, future research is needed to draw conclusions about the effectiveness of these reflection modalities.

Interestingly, there was a statistically significant difference between the effects of the writing condition and the peer sharing condition, and the writing condition and the control condition, when search for calling was tested as the outcome variable. Post-hoc tests determined

these differences between conditions to be significant, meaning that those in the peer sharing condition left the workshop searching for a sense of calling more so than those in the writing condition. Analysis of within-subjects effect sizes showed that the writing condition had a small, negative effect on search for calling, while the peer sharing condition had a small, positive effect on search for calling. There are a few potential theoretical explanations for this effect. This pattern of responses may have occurred because writing allowed participants to better clarify and make meaning of their ideas, thus participants in this condition were able to synthesize their sense of calling more effectively. This explanation is supported by literature on the benefits of written exercises, which asserts that the writing process facilitates narrative coherence (Pennebaker & Chung, 2011; Waters & Fivush, 2015). The positive link between search for calling and indecisiveness or anxiety about vocational decision-making may also influence this result (Duffy & Sedlacek, 2007). For example, it could be that discussing and comparing participant's sense of calling with a peer heightened their anxiety about their own sense of career direction and calling, which resulted in participants leaving the workshop feeling like they either had less clarity about their calling and/or more motivation to continue exploring their calling.

In interpreting this interaction is also important to consider what the optimal process of developing a calling is for college students. Is it better for college students to leave a one-session career development workshop searching for calling or perceiving that they have a calling? Answering this question requires a developmental perspective. Applying Marcia's (1966) identity status theory, emerging adulthood is characterized by active identity discernment (i.e., identity moratorium). Theories of career development also agree that self-exploration is important to the development of one's vocational identity (Chickering, 1993; Holland; 1997; Super, 1990). However, research has linked the identity moratorium stage of identity

discernment to negative psychological outcomes like symptoms of anxiety and depression (Meeus et al., 1999; Schwartz et al., 2011). In the current study, participants who reported higher levels of search for calling were conceptualized as being in identity moratorium, or actively exploring their vocational identity. It is plausible that those who reported greater search for calling might be also be experiencing greater career indecision and/or negative feelings like anxiety or hopelessness about their vocational path (Duffy & Sedlacek, 2007). Therefore, in the short-term, lower levels of search for calling may feel more desirable for participants; these participants may feel more settled about making future career-related decisions, or at least they may be effectively avoiding the stress related to making career-related choices. Applying this logic, the writing condition may have helped participants solidify their sense of calling more effectively than the peer sharing condition, or it may have evoked less anxiety about the need to continue to explore their sense of calling. Future research is needed to determine the short-term benefits and drawbacks of decreased search for calling in college students.

Of course, feeling better in the short-term may not be the best indicator of long-term vocational achievement and general wellbeing. Broadly, identity development research asserts that individuals must enter a period of active exploration and self-reflection to best make decisions that align with their authentic self (Marcia, 1966; McAdams, 1985; McAdams, 2005). This is supported in the literature on career development, which highlights the importance of vocational identity exploration (Super, 1990; Savickas, 2005). There is also evidence that identifying too intensely with a calling or selecting a calling without active exploration can be associated with regret and stress for individuals (Dik & Duffy, 2012). Therefore, it seems plausible that experiencing a heightened search for calling is developmentally appropriate and highly beneficial for college students, despite the potential that the process of calling

discernment is anxiety-provoking. While the finding that writing condition decreased participant's search for calling may mean that expressive writing more effectively facilitates participants' calling development than peer sharing, it could also mean that writing temporarily reduced participants' anxiety around needing to continue to search for their calling, which could actually be maladaptive for their long-term vocational development. The current study's original hypothesis that engaging in autobiographical reflection activities would increase college student's search for calling, aligns with this perspective. Increasing search for calling seems imperative to helping college students make career decisions that most authentically align with who they are and what they are meant to do in, and for, this world. Applying this lens, storytelling and making meaning from one's past interests and experiences with a peer may be more beneficial for college student's long-term career development than engaging in these processes via independent writing.

Outcomes Across Three Time Points

This study also investigated the extent to which changes in the outcome variables post-intervention were retained one month later. Repeated measures ANOVAs were examined for linear effects and time by condition interactions. Between condition means and pre- and post-intervention and one-month follow-up were also plotted, and effect sizes assessing the magnitude and direction of the changes post-intervention and one-month follow-up scores were examined.

There was a significant, medium linear effect when presence of calling was the outcome variable. Marginally significant time by condition interactions suggested that changes in presence of calling over time varied by condition. As can be observed in Figure 5, the increases in presence of calling from pre- to post-intervention appear to be maintained over time in both the writing and peer sharing conditions. Trivial effect sizes for the changes from time 2 to time 3

support this conclusion. Participants' scores in the control group did not mirror this pattern, as mean scores were stable over time. These findings support the study's hypothesis that both narrative intervention conditions would positively increase participants presence of calling compared to the control group, and that these effects would be maintained one month later.

All other repeated measures ANOVAs were nonsignificant. Instead, effect sizes examining within condition changes post-intervention to one-month follow-up were examined. Effect sizes ranged from trivial to small, and there did not appear to be prominent overarching themes or patterns of the effects. Since it is possible that these changes were random; effect sizes should be interpreted with caution. Still, several potential patterns and explanations of the findings were considered.

With the exception of a small, positive effect size for changes in presence of meaning for individuals in the peer sharing condition and a small, positive effect size for changes in career exploration for individuals in the writing condition, all effect sizes for changes from post-intervention to one-month follow up were trivial or small and negative. Trivial effect sizes support the study's hypotheses that changes in the outcome variables would be maintained over time. This occurred for the majority of the outcome variables. Small negative effect sizes in search for calling and career adaptability for individuals in the control condition suggest the possibility of testing effects, meaning that the construct became less salient to participants due to previous exposure (Jones, Shulman, Richards, & Ludman, 2020). The small negative effect size for changes in search for calling post-intervention to one-month follow-up for individuals in the peer sharing condition may also be due to testing effects. Since this group reported the highest levels of search for calling right after attending the intervention, it may also mean that as time

passed, participants' motivation or anxiety associated with trying to figure out their callings waned.

Since trivial and small negative effects were hypothesized, small positive effects post-intervention to one-month follow-up were surprising. Those in the writing condition reported higher career exploration at one-month follow-up compared to post-intervention. The effect size for this change in between condition means was small. The Career Exploration Scale was made up of 10 items, five of which assessed participants' self-exploratory behaviors and five of which assessed participants environmental exploratory behaviors. Since those in the writing condition experienced decreased search for calling at post-test, it seemed possible that these individuals felt more confident in their sense of calling post-intervention, which lead them to engage in more environmental exploratory behaviors. That is, maybe these participants moved from questioning what their career path was, to engaging in career exploration to dig deeper within their selected path. This possibility was tested by examining repeated-measures effect sizes for changes in the Career Exploration Self-Exploration subscale means and the Career Exploration Environmental Exploration subscale means for individuals in the writing condition post-intervention to one-month follow-up. These analyses revealed trivial effects for changes in participant's level of self-exploratory ($d = .17$) and environmental exploratory ($d = .14$) behaviors. Positive changes in career exploration from post-intervention to one-month follow-up for individuals in the writing condition were likely due to chance or the influence of unknown extraneous variables. Future research is needed to further understand this result.

The small, positive effects for increases in presence of meaning for individuals in the peer sharing condition was also difficult to explain. Overall, changes in meaning were small to trivial for both intervention conditions over time. Since meaning in life such a broad construct, it

may be unlikely for a one session-workshop to evoke changes on participants' global appraisals of presence of meaning in their life (Steger & Kashdan, 2007). Taking this into account, the small, positive effects on presence of meaning for individuals in the peer sharing condition at one-month follow-up seemed likely due to random chance, rather than the long-term effects of the intervention.

Moderations

While not a central focus of the study, gender and authenticity were examined as separate moderating variables of the relationship between the narrative intervention workshop and outcomes. Since all analyses were underpowered, effect sizes were examined to determine how much the variance in the outcome variables was explained by the overall model as well as by the inclusion of the interaction term. In all models, both when gender and authenticity were included as moderators, the R^2 values were large. All moderation models explained a large proportion of the variance in the study outcomes post-intervention. However, it should be noted that the vast majority of the variance was accounted for by controlling for the time one levels of the outcome variables. The unique effect of including the interaction term (i.e., R^2 -change statistics) ranged from trivial to small for all analyses. Due to the lack of significance and small effects, all moderation results should be interpreted with caution.

Moderating effects of Gender. Broadly, there did not seem to be a clear pattern for the moderating effect of gender on career development outcome variables. Including the interaction term did not account for at least an additional 1% of the variance over and above the main effects for post-intervention presence of calling, search for meaning, and presence of meaning. Per McClelland and Judd's (1993) guidelines, these results were not interpreted.

The R^2 -change values were small (i.e., ranging from .01-.02) when career exploration, career adaptability, and search for calling were the outcome variables. Importantly, the differences in the mean scores for males and females on career exploration and career adaptability were very small (i.e., less than a 1-point difference). Since this small range in mean scores for males and females on post-intervention ratings of career exploration and career adaptability correspond to the same scale item anchors, results were not further interpreted. The differences in the mean scores for females and males on search for calling were slightly larger (i.e., greater than a 1-point difference). Including the interaction term as a predictor of search for calling accounted for an additional 1% of the variance. Interestingly, women scored higher than men in both the peer sharing and writing conditions. This difference was not observed in the control condition. Research on gender differences of emotional self-disclosure may serve to explain this trend. Searching for a sense of calling is conceptualized as being a potentially uncomfortable or distressing process (Duffy & Sedlacek, 2007); one that requires individuals to reflect on and make meaning of emotional and cognitive aspects of their experiences. Since females tend to self-disclose and process emotional content to a wider array of individuals compared to males, they may be more practiced at or willing to engage in these processes in a one-session workshop (Rimé et al., 1991; Smyth, True, & Souto, 2001). Existing stereotypes that it is more socially acceptable for women to engage in this level of emotional vulnerability than for men could also contribute to women's willingness to engage in more elaborate reflection (Derlega & Chaikin, 1977). These hypotheses align with research examining differences in meaning-making across gender. Studies that have examined autobiographical narrative content in early childhood and adulthood highlighted gender differences in narrative elaboration, coherence, reflection, agentic vs. communal themes (Fivush, Bohanek, Zaman & Grapin, 2012).

Again, claiming that the findings from the current study support these claims about gender differences is a stretch. Results from the current study should be interpreted with caution because the effect of including the interaction term was small and this pattern of responses was not consistent across all other outcome variables in the present study.

