DISSERTATION

REFLECTING ON VOCATION: A RANDOMIZED TRIAL OF ONLINE EXPRESSIVE WRITING CAREER INTERVENTIONS

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ABSTRACT

REFLECTING ON VOCATION: A RANDOMIZED TRIAL OF ONLINE EXPRESSIVE WRITING CAREER INTERVENTIONS

Though recent research on calling has connected the construct to a variety of positive career-related and general well-being outcomes, there remains a scarcity of empirically tested interventions to increase calling. The present study sought to address this gap in the literature by experimentally testing three writing interventions based on Pennebaker's expressive writing paradigm (Pennebaker & Beall, 1986) with the intention of increasing participants' sense of calling and other career-related outcomes. These interventions included articulating one's general career goals (i.e., the career goals condition), anticipating potential future career obstacles (i.e., the adaptability condition), and reflecting on one's life purpose as it relates to one's future career (i.e., the purpose condition). This study also used text analysis software to explore whether the linguistic content of participant journal entries was predictive of study outcomes. While many results were non-significant, participants in the purpose condition reported greater presence of calling and vocational identity at post-intervention than participants in other conditions. Furthermore, use of causation words was predictive of presence of calling and career adaptability while use of negative emotion words was predictive of career confidence. Results appeared to support previous career development theory that has suggested that narrative-based reflections on one's personal passions, motivations, and purpose, as well as the prosocial impact of one's career, are beneficial. Limitations and considerations of how to improve these interventions in future studies are also discussed.

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CHAPTER I

Introduction

Research on a calling as a construct in vocational psychology has grown quickly in the last decade, with more than 300 studies being published on the subject. Until relatively recently, the topic of calling had been mainly confined to the fields of religion, history, and philosophy. It appears that many individuals experience or are seeking ways to find work that facilitates greater meaning in life, rather than viewing work as simply a means of obtaining income (Steger & Dik, 2009). In fact, a population estimate suggests that roughly 63% of adults in the United States feel that it is at least "moderately true" that they experience the presence of a calling (White, 2018). Most of the research on calling has tied living a calling to positive outcomes (e.g., Wrzesniewski, McCauley, Rozin, & Schwartz, 1997; Peterson, Park, Hall, & Seligman, 2009; Duffy, Douglass, Autin, & Allan, 2016), although potential negative outcomes have also recently been explored (e.g., Creed, Rogers, Praskova, & Searle, 2014; Duffy, Douglass, & Autin, 2015). Though research on outcomes associated with calling remains ongoing, it appears clear that efforts to increase and facilitate meaningful work and calling are pursuits worthy of further study. Surprisingly, though, there are relatively few existing studies that have empirically tested interventions geared toward developing or increasing one's sense of calling. The present study sought to address this gap in the literature by experimentally testing a writing intervention based on Pennebaker's expressive writing paradigm (Pennebaker & Beall, 1986) with the intention of increasing participants' sense of calling and other career-related outcomes.

Conceptualizing Calling

As may be expected, much of the early research on calling has sought to define the term and distinguish it from other related constructs in vocational psychology, management, and organizational behavior. Importantly, though it has been noted that calling is a construct that may be experienced in many roles in life (e.g., Hunter, Dik, & Banning, 2010), the vast majority of research has explored calling as it relates to one's career. In their paper outlining a theoretical model for calling, Duffy, Dik, et al. (2018) highlighted that early research has generally lacked consistency in how calling is conceptualized. Despite this, several themes appear consistent across prominent definitions of calling.

Several conceptual articles have arrived at varying definitions of calling. In their review of calling literature, Thompson and Bunderson (2019) identified 14 existing definitions of the construct, including those proposed by Wrzesniewski et al. (1997), Hall and Chandler (2005), Bunderson and Thompson (2009), Dik and Duffy (2009), Elangovan, Pinder, and McLean (2010), and Dobrow and Tosti-Kharas (2011), among others. Bunderson and Thompson (2009) note how individual definitions of calling vary in the degree to which they can be described as "neoclassical" vs. "modern." Neoclassical definitions of calling tend to retain notions of a calling as being meaningful and purposeful, while also emphasizing an external summons with that calling being used in a prosocial manner, which seems to reflect the way that calling has been understood historically. In this way, calling can be thought of as something to be discovered and carried out with a sense of duty (Thompson & Bunderson, 2019). Alternatively, modern definitions tend to emphasize calling as internally driven with a focus on self-actualization or personal fulfilment (Bunderson & Thompson, 2009; Thompson & Bunderson, 2019). For example, a popular definition of calling outlined by Dik and Duffy (2009) describes calling as