Moderating Effects of Authenticity. Results were also nonsignificant when perceived authenticity was included as a moderator of the relationship between intervention condition and the study outcomes. The inclusion of the interaction term only accounted for an additional 1% of the variance in search for calling and presence of calling. Upon visual inspection of these interactions (see Figures 11 and 12), there appeared to be somewhat interpretable patterns, although the effects were small and nonsignificant. Results are summarized and potential interpretations are included below. Future research is needed to be able to make conclusions about the effect of participant's level of perceived authenticity on intervention effectiveness.

Participants who reported high levels of perceived authenticity reported the highest levels of presence of calling in both the writing and peer sharing conditions. Conversely, participants who reported low-levels of perceived authenticity reported the lowest levels of presence of calling in both the writing and peer sharing conditions. Although the narrative intervention seemed to benefit all participants compared to those in the control group, there was a greater positive effect on presence of calling for those who reported higher levels of perceived authenticity. This finding might suggest that people who perceive themselves as more authentic experience greater benefits from career interventions. This interpretation is in line with theories of career development that emphasize the importance of active self- and career-exploration (Chickering, 1993; Super, 1990). It is also supported by Mercurio's (2017) assertion that when

an individual has a more genuine and real sense of their purpose, they experience positive associated outcomes to a greater degree.

For individuals who reported higher authenticity, there was a greater difference in between condition effects when search for calling was included as the outcome variable. That is, highly authentic individuals reported the highest levels of search for calling in the peer sharing condition and the lowest levels of search for calling in the writing condition. This may mean the writing intervention was especially effective for promoting a sense of calling in individuals who perceive themselves as highly authentic. This hypothesis is supported by the findings that those with high levels of authenticity reported the highest levels of presence of calling, compared to individuals who reported medium and low levels of authenticity. This result may also mean that highly authentic individuals were more likely to be open about their career indecision and ongoing search for calling with their peers, resulting in higher levels of search for calling post-intervention. Interpreting which result is a more favorable outcome goes back to the question of what the most optimal process of developing a calling is for college students. As previously discussed, future research is needed to determine the short-term and long-term benefits of promoting search for calling.

Implications for Career Intervention Research

Discerning a calling is an important and relevant construct for emerging adults to consider when developing their vocational identity and making career decisions. Although research on calling has significantly expanded in recent decades, research on calling interventions is sparse (Duffy et al., 2018). This study aimed to address this gap in the literature by examining the effectiveness of a one-session workshop that aimed to develop college student's sense of calling via engaging in autobiographical reflection. Differences in the

effectiveness of autobiographical reflection via writing or peer sharing were also examined. To my knowledge this study represents the first in research on calling to use a narrative/career constructionist approach to promote calling development. It is also the first in the calling literature to examine the effectiveness of a peer-sharing intervention paradigm. Several notable findings contribute to the existing literature.

There appears to be some indication that a one-session narrative reflection workshop can boost participants' presence of calling and that the effects on calling are maintained over time. This pattern was present for both the writing and peer sharing workshop conditions and was not identified in the control condition. Although the increases were not statistically significant, the size of the positive effects of the peer sharing and writing workshops on presence of calling ranged from small to medium, respectively. These findings are consistent with prominent meta-analysis on the effectiveness of career counseling interventions. Using Cohen's (1998) classification system, the average effect size of career counseling interventions are considered to be small to medium (Whiston et al., 2017; Brown & Ryan Krane, 2000). Based on this, it is possible that college students' sense of calling can be developed via autobiographical reflection. The effects of the intervention on calling development mirror effectiveness of other career development interventions. These results provide evidence that experimental interventions can increase individual's sense of calling. This aligns with findings from other calling interventions (e.g., Dik et al., 2015, Harzer & Ruch, 2016).

This study somewhat supported existing literature on the effectiveness of expressive writing as a career development intervention modality. Compared to the peer sharing condition, the writing condition had small to medium positive effects on a greater number of outcome variables (e.g., career exploration, presence of calling, and presence of meaning). The finding

that participants' search for calling decreased in the writing condition could also support this assertion if applying the interpretation that participant's development and confidence in their perceived calling yielded lower search for calling scores. However, when applying identity and career development theories, this perspective may not be correct and/or may not be the optimal process for developing a calling for emerging adults. This poses an interesting question for future research: what is the optimal trajectory for college student calling development? The common theme across identity theories is the importance of active identity exploration and reflection before making identity commitments (Arnett, 2000; Marcia, 1966; Chickering, 1993; McAdams, 1985; Savickas, 2005; Super 1990). Applying this logic, it is likely that boosting college students' active search for calling will promote their development of flexible and authentic callings, therefore, leading them to experience more positive career-related outcomes. This pattern occurred in the peer sharing condition; these participants reported small positive effects of the intervention on search for calling and presence of calling post-intervention. This finding suggests that autobiographical reflection via peer sharing may be a promising paradigm for promoting college student identity and calling development. Future research is needed to investigate this assertion. Studies should aim to investigate college student's calling development across time, paying attention to short-term and long-term benefits and consequences. Information about why search for calling increased in the peer sharing condition and decreased in the writing condition is also needed to be able to draw conclusions about which reflection paradigm is most effective. Altogether, these findings provide interesting research questions about the optimal processes for exploring and solidifying a sense of calling. Future research on calling theory and calling interventions should continue to apply this identity development perspective.

There is also a possibility that different types of calling interventions will be most effective for certain audiences depending upon their individual characteristics. This study hypothesized that both workshop conditions would be more effective for individuals who rate themselves as being more authentic. While the results were nonsignificant, visual inspection of the interactions showed that highly authentic individuals reported the highest levels of presence of calling in both the writing and peer sharing conditions. Conversely, participants who reported low-levels of perceived authenticity reported the lowest levels of presence of calling in both the writing and peer sharing conditions. These patterns of results point to another contribution of this study: the ongoing need to investigate significant moderators of program effectiveness. For example, in this study, the patterns that emerged may mean that calling interventions will be more effective for participants who rate themselves as being more authentic. It may also be the case that intervention effectiveness could be enhanced if the space is conducive to for participant openness and genuineness. Future research should further examine this trend, in addition to considering other potential moderators of intervention effects.

While the nontrivial effects of the intervention conditions on participant's search for and presence of calling are of interest, the majority of results yielded non-significant and trivial effects. Contrary to the present study's hypotheses, nonsignificant, trivial effects were found for the peer sharing condition on career exploration and presence of meaning, and for the effects of both intervention conditions on career adaptability and search for meaning. These results could indicate that autobiographical reflection is not a useful strategy for promoting college students' calling and career development. However, this contradicts the literature on the importance of identity and vocational reflection via narrative reflection (McAdams, 1985; Savickas, 2005). Previous career intervention research has also found interventions utilizing this paradigm to be

effective (Langher, Nannini, & Caputo, 2018). Therefore, the null results may also be explained by other factors that were unique to the design of the current study. Please see limitations section for a review of these considerations.

Applications for Practice

Important to consider is how the findings of the current study generalize to real-world applications. Several findings of the current study support the hypothesis that narrative reflection on calling constructs might be useful in promoting college student career and calling development. These activities can include having participants reflect on how themes from their past experiences reveal their interests, values, passions, and sense of purpose. These results align with recommendations that career counselors foster calling development by helping their client's develop a coherent sense of vocational identity, align their career goals with this sense of identity, while also encouraging them to consider how their unique gifts match the needs of society (e.g., Dik et al., 2009; Dik & Duffy, 2015; Dik, Canning et al., 2019). Still, it is important for future research to continue to assess the clinical significance of this current intervention paradigm. That is, researchers should aim to investigate whether nontrivial and small changes in outcome effects makes a meaningful difference in the lives of career counselling clients. If clinical significance is determined, this would also provide rationale for offering one-session structured workshop career interventions compared to multiple session or individual career coaching services.

Another question to consider when determining the utility of this intervention paradigm is whether there are certain audiences who may be more likely to benefit from this approach. In both intervention conditions, a trend suggested that highly authentic individuals experienced greater increases in presence of calling compared to those who ranked themselves lower on trait

authenticity measures. This may mean that individuals with greater awareness and unbiased processing of self will be more likely to benefit from narrative interventions. Importantly, these results were nonsignificant, thus all clinical interpretations must be taken with caution.

These findings also beg the question of whether there are ways in which facilitators can improve intervention effectiveness by fostering therapeutic environments that are more conducive to participant authenticity and openness. Prominent theories of psychotherapy support this hypothesis, as the ability for a client to express themselves openly, without fear of judgement, is viewed as a key factor for effective psychotherapy (Asay & Lambert, 1999; Rogers, 1946). Humanistic approaches weave this notion into their conceptualizations of healing. From these perspectives psychological health can be viewed as “congruence” or alignment with one’s true self and “self-actualization” or living out one’s authentic purpose (Maslow, 1943; Maslow, 1968; Rogers, 1946). To promote this view of health and healing, a major goal of these therapies is to create a space in which a client can show up authentically in effort to increase their knowledge of self and work to align their life roles with their values. Narrative theories also support this notion; studies repeatedly illustrate positive correlations between depth of meaning-making, narrative coherence, and positive psychological outcomes (Cochran, 1997; McAdams, 1995; McMahon & Watson, 2010; Savickas, 2005). Taken together, these findings suggest that boosting participant genuineness and authenticity may promote intervention effectiveness.

The present study also aimed to investigate whether the effectiveness of the intervention modality depended upon participant gender. While results were largely uninterpretable, the trend that women scored higher on search for calling in both the peer sharing conditions and writing conditions warrants future study. Potential explanations of this result may be that women are more willing or practiced at engaging in autobiographical reflection of distressing topics.

Research on gender differences in self-disclosure somewhat support this explanation with the findings that females were more likely to self-disclose to a wider variety of individuals than males (Rimé et al., 1991). This result may also depend on a variety of extraneous variables like participant's comfort with the facilitator and their peer-sharing partner. There may be other factors that determine client's willingness and ability to construct and make meaning from autobiographical narratives. Since results were nonsignificant and trivial, any further conclusions about gender differences drawn from these findings would be speculative and should be made with extreme caution, and only to inform subsequent research. Future research that further investigates this trend should aim to explain why certain participants might benefit from narrative reflection strategies more so than others. Collecting data about what aspects of the participant narratives predict beneficial outcomes could help answer this question.

The finding that participants rated their satisfaction with the peer sharing condition significantly higher than their satisfaction with the writing condition may also be an important implication for practice. If between condition effectiveness is similar, it may make the most sense to offer the workshop condition that the participants were most satisfied with (Glass, & Arnkoff, 2000). This may be an especially important consideration if agencies plan to offer multiple sessions of the same workshop. Since participant enrolment determines agency service offerings, it is important that participants leave a service satisfied so that they will recommend the service to other potential clients. Consistent with this rationale, participant satisfaction with their workshop facilitator is also an important factor to assess and maintain. In this study, there were not significant differences in between-condition ratings of participant's satisfaction with facilitator; both conditions rated their satisfaction as highly satisfied. On an individual level,

condition and facilitator satisfaction may be less important if the desired outcomes are achieved, however, both may be important to consider from a programmatic viewpoint.

Limitations

In addition to the present study's contributions, there are several limitations that should be addressed. There were concerns regarding statistical power for all analyses. Given the modest sample size and lack of statistical power, as well as some nontrivial effect sizes, there was a concern that using Null Hypothesis Significance Testing to interpret results would result in making Type II errors. Future research should replicate this experiment, making adjustments like increasing sample size, to strengthen statistical power so that statistical tests can detect meaningful differences when present.

In addition to concerns with power, it may be that the intervention conditions were not potent enough to make a statistically significant impact on participant's ratings of calling and career development outcomes. A meta-analysis examining the effectiveness of various career development intervention modalities identified treatment intensity as a significant predictor of effect size (Oliver & Spokane, 1988). Applying these findings, it is possible that the intervention conditions would have had a more prominent effect if they were longer in duration and/or multiple sessions. However, this hypothesis is contradicted by Whiston's (2003) meta-analytic findings that treatment intensity did not explain differences in workshop effectiveness when comparing more effective workshops to less effective workshops. In addition to exploring whether longer or multiple session workshops produce greater effects for participants, it is also important to consider whether these effects outweigh the cost-effectiveness and efficiency of a one-session workshop.

Concerns with measurement and stability of the outcome variables may also explain the trivial effects. Some of the current study's outcome variables may have been difficult to change due to their tendency to be more stable constructs. For example, except for one small effect, all effects of the intervention conditions on search for and presence of meaning were trivial. These lack of effects may be because meaning in life is a global construct that tends to be a stable variable (Steger & Kashdan, 2007). For people to significantly change their perceptions of their level of meaning in life, they may need to experience more robust life events (instead of just attending a one-session calling workshop). Career adaptability was another outcome variable in which all effects were trivial. This construct asked participants to rate their personal strengths on aspects of their career adaptability. In general, it is more difficult to effect therapeutic change with a short-term intervention on trait-like measures compared to state-like measures (Zilcha-Mano, 2020). This could be one explanation for the lack of effects of the intervention on participant's perceived strength of career adaptability. It is also possible that results would differ if the full version of the career adaptability scale or a different measure was used. While the short form of assessing career adaptability (i.e., the CAAS-SF; Maggiori et al., 2015) demonstrated adequate internal consistency, future research could continue to examine whether outcome differences depend upon which measurements are used.

Finally, when examining effect sizes, it is important to note that there were just as many trivial effect sizes as there were small to medium effect sizes. In interpreting the trivial effects, it is possible that type II errors did not occur, that the interventions did not promote changes in the study's outcome variables, or that the underlying theories supporting this study's hypotheses are misapplied. There is also the possibility obtaining trivial results with this study design happens more often than known. This could be explained by a file drawer effect (Rosenthal, 1979)—the

notion that there may be other studies like this one that do not end up published due to their small or nonsignificant effects, resulting in a situation in which average effect sizes in the career intervention meta-analyses are inflated and overstate the true efficacy of such interventions.

There are also concerns regarding the generalizability of these results. The present study consisted of a convenience sample of undergraduate college students from a large Western university in the United States. As previously stated, college students are at a unique developmental period both in terms of their identity development, as well as their vocational development (Arnett, 2000). Due to this, it was postulated that a narrative, calling-infused career development intervention would be especially beneficial for these individuals, as they face a plethora of upcoming career and life decisions. It may be possible that this intervention would have null or maybe even negative effects for populations at different stages of identity development. For example, adolescents who have yet to develop higher-level meaning-making abilities, may struggle to abstract and apply themes from their autobiographical narratives (Fivush, Booker, & Graci, 2017). In this case, the intervention may be less effective for this population. Conversely, older adults who have a well-developed sense of identity, may find these activities to be redundant (Fivush et al., 2017). It may also be the case that this intervention could be distressing if their identified values and callings do not align with their current roles (Berg et al., 2010). Finally, this sample was made up of college students who were not actively seeking calling or career interventions. While many studies of calling have relied on convenience samples of university students (Duffy, Dik et al., 2018), the effects of the intervention may be different if applied to students actively seeking these interventions. Future research should aim to replicate this study within different settings and with different populations to further explore the generalizability of these results.

This study was the first in the calling and career development literature to investigate the effectiveness of a peer-sharing autobiographical reflection paradigm. While researchers aimed to mimic empirically supported interventions from the social sharing literature, there are many ways that this paradigm differed from these designs. Most notable is the difference in reflection content; the social sharing literature predominately focuses on clinical applications, whereas the current study focused on vocational applications (Balon & Rimé, 2016). This intervention also differed from studies on social sharing, in that participants were asked share stories with a peer stranger, rather than a therapist, counselor, or trusted confidant. Due to these differences in these reflection paradigms, future research is needed to further determine the effectiveness of implementing peer sharing reflection exercises in calling and career development interventions.

Conclusions and Future Directions

The one-session, narrative reflection workshop had a small to medium, positive effect on participants' presence of calling post-intervention. Effects were maintained at one-month follow-up. These results provide initial support for using autobiographical reflection and meaning-making exercises as tools for promoting college student vocational identity and calling development. Since experimental career intervention research utilizing a narrative approach is sparse, and has never been applied in the calling literature, this approach posits interesting directions for future research. Replication utilizing these narrative intervention strategies is needed before conclusions can be drawn regarding the generalizability and clinical significance of this approach.

This study also compared the effectiveness of two different narrative reflection mechanisms: writing and peer-sharing. While both conditions boosted participants presence of calling, those in the writing condition reported decreased search for calling post-intervention, and

those in the peer sharing condition reported an increased search for calling post-intervention. This interaction sparks interesting questions for future research. Future research should aim to discern the optimal trajectory for calling development in college students, paying attention to short-term and long-term benefits and drawbacks of these effects. Depending upon the intervention goals, future studies may seek to integrate autobiographical reflection via peer sharing in effort to boost individual's search for calling.

Finally, future research should examine if intervention effectiveness depends on participant qualities like their level of perceived authenticity or gender. There is also the possibility that different types of interventions will be more effective for certain audiences depending upon their individual characteristics, or that different aspects of intervention delivery will interact to influence intervention effectiveness.

Overall, the current study is the first to examine the effectiveness of using autobiographical reflection to increase sense of calling in college students. In the career development literature, it is also the first to compare the effectiveness peer-sharing and writing reflection paradigms. Due to this, and several statistical limitations of the current study, this study should be viewed as pilot study (Leon, Davis, & Kraemer, 2011). Replications that further examine and modify aspects of the current study's design are needed to be able to make firm conclusions about the effectiveness of this intervention approach.

FIGURES

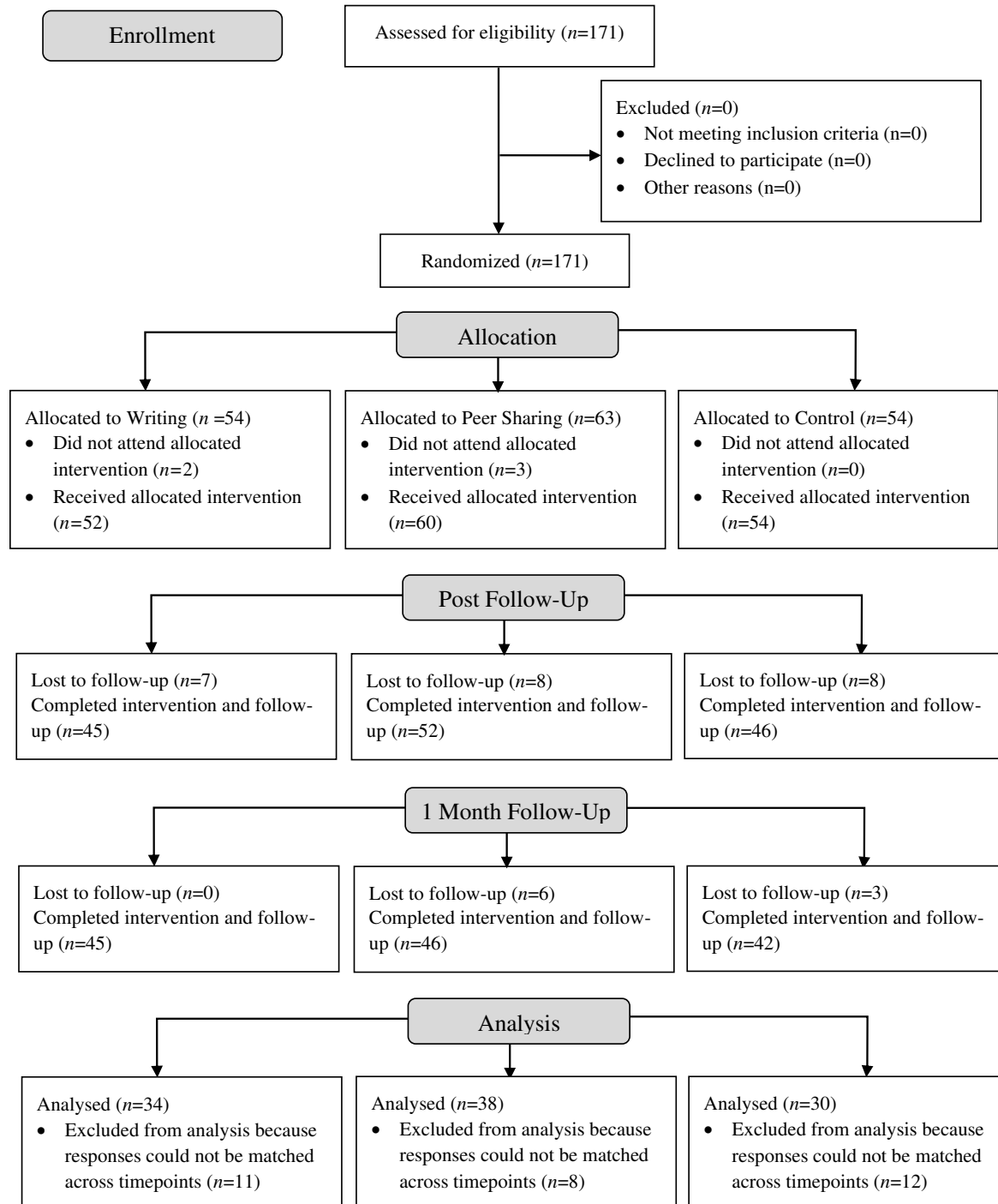


Figure 1.