containing three core elements: an external or "transcendent summons," a source of purpose/meaning, and a prosocial motivation. Dik and Duffy's emphasis on one's calling coming from an external source and having a prosocial motivation appears to fit with a neoclassical understanding of the term. Conversely, Dobrow and Tosti-Kharas (2011) define calling as "a consuming, meaningful passion people experience toward a domain" (p. 1005). This broader definition appears to be characteristic of a modern approach (Dik & Shimizu, 2019). To integrate neoclassical and modern definitions of calling, Thompson and Bunderson (2019) proposed the concept of a "transcendent calling" which simultaneously emphasizes the "inner requiredness of passion an enjoyment and the outer requiredness of duty and destiny" (p. 421).

Another way that researchers have sought to clarify a definition of calling is by asking participants directly about how they define the construct. There has been considerable overlap in these qualitative studies, with many participants identifying their calling as having purpose and meaning, containing a guiding force, being based on a sense of personal "fit" with a job, and using one's work in a prosocial manner (Oates, Hall, & Anderson, 2005; French & Domene, 2010; Hunter et al., 2010; Hernandez, Foley, & Beitin, 2011; Duffy, Foley, et al., 2012; Hagmaier & Abele, 2012; Bott, et al., 2017). Notably, Zhang, Dik, Wei, and Zhang (2015) found similar findings in a sample of Chinese college students. However, responses from this sample tended to place more emphasis on a sense of duty to others.

Although there is no clear consensus on how a calling is defined, Duffy, Dik, et al. (2018) summarize existing definitions by describing calling as a multidimensional construct that is "an approach to work that reflects seeking a sense of overall purpose and meaning" and as being used to "help others or contribute to the common good, motivated by an external or internal summons" (p. 426). Importantly, these authors also noted that outcomes associated with calling

have tended to be consistent across studies, regardless of the specific definition being used. The transcendent summons or guiding force dimension of calling makes it distinct from a similar career-related construct: meaningful work, which does not include an emphasis on an external summons or guiding force in deriving meaning from work (Rosso, Dekas, & Wrzesniewski, 2010).

Many scholars agree that it is important to differentiate between perceiving a calling vs. having an opportunity to live that calling (e.g., Duffy, Bott, Allan, Torrey, & Dik, 2012). Although perceiving and living a calling do appear to be correlated, living a calling has been shown to be the better predictor of relevant outcomes (Duffy, Allan, Autin, & Bott, 2013; Duffy, Douglass, et al., 2016; Duffy, Torrey, England, & Tebbe, 2017). For this reason, in their paper outlining Work as Calling Theory (WCT), the first theoretical model of calling and work, Duffy, Dik, et al. (2018) situate living a calling as the central variable in their model, serving as a link between perceiving a calling and related outcomes.

Calling and Associated Outcomes

A large portion of research on calling has been correlational, exploring variables that may connect perceiving a calling to living a calling such as work meaning (e.g., Duffy, Allan, Autin, & Douglass, 2014; Duffy, Douglass, et al., 2016), career commitment (e.g., Duffy, Allan, et al., 2014; Rawat & Nadavulakere, 2015; Duffy, Douglass, et al., 2016), and access to opportunity (e.g., Duffy, Allan, et al., 2013; Duffy & Autin, 2013; Duffy, Bott, Allan, & Autin, 2015), among others. However, understanding relevant criterion variables associated with calling helps frame the importance of the construct and clarify potential benefits and costs associated with the pursuit of a calling.

Broadly speaking, cross-sectional research has consistently shown calling to be a good predictor of various work-related and overall well-being criterion variables. With regard to work, research has demonstrated that a sense of calling correlates positively with many important work-related constructs such as job satisfaction (e.g., Davidson & Caddell, 1994; Wrzesniewski et al., 1997; Duffy, Allan, Bott, & Dik, 2014) and career and organizational commitment (e.g., Cardador, Dane, & Pratt, 2011; Duffy, Bott, Allan, Torrey, & Dik, 2012; Duffy, Allan, et al., 2013). Many studies finding correlational links between calling and career-related constructs have occurred among undergraduate and graduate student samples, suggesting that calling is relevant for these populations as well. Cross-sectional studies of college student populations have found links between calling and aspects of career maturity such as career preparation (planning and decidedness; e.g., Hirschi & Hermann, 2013), vocational identity (Hirschi & Hermann, 2012), vocational self-clarity (e.g., Hirschi & Hermann