CONSORT flow diagram of participant progress through the phases of a parallel randomized trial of three groups

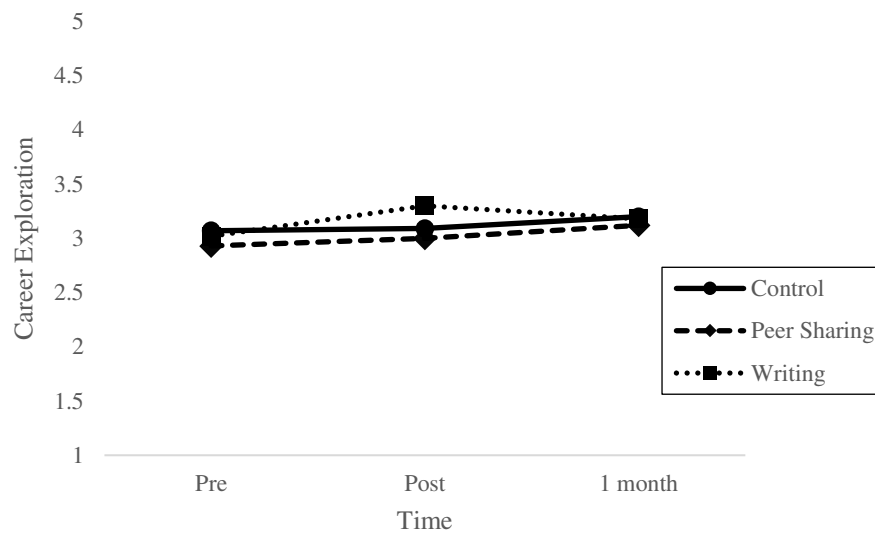


Figure 2.
Career exploration means for intervention conditions at pre-intervention, post-intervention, and 1-month follow-up.

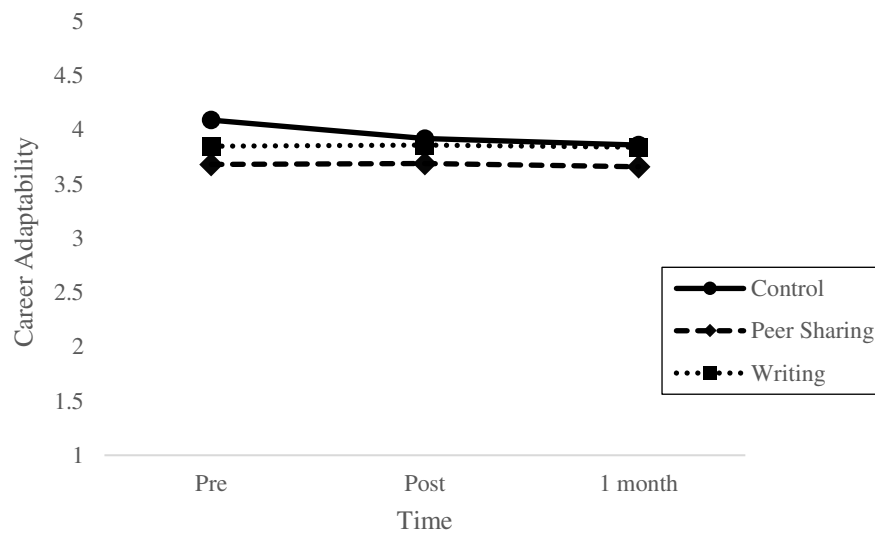


Figure 3.
Career adaptability means for intervention conditions at pre-intervention, post-intervention, and 1-month follow-up.

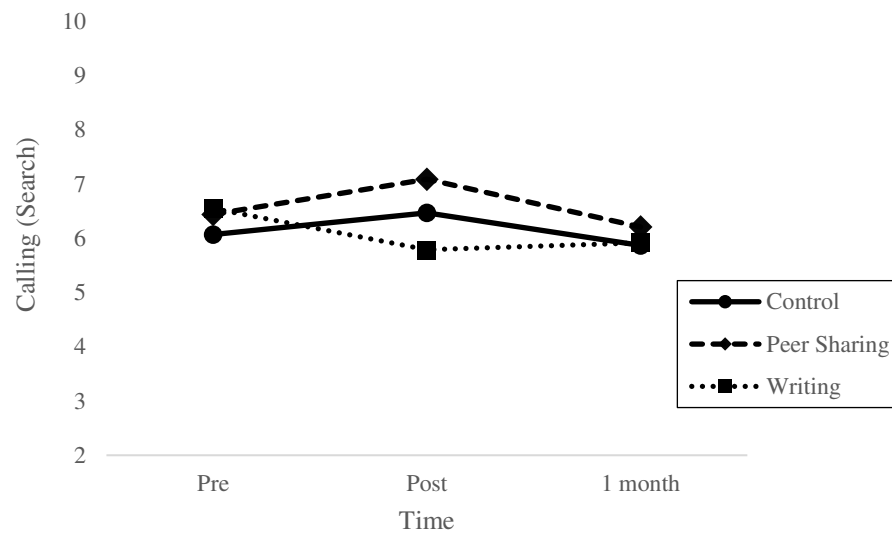


Figure 4.
Search for calling means for intervention conditions at pre-intervention, post-intervention, and 1-month follow-up.

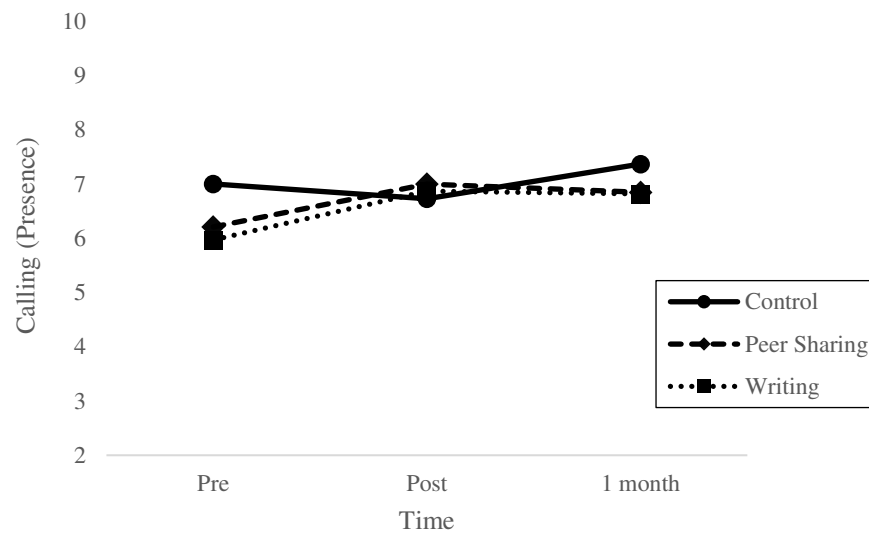


Figure 5.
Presence of calling means for intervention conditions at pre-intervention, post-intervention, and 1-month follow-up.

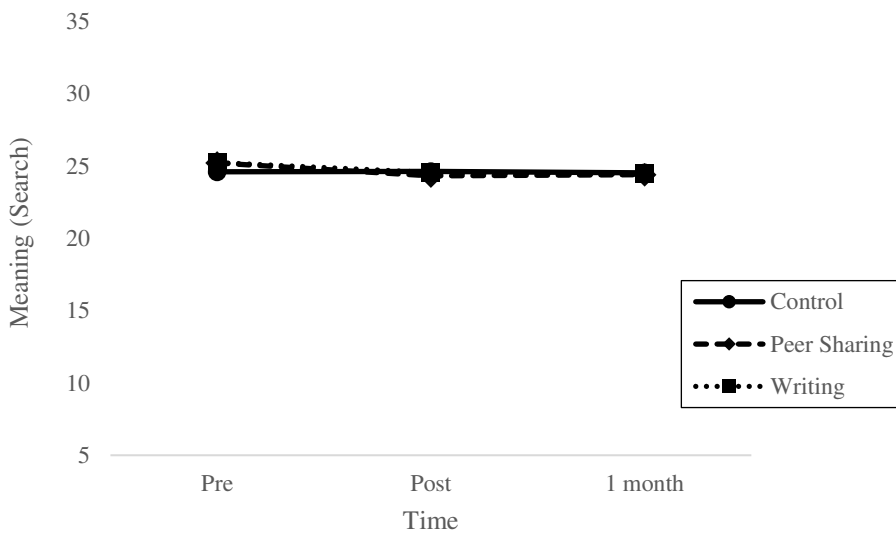


Figure 6.
Search for meaning means for intervention conditions at pre-intervention, post-intervention, and 1-month follow-up.

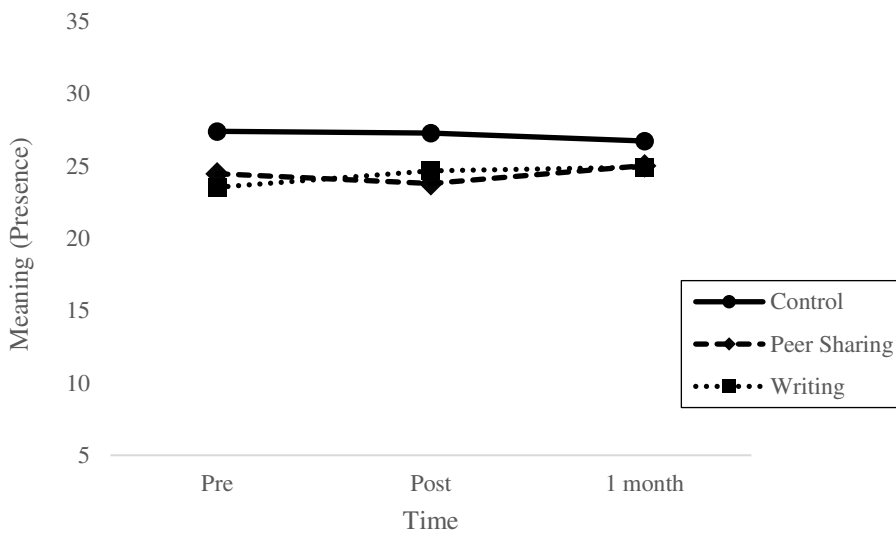


Figure 7.
Presence of meaning means for intervention conditions at pre-intervention, post-intervention, and 1-month follow-up.

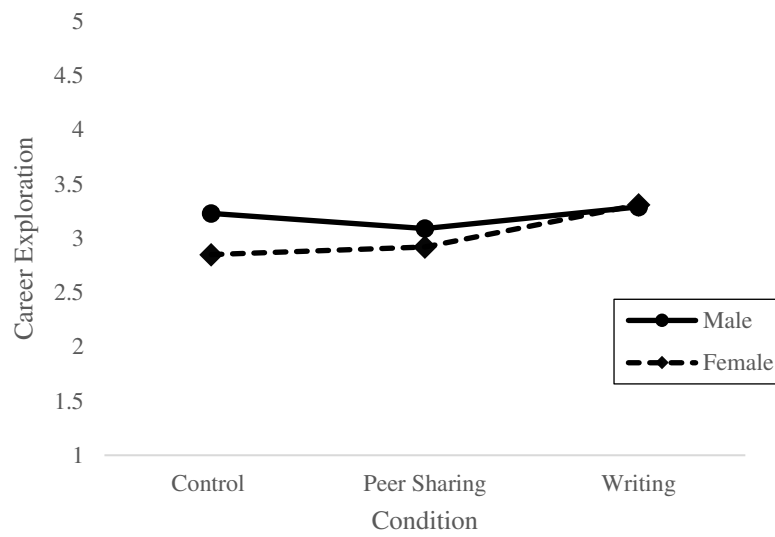


Figure 8.
Career exploration post-intervention means for males and females in the control, peer sharing, and writing conditions.

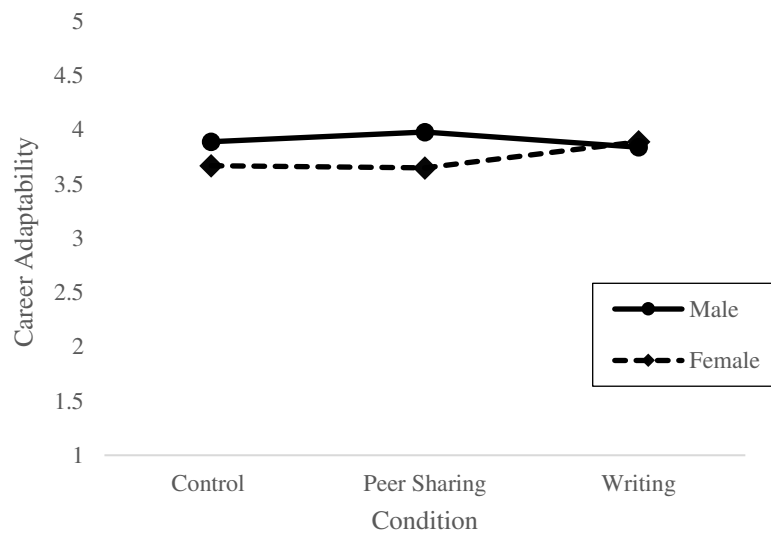


Figure 9.
Career adaptability post-intervention means for males and females in the control, peer sharing, and writing conditions.

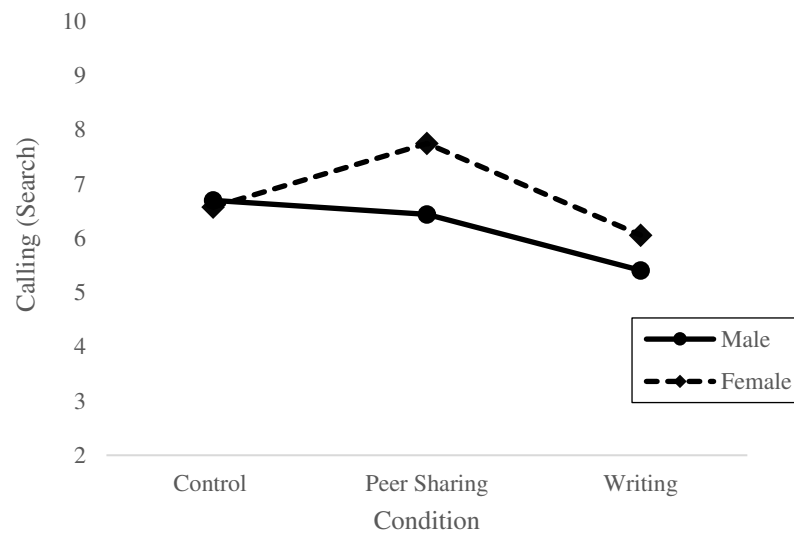


Figure 10.
Search for calling post-intervention means for males and females in the control, peer sharing, and writing conditions.

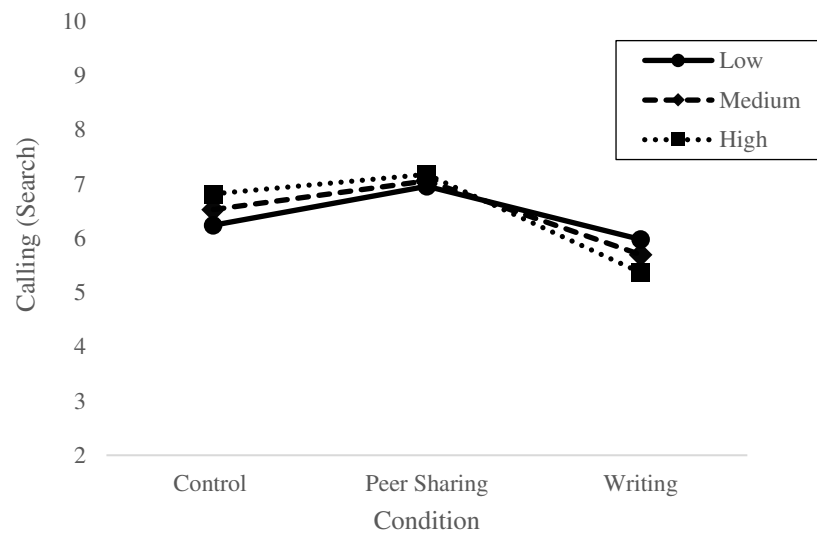


Figure 11.

Search for calling post-intervention means for individuals in the control, peer sharing, and writing conditions at low- medium- and high-levels of perceived authenticity.

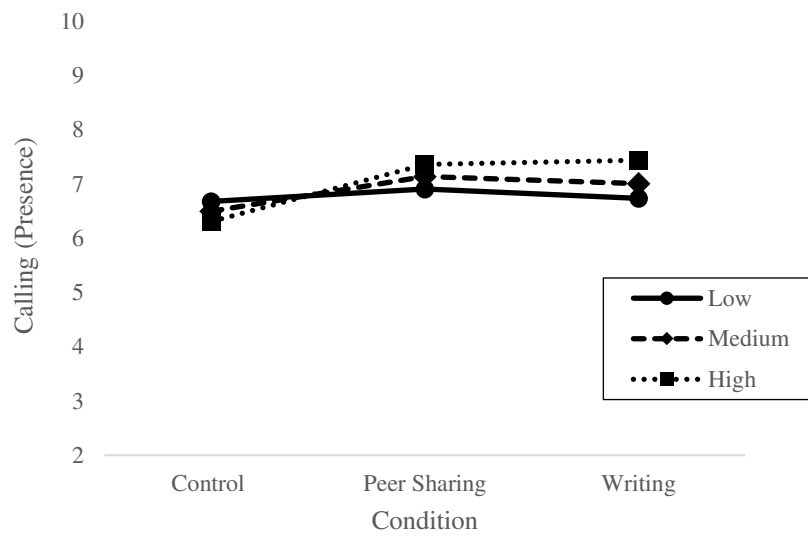


Figure 12.

Presence of calling post-intervention means for individuals in the control, peer sharing, and writing conditions at low- medium- and high-levels of perceived authenticity.

TABLES

Table 1.
Study demographic information

| | <i>n</i> | <i>%</i> |
|--------------------------------------|----------|----------|
| Sex | | |
| Female | 51 | 50.00 |
| Male | 50 | 49.00 |
| Other | 1 | 1.00 |
| Ethnicity | | |
| African-American or African | 3 | 2.90 |
| American Indian or Alaskan Native | 1 | 1.00 |
| Asian or Pacific Islander | 8 | 7.80 |
| Caucasian or European | 76 | 74.5 |
| Hispanic or Central/South American | 10 | 9.80 |
| Other | 4 | 3.90 |
| Year in college | | |
| First year | 51 | 50.00 |
| Second year | 31 | 30.40 |
| Third year | 16 | 15.70 |
| Fourth year | 3 | 2.90 |
| Fifth or more year | 1 | 1.00 |
| Major | | |
| Psychology | 26 | 25.49 |
| Health and Exercise Science | 15 | 14.07 |
| Interior Architecture and Design | 7 | 6.86 |
| Neuroscience | 6 | 5.88 |
| Biomedical Sciences | 5 | 4.90 |
| Human Development and Family Studies | 4 | 3.92 |
| Social Work | 3 | 2.94 |
| Biology | 3 | 2.94 |
| Computer Science | 3 | 2.94 |
| Business | 2 | 1.96 |
| Apparel and Merchandizing | 2 | 1.96 |
| Mechanical Engineering | 2 | 1.96 |
| Zoology | 2 | 1.96 |
| Economics | 1 | 0.98 |
| Finance | 1 | 0.98 |
| History | 1 | 0.98 |
| Philosophy | 1 | 0.98 |
| Horticulture | 1 | 0.98 |
| Sports Medicine | 1 | 0.98 |
| Product Development | 1 | 0.98 |
| Food and Nutrition | 1 | 0.98 |
| Undeclared | 14 | 13.72 |

Table 2.*Correlations among variables at Time 1*

| Variable | 1 | 2 | 3 | 4 | 5 | 6 |
|-----------------------|-------|-------|-------|-------|-------|-------|
| 1. Exploration | | | | | | |
| 2. Adaptability | .40** | | | | | |
| 3. Calling (Search) | .05 | -.18 | | | | |
| 4. Calling (Presence) | .33** | .40** | .27** | | | |
| 5. Meaning (Search) | .29** | .17 | .47** | -.35 | | |
| 6. Meaning (Presence) | .23* | .42** | -.19 | .55** | .01 | |
| Mean | 3.00 | 3.86 | 6.37 | 6.35 | 25.04 | 24.98 |
| (SD) | .79 | .63 | 2.53 | 2.29 | 7.40 | 6.66 |
| Cronbach's α | .90 | .87 | .88 | .88 | .91 | .90 |

** $p < .001$,* $p < .05$

Table 3.

Adjusted Means, Standard Deviations, and Effect Size for Workshop Conditions at Post-Intervention

| Measure | Condition | | | | | | F | p | Partial n^2 | Observed Power |
|---------------------|-------------------|------|-------------------|------|-------------------|------|------|-------|---------------|----------------|
| | Control | | Peer Sharing | | Writing | | | | | |
| | M | SE | M | SE | M | SE | | | | |
| Career Exploration | 3.05 | .11 | 3.00 | .11 | 3.28 | .10 | 2.13 | .13 | .04 | .43 |
| Career Adaptability | 3.78 | .09 | 3.81 | .08 | 3.87 | .08 | .35 | .71 | .01 | .10 |
| Calling (Search) | 6.63 _a | .35 | 7.05 _a | .32 | 5.69 _b | .31 | 4.91 | .01** | .09 | .78 |
| Calling (Presence) | 6.34 _a | .28 | 7.09 _b | .26 | 7.10 _b | .25 | 2.55 | .08* | .05 | .50 |
| Meaning (Search) | 24.91 | .87 | 24.22 | .82 | 24.43 | .77 | .18 | .84 | .01 | .08 |
| Meaning (Presence) | 25.69 | .68 | 24.13 | .63 | 25.61 | .60 | 1.95 | .15 | .04 | .40 |

** $p < .05$, * $p < .1$

Note. Degrees of freedom were 2, 98 for all outcome measures. Means not sharing the same subscript are statistically different as established by Tukey's ($\alpha = .05$) post-hoc tests.

Table 4.

Repeated Measures Effect Size by Condition from Pre-intervention to Post-intervention and Post-intervention to 1-month follow-up

| Measure | Condition | Pre-intervention to Post-intervention Cohen's <i>d</i> | Post-intervention to 1-month follow-up Cohen's <i>d</i> |
|---------------------|--------------|---|--|
| Career Exploration | Control | .03 | .04 |
| | Peer Sharing | .13 | .23 |
| | Writing | .29 | -.15 |
| Career Adaptability | Control | -.25 | -.16 |
| | Peer Sharing | .02 | -.05 |
| | Writing | .02 | -.06 |
| Calling (Search) | Control | .16 | -.24 |
| | Peer Sharing | .22 | -.35 |
| | Writing | -.36 | .08 |
| Calling (Presence) | Control | .18 | .33 |
| | Peer Sharing | .31 | -.10 |
| | Writing | .53 | -.02 |
| Meaning (Search) | Control | .01 | -.02 |
| | Peer Sharing | -.14 | .02 |
| | Writing | -.15 | -.02 |
| Meaning (Presence) | Control | -.05 | .13 |
| | Peer Sharing | -.12 | .23 |
| | Writing | .21 | -.06 |

REFERENCES

- Allan, B. A., & Duffy, R. D. (2014). Calling, goals, and life satisfaction: A moderated mediation model. *Journal of Career Assessment*, 22(3), 451–464.
- Arbuckle, J. L. (1996). Full information estimation in the presence of incomplete data. In G. A. Marcoulides and R. E. Schumacker (Eds.), *Advanced structural equation modeling*. Mahwah, NJ: Lawrence Erlbaum Publishers.
- Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist*, 55(5), 469–480.
- Arnett, J. J. (2010). *Adolescence and emerging adulthood: A cultural approach* (4th ed). Upper Saddle River, NJ: Pearson Prentice Hall.
- Arnett, J. J. (2016). College students as emerging adults: The developmental implications of the college context. *Emerging Adulthood*, 4(3), 219–222.
- Asay, T. P., & Lambert, M. J. (1999). The empirical case for the common factors in therapy: Quantitative findings.
- Baerger, D. R., & McAdams, D. P. (1999). Life story coherence and its relation to psychological well-being. *Narrative Inquiry*, 9(1), 69-96.
- Balon, S., & Rimé, B. (2016). Lexical profile of emotional disclosure in socially shared versus written narratives. *Journal of Language and Social Psychology*, 35(4), 345-373.
- Baumeister, R. F. (1991). *Meanings of life*. New York, NY: Guilford Press.
- Berger, G. (2016). Will This Year's College Grads Job-Hop More Than Previous Grads? [Blog post]. Retrieved from https://blog.linkedin.com/2016/04/12/will-this-year_s-college-grads-job-hop-more-than-previous-grads

- Berg, J. M., Grant, A. M., & Johnson, V. (2010). When callings are calling: Crafting work and leisure in pursuit of unanswered occupational callings. *Organization Science*, 21(5), 973–994.
- Broderick, J. E., Junghaenel, D. U., & Schwartz, J. E. (2005). Written emotional expression produces health benefits in fibromyalgia patients. *Psychosomatic Medicine*, 67(2), 326–334.
- Brown, S. D., & Ryan Krane, R. N. E. (2000). Four (or five) sessions and a cloud of dust: Old assumptions and new observations about career counseling. *Handbook of counseling psychology (3rd ed., pp. 740--766)*. Hillsdale, NJ: Erlbaum.
- Bunderson, J. S., & Thompson, J. A. (2009). The call of the wild: Zookeepers, callings, and the double-edged sword of deeply meaningful work. *Administrative Science Quarterly*, 54(1), 32–57.
- Bundick, M. J. (2011). The benefits of reflecting on and discussing purpose in life in emerging adulthood. *New Directions for Youth Development*, 2011(132), 89–103.
- Burton, C. M., & King, L. A. (2004). The health benefits of writing about intensely positive experiences. *Journal of research in personality*, 38(2), 150–163.
- Calhoun, R.L. (1935). *God and the common life*. New York: Charles Scribner's Sons.
- Campbell, R. S., & Pennebaker, J. W. (2003). The secret life of pronouns: Flexibility in writing style and physical health. *Psychological Science*, 14, 60–65.
- Cardador, M. T., & Caza, B. B. (2012). Relational and identity perspectives on healthy versus unhealthy pursuit of callings. *Journal of Career Assessment*, 20(3), 338–353.
- Chickering, A., & Reisser, L. (1993). The seven vectors: An overview. *Education and identity*, 43–52.

- Cochran, L. (1997). *Career counseling: A narrative approach*. Sage publications.
- Cribbie, R. A., & Jamieson, J. (2000). Structural equation models and the regression bias for measuring correlates of change. *Educational and Psychological Measurement*, 60(6), 893-907.
- Cumming, G. (2013). *Understanding the new statistics: Effect sizes, confidence intervals, and meta-analysis*. Routledge.
- Damon, W., Menon, J., & Cotton Bronk, K. (2003). The development of purpose during adolescence. *Applied Developmental Science*, 7(3), 119–128.
https://doi.org/10.1207/S1532480XADS0703_2
- Davidson, J., & Caddell, D. (1994). Religion and the meaning of work. *Journal for the Scientific Study of Religion*, 33(2), 135–147.
- Dawis, R. V. (2005). The Minnesota Theory of Work Adjustment. In S. D. Brown & R. W. Lent (Eds.), *Career development and counseling: Putting theory and research to work* (pp. 3-23). Hoboken, NJ, US: John Wiley & Sons Inc.
- Dawis, R. V., & Lofquist, L. H. (1984). *A psychological theory of work adjustment: An individual differences model and its application*. Minneapolis, MN: University of Minnesota Press.
- DeVellis, R. F. (2016). *Scale development: Theory and applications* (Vol. 26). Sage publications.
- Derlega, V. J., & Chaikin, A. L. (1977). Privacy and self-disclosure in social relationships. *Journal of Social Issues*, 33(3), 102-115.
- Diener, E., & Emmons, R. A. (1984). The independence of positive and negative affect. *Journal of personality and social psychology*, 47(5), 1105.

- Di Fabio, A., & Maree, J. G. (2013). Effectiveness of the career interest profile. *Journal of Employment Counseling, 50*(3), 110–123.
- Dik, B. J., Byrne, Z. S., & Steger, M. F. (2013). *Purpose and meaning in the workplace*. American Psychological Association.
- Dik, B. J., & Duffy, R. D. (2009). Calling and vocation at work: Definitions and prospects for research and practice. *The Counseling Psychologist, 37*(3), 424–450.
- Dik, B. J., & Duffy, R. D. (2015). Strategies for discerning and living a calling. *APA handbook of career intervention, 2*, 305-317.
- Dik, B. J., Reed, K., & Alayan, A. (2019). Purpose, meaning, and career pathways. In J. Hedge & G. Carter, (Eds.), *Career pathways: School to retirement, and beyond*. Oxford: Oxford University Press.
- Dik, B. J., Scolljegerdes, K. A., Ahn, J., & Shim, Y. (2015). A randomized controlled trial of a religiously-tailored career intervention with Christian clients. *Journal of Psychology & Christianity, 34*(4).
- Dik, B. J., & Shimizu, A. B. (2019). Multiple meanings of calling: Next steps for studying an evolving construct. *Journal of Career Assessment, 27*(2), 323-336.
- Dik, B. J., & Steger, M. F. (2008). Randomized trial of a calling-infused career workshop incorporating counselor self-disclosure. *Journal of Vocational Behavior, 73*(2), 203-211.
- Dik, B. J., Steger, M. F., Gibson, A., & Peisner, W. (2011). Make your work matter: Development and pilot evaluation of a purpose-centered career education intervention. *New Directions for Youth Development, 2011*(132), 59-73.
- Dobrow, S. R. (2013). Dynamics of calling: A longitudinal study of musicians. *Journal of Organizational Behavior, 34*(4), 431–452.

- Dobrow, S. R., & Tosti-Kharas, J. (2011). Calling: The development of a scale measure. *Personnel Psychology, 64*(4), 1001–1049.
- Donnelly, D. A., & Murray, E. J. (1991). Cognitive and emotional changes in written essays and therapy interviews. *Journal of Social and Clinical Psychology, 10*(3), 334–350.
- Duffy, R. D., Allan, B. A., Autin, K. L., & Bott, E. M. (2013). Calling and life satisfaction: It's not about having it, it's about living it. *Journal of Counseling Psychology, 60*(1), 42–52.
- Duffy, R. D., Allan, B. A., & Bott, E. M. (2012). Calling and life satisfaction among undergraduate students: Investigating mediators and moderators. *Journal of Happiness Studies, 13*(3), 469–479.
- Duffy, R. D., Allan, B. A., & Dik, B. J. (2011). The presence of a calling and academic satisfaction: Examining potential mediators. *Journal of Vocational Behavior, 79*(1), 74–80.
- Duffy, R. D., & Dik, B. J. (2013). Research on calling: What have we learned and where are we going? *Journal of Vocational Behavior, 83*(3), 428–436.
- Duffy, R. D., Dik, B. J., Douglass, R. P., England, J. W., & Velez, B. L. (2018). Work as a calling: A theoretical model. *Journal of Counseling Psychology, 65*(4), 423–439.
- Duffy, R. D., Manuel, R. S., Borges, N. J., & Bott, E. M. (2011). Calling, vocational development, and well being: A longitudinal study of medical students. *Journal of Vocational Behavior, 79*(2), 361–366.
- Duffy, R. D., & Sedlacek, W. E. (2007). The presence of and search for a calling: Connections to career development. *Journal of Vocational Behavior, 70*(3), 590–601.

- Duffy, R. D., & Sedlacek, W. E. (2010). The salience of a career calling among college students: Exploring group differences and links to religiousness, life meaning, and life satisfaction. *The Career Development Quarterly*, 59(1), 27–41.
- Erikson, E. H. (1950). *Childhood and Society*. New York: Norton.
- Esterling, B. A., Antoni, M. H., Fletcher, M. A., Margulies, S., & Schneiderman, N. (1994). Emotional disclosure through writing or speaking modulates latent Epstein-Barr virus antibody titers. *Journal of Consulting and Clinical Psychology*, 62, 130-140.
- Fitzmaurice, G. M., Laird, N. M., & Ware, J. H. (2004). *Applied longitudinal analysis*. Hoboken, NJ: Wiley.
- Fivush, R., Bohanek, J. G., Zaman, W., & Grapin, S. (2012). Gender differences in adolescents' autobiographical narratives. *Journal of Cognition and Development*, 13(3), 295-319.
- Fivush, R., Booker, J. A., & Graci, M. E. (2017). Ongoing narrative meaning-making within events and across the life span. *Imagination, Cognition and Personality*, 37(2), 127-152.
- Fivush, R., Habermas, T., Waters, T. E., & Zaman, W. (2011). The making of autobiographical memory: Intersections of culture, narratives and identity. *International Journal of Psychology*, 46(5), 321-345.
- Frankl, V. (1963). *Man's search for meaning*. Boston, MA: Beacon Press
- Gallup (Firm) Bates College (Lewiston, Me.). (2019). Forging pathways to purposeful work: the role of higher education.
- Garson, G. D. (2012). Testing statistical assumptions. *Asheboro, NC: Statistical Associates Publishing*.
- Garson, G. D. (2015). Missing values analysis and data imputation. *North Carolina State University. Asheboro, USA: Statistical Associates Publishers*.

- Glass, C. R., & Arnkoff, D. B. (2000). Consumers' perspectives on helpful and hindering factors in mental health treatment. *Journal of clinical psychology*, 56(11), 1467-1480.
- Goossens, L. (2001). Global versus domain-specific statuses in identity research: A comparison of two self-report measures. *Journal of Adolescence*, 24(6), 681–699.
- Habermas, T., & Bluck, S. (2000). Getting a life: The emergence of the life story in adolescence. *Psychological Bulletin*, 126(5), 748–769.
- Hagmaier, T., & Abele, A. E. (2012). The multidimensionality of calling: Conceptualization, measurement and a bicultural perspective. *Journal of Vocational Behavior*, 81(1), 39–51.
- Hall, D. T., & Chandler, D. E. (2005). Psychological success: When the career is a calling. *Journal of Organizational Behavior*, 26(2), 155–176.
- Hartung, P. J. (2013). Career as story: Making the narrative turn. In *Handbook of vocational psychology* (pp. 49-68). Routledge.
- Harzer, C., & Ruch, W. (2012). When the job is a calling: The role of applying one's signature strengths at work. *The Journal of Positive Psychology*, 7(5), 362–371.
- Hayes, A. F. (2013). *An introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. New York: Guilford Press.
- 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. (2010). Positive adolescent career development: The role of intrinsic and extrinsic work values. *The Career Development Quarterly*, 58(3), 276–287.
- Hirschi, A., & Herrmann, A. (2012). Vocational Identity Achievement as a Mediator of Presence of Calling and Life Satisfaction. *Journal of Career Assessment*, 20(3), 309–321.

- Hirschi, A., & Herrmann, A. (2013). Calling and career preparation: Investigating developmental patterns and temporal precedence. *Journal of Vocational Behavior*, 83(1), 51–60.
- Hirschi, A., Niles, S. G., & Akos, P. (2011). Engagement in adolescent career preparation: Social support, personality and the development of choice decidedness and congruence. *Journal of Adolescence*, 34(1), 173–182.
- Holland, J. L. (1997). *Making vocational choices: A theory of vocational personalities and work environments* (3rd ed.). Odessa, FL, US: Psychological Assessment Resources.
- Hunter, I., Dik, B. J., & Banning, J. H. (2010). College students' perceptions of calling in work and life: A qualitative analysis. *Journal of Vocational Behavior*, 76(2), 178–186.
- Jones, S. M., Shulman, L. J., Richards, J. E., & Ludman, E. J. (2020). Mechanisms for the testing effect on patient-reported outcomes. *Contemporary clinical trials communications*, 18, 100554.
- Junghaenel, D. U., Schwartz, J. E., & Broderick, J. E. (2008). Differential efficacy of written emotional disclosure for subgroups of fibromyalgia patients. *British Journal of Health Psychology*, 13(1), 57-60.
- Kashdan, T. B., & McKnight, P. E. (2009). Origins of purpose in life: Refining our understanding of a life well lived. *Psychological Topics*, 18(2), 303–313.
- Kernis, M. H., & Goldman, B. M. (2006). A multicomponent conceptualization of authenticity: Theory and research. *Advances in experimental social psychology*, 38, 283-357.
- Keyes, C. L.M. (2011). Authentic purpose: The spiritual infrastructure of life. *Journal of Management, Spirituality & Religion*, 8(4), 281–297
- King, L. A. (2001). The health benefits of writing about life goals. *Personality and Social Psychology Bulletin*, 27(7), 798-807.

- Koen, J., Klehe, U. C., & Van Vianen, A. E. M. (2012). Training career adaptability to facilitate a successful school-to-work transition. *Journal of Vocational Behavior, 81*, 395-408.
- Kristof-Brown, A. L., Zimmerman, R. D., & Johnson, E. C. (2005). Consequences OF INDIVIDUALS'FIT at work: A meta-analysis OF person–job, person–organization, person–group, and person–supervisor fit. *Personnel psychology, 58*(2), 281-342.
- Kroger, J., & Marcia, J. E. (2011). The identity statuses: Origins, meanings, and interpretations. In S. J. Schwartz, K. Luyckx, & V. L. Vignoles (Eds.), *Handbook of Identity Theory and Research* (pp. 31–53).
- Kuhn, T.S. (1996). *The structure of scientific revolutions* (3rd ed.). Chicago, IL: University of Chicago Press.
- Langher, V., Nannini, V., & Caputo, A. (2018). What do university or graduate students need to make the cut? A meta-analysis on career intervention effectiveness. *Journal of Educational, Cultural and Psychological Studies (ECPS Journal), 0*(17), 21–43.
- Leon, A. C., Davis, L. L., & Kraemer, H. C. (2011). The role and interpretation of pilot studies in clinical research. *Journal of psychiatric research, 45*(5), 626-629.
- LeViness, P., Bershad, C., & Gorman, K. (2017). *The association for university and college counseling center directors annual survey*. Retrieved from <https://www.aucccd.org/assets/2017%20aucccd%20survey-public-apr17.pdf>
- Little, R. J. (1988). A test of missing completely at random for multivariate data with missing values. *Journal of the American statistical Association, 83*(404), 1198-1202.
- Luyckx, K., Goossens, L., & Soenens, B. (2006). A developmental contextual perspective on identity construction in emerging adulthood: Change dynamics in commitment formation and commitment evaluation. *Developmental Psychology, 42*(2), 366–380.

- Luyckx, K., Schwartz, S. J., Berzonsky, M. D., Soenens, B., Vansteenkiste, M., Smits, I., & Goossens, L. (2008). Capturing ruminative exploration: Extending the four-dimensional model of identity formation in late adolescence. *Journal of Research in Personality*, 42(1), 58–82.
- Marcia, J. E. (1966). Development and validation of ego-identity status. *Journal of Personality and Social Psychology*, 3(5), 551–558.
- Maggiori, C., Johnston, C. S., Krings, F., Massoudi, K., & Rossier, J. (2013). The role of career adaptability and work conditions on general and professional well-being. *Journal of Vocational Behavior*, 83, 437–449.
- Maggiori, C., Rossier, J., & Savickas, M. L. (2015). Career Adapt-Abilities Scale–Short Form (CAAS-SF) Construction and Validation. *Journal of Career Assessment*, 25(2), 312–325.
- Maree, J. G. (2016). Career construction counseling with a mid-career Black man. *The Career Development Quarterly*, 64(1), 20–34.
- Maree, J. G. (2018). Promoting career development in the early years of a person's life through self- and career construction counselling (using an integrated, qualitative + quantitative approach): A case study. *Early Child Development and Care*, 188(4), 437–451.
- Martin, C. L., & Ruble, D. (2004). Children's search for gender cues: Cognitive perspectives on gender development. *Current Directions in Psychological Science*, 13(2), 67–70.
- Maslow, A. H. (1943). A theory of human motivation. *Psychological Review*, 50, 370–96.
- Maslow, A. H. (1968). *Toward a psychology of being (2nd ed.)*. New York: D. Van Nostrand.
- May, Rollo. *Love and Will*. New York: W.W. Norton & Co., 1969.
- McAdams, D. P. (1985). Power, intimacy, and the life story. *Homewood, IL: Dorsey*, 11–32.

- McAdams, D. P. (2001). The psychology of life stories. *Review of General Psychology*, 5(2), 100–122.
- McAdams, D. P. (2005). Studying lives in time: A narrative approach. *Advances in Life Course Research*, 10, 237-258.
- McAdams, D. P. (2008). Personal narratives and the life story. *Handbook of Personality: Theory and Research*, 3, 242-262.
- McLean, K. C., & Pratt, M. W. (2006). Life's little (and big) lessons: Identity statuses and meaning-making in the turning point narratives of emerging adults. *Developmental Psychology*, 42(4), 714–722.
- McMahon, M., & Watson, M. (2010). Story telling: Moving from thin stories to thick and rich stories. In K. Maree (Ed.), *Career counselling: Methods that work* (pp. 53–63). Cape Town, South Africa: Juta.
- Meeus, W., Iedema, J., Helsen, M., & Vollebergh, W. (1999). Patterns of adolescent identity development: Review of literature and longitudinal analysis. *Developmental Review*, 19(4), 419–461.
- Ménard, J., & Brunet, L. (2011). Authenticity and well-being in the workplace: A mediation model. *Journal of Managerial Psychology*, 26(4), 331-346.
- Mercurio, Z. (2017). *The invisible leader: Transform your life, work, and organization with the power of authentic purpose*. Charleston, SC: Advantage.
- Murray, E. J., Lamnin, A. D., & Carver, C. S. (1989). Emotional expression in written essays and psychotherapy. *Journal of Social and Clinical Psychology*, 8(4), 414-429.
- Murray, E. J., & Segal, D. L. (1994). Emotional processing in vocal and written expression of feelings about traumatic experiences. *Journal of Traumatic Stress*, 7(3), 391-405.

- Muthén, L. K., & Muthén, B. (2019). Mplus. *The comprehensive modelling program for applied researchers: user's guide*, 5.
- National Association of Colleges and Employers (NACE). (2018). *Career Services Benchmark Survey 2017-2018*. Retrieved from <https://www.naceweb.org/store/2018/career-services-benchmark-report/>
- National Career Development Association. (2004). National career development guidelines (NCDG) framework.
- Nota, L., Santilli, S., & Soresi, S. (2016). A life-design-based online career intervention for early adolescents: Description and initial analysis. *The Career Development Quarterly*, 64(1), 4–19.
- Oliver, L. W., & Spokane, A. R. (1988). Career-intervention outcome: What contributes to client gain?. *Journal of Counseling Psychology*, 35(4), 447.
- Oyserman, D., Elmore, K., & Smith, G. (2012). Self, self-concept, and identity. In *Handbook of Self and Identity* (2nd ed., pp. 69–104). The Guilford Press.
- Park, C. L. (2010). Making sense of the meaning literature: an integrative review of meaning making and its effects on adjustment to stressful life events. *Psychological Bulletin*, 136(2), 257.
- Park, C. L. (2012). Religious and spiritual aspects of meaning in the context of work life. In C.P. Hill & B.J. Dik (Eds.) *Psychology of Religion and Workplace Spirituality*. (pp. 25–42) (1st ed.) Charlotte: Information Age Publishing.
- Parsons, F. (1909). *Choosing a Vocation*. Houghton Mifflin.

- Pastorino, E., Dunham, R. M., Kidwell, J., Bacho, R., & Lamborn, S. D. (1997). Domain-specific gender comparisons in identity development among college youth: Ideology and relationships. *Adolescence; Roslyn Heights*, 32(127), 559–577.
- Pennebaker, J. W., & Beall, S. K. (1986). Confronting a traumatic event: toward an understanding of inhibition and disease. *Journal of abnormal psychology*, 95(3), 274.
- Pennebaker, J. W., & Chung, C. K. (2011). *Expressive writing: Connections to physical and mental health*. In H. S. Friedman (Ed.), *Oxford library of psychology. The Oxford handbook of health psychology* (p. 417–437). Oxford University Press.
- Pennebaker, J. W., Hughes, C. F., & O’Heeron, R. C. (1987). The psychophysiology of confession: Linking inhibitory and psychosomatic processes. *Journal of Personality and Social Psychology*, 52, 781–793.
- Peterson, C., Park, N., Hall, N., & Seligman, M. E. P. (2009). Zest and work. *Journal of Organizational Behavior*, 30(2), 161–172.
- Petrie, K. J., Booth, R., Pennebaker, J. W., Davison, K. P., & Thomas, M. (1995). Disclosure of trauma and immune response to hepatitis B vaccination program. *Journal of Consulting and Clinical Psychology*, 63, 787–792.
- Praskova, A., Hood, M., & Creed, P. A. (2014). Testing a calling model of psychological career success in Australian young adults: A longitudinal study. *Journal of Vocational Behavior*, 85(1), 125–135.
- Pratt, M. G., & Ashforth, B. E. (2003). Fostering meaningfulness in working and at work. *Positive organizational scholarship: Foundations of a new discipline*, 309, 327.
- Preacher, K. J., & Coffman, D. L. (2006, May). Computing power and minimum sample size for RMSEA [Computer software]. Available from <http://quantpsy.org/>.

- Pryor, R. G. L., & Bright, J. E. H. (2003). The chaos theory of careers. *Australian Journal of Career Development, 12*, 12–20.
- Pryor, R. G. L., & Bright, J. E. H. (2006). Counseling chaos: Techniques for practitioners. *Journal of Employment Counseling, 43*, 2–16.
- Rehm, M. (1990). Vocation as personal calling: A question for education. *The Journal of Educational Thought (JET)/Revue de la Pensée Educative, 114*-125.
- Reker, G. T., & Wong, P. T. (1988). Aging as an individual process: Toward a theory of personal meaning.
- Rimé, B. (2009). Emotion elicits the social sharing of emotion: Theory and empirical review. *Emotion review, 1*(1), 60-85.
- Rimé, B., Mesquita, B., Boca, S., & Philippot, P. (1991). Beyond the emotional event: Six studies on the social sharing of emotion. *Cognition & Emotion, 5*(5-6), 435-465.
- Rockind, C. L. (2011). Living on purpose: Why purpose matters and how to find it(Unpublished masters thesis). Masters of Applied Positive Psychology Program. The University of Pennsylvania, Philadelphia, PA
- Rogers, C. R. (1946). Significant aspects of client-centered therapy. *American Psychologist, 1*, 415-422.
- Rosenthal, R. (1979). The file drawer problem and tolerance for null results. *Psychological bulletin, 86*(3), 638.
- Rosso, B. D., Dekas, K. H., & Wrzesniewski, A. (2010). On the meaning of work: A theoretical integration and review. *Research in Organizational Behavior, 30*, 91–127.

- Rothmann, S., & Hamukang'andu, L. (2013). Callings, work role fit, psychological meaningfulness and work engagement among teachers in Zambia. *South African Journal of Education, 33*(2).
- Ryff, C. D. (1989a). Beyond Ponce de Leon and life satisfaction: New directions in quest of successful ageing. *International Journal of Behavioral Development, 12* (1), 35-55.
- Santilli, S., Nota, L., & Hartung, P. J. (2019). Efficacy of a group career construction intervention with early adolescent youth. *Journal of Vocational Behavior, 111*, 49-58.
- Saratoga Institute. (2000). *Human capital benchmarking report*. Santa Clara, CA: Author.
- Savickas, M. L. (2005). The theory and practice of career construction. In S. D. Brown, & R. W. Lent (Eds.), *Career development and counseling* (pp. 42-70). New Jersey: Wiley.
- Savickas, M. L. (2012). Life design: A paradigm for career intervention in the 21st century. *Journal of Counseling & Development, 90*(1), 13–19.
- Savickas, M. L. (2013). Career construction theory and practice. In S. D. Brown & R. W. Lent (Eds.), *Career development and counseling: Putting theory and research to work* (pp. 147–183).
- Savickas, M. L., Nota, L., Rossier, J., Dauwalder, J.-P., Duarte, M. E., Guichard, J., ... 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.
- 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.

- Savickas, M. L., & Hartung, P. J. (2012). *My career story: An autobiographical workbook for life-career success*. Kent, OH. www.vocopher.com. (translated versions in Brazilian, German, Italian, and Portuguese).
- Schwartz, S. J., Beyers, W., Luyckx, K., Soenens, B., Zamboanga, B. L., Forthun, L. F., ... Waterman, A. S. (2011). Examining the light and dark sides of emerging adults' identity: A study of identity status differences in positive and negative psychosocial functioning. *Journal of Youth and Adolescence*, 40(7), 839–859.
- Schwartz, S. J., Zamboanga, B. L., Luyckx, K., Meca, A., & Ritchie, R. (2014). Identity in emerging adulthood. *Emerging Adulthood*, 1(2), 96–113.
- Schwartz, S. J., Zamboanga, B. L., Weisskirch, R. S., & Rodriguez, L. (2009). The relationships of personal and ethnic identity exploration to indices of adaptive and maladaptive psychosocial functioning. *International Journal of Behavioral Development*, 33(2), 131–144.
- Singer, J. A. (2004). Narrative identity and meaning making across the adult lifespan: An introduction. *Journal of personality*, 72(3), 437-460.
- Smyth, J., True, N., & Souto, J. (2001). Effects of writing about traumatic experiences: The necessity for narrative structuring. *Journal of Social and Clinical Psychology*, 20(2), 161-172.
- Spokane, A. R., Meir, E. I., & Catalano, M. (2000). Person–environment congruence and Holland's theory: A review and reconsideration. *Journal of Vocational Behavior*, 57(2), 137–187.
- Steger, M. F. (2012). Experiencing meaning in life: Optimal functioning at the nexus of

- spirituality, psychopathology, and well-being. In P. T. P. Wong (Ed.), *The human quest for meaning* (2nd ed., pp. 165–184). New York, NY: Routledge.
- Steger, M.F., Pickering, N. K., Shin, J. Y., & Dik, B. J. (2010). Calling in work: Secular or sacred? *Journal of Career Assessment*, 18(1), 82–96.
- Steger, Michael F., & Dik, B. J. (2009). *Work as meaning: Individual and organizational benefits of engaging in meaningful work*.
- Steger, Michael F., Oishi, S., & Kashdan, T. B. (2009). Meaning in life across the life span: Levels and correlates of meaning in life from emerging adulthood to older adulthood. *The Journal of Positive Psychology*, 4(1), 43–52.
- 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.
- Stets, J. E., & Burke, P. J. (2000). Identity theory and social identity theory. *Social Psychology Quarterly*, 63(3), 224–237.
- Super, D. E. (1990). A life-span, life-space approach to career development.
- Thorne, A., & McLean, K. C. (2003). Telling traumatic events in adolescence: A study of master narrative positioning. *Connecting culture and memory: The development of an autobiographical self*, 169-185.
- U.S. Department of Labor, Bureau of Labor Statistics. (2014). Librarians. *News Release*. Retrieved from <https://www.bls.gov/news.release/pdf/nlsoy.pdf>
- Verquer, M. L., Beehr, T. A., & Wagner, S. H. (2003). A meta-analysis of relations between person–organization fit and work attitudes. *Journal of Vocational Behavior*, 63(3), 473–489.

- Waterman, A. S. (2007). Doing well: The relationship of identity status to three conceptions of well-being. *Identity*, 7(4), 289–307.
- Waters, T. E., & Fivush, R. (2015). Relations between narrative coherence, identity, and psychological well-being in emerging adulthood. *Journal of Personality*, 83(4), 441-451.
- Waters, T. E. (2014). Relations between the functions of autobiographical memory and psychological wellbeing. *Memory*, 22(3), 265-275.
- 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., Goodrich Mitts, N., & 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.
- Whitbourne, S. K. (1987). Personality development in adulthood and old age: Relationships among identity style, health, and well-being. In *Annual Review of Gerontology and Geriatrics* (Vol. 7, pp. 189–216). New York, NY, US: Springer Publishing Co.
- White, M. J., Marsh, D. R., Dik, B. J., & Beseler, C. L. (2018). Prevalence and demographic differences in work as a calling in the United States: Results from a nationally representative sample. *Journal of Career Assessment*.
- Wilson, A., & Ross, M. (2003). The identity function of autobiographical memory: Time is on our side. *Memory*, 11(2), 137-149.

- Wrzesniewski, A., McCauley, C., Rozin, P., & Schwartz, B. (1997). Jobs, careers, and callings: People's relations to their work. *Journal of Research in Personality*, 31(1), 21–33.
- Zilcha-Mano, S. (2020). Toward personalized psychotherapy: The importance of the trait-like/state-like distinction for understanding therapeutic change. *American Psychologist*.
- Zhang, C., Dik, B. J., Wei, J., & Zhang, J. (2015). Work as a calling in China: A qualitative study of Chinese college students. *Journal of Career Assessment*, 23(2), 236–249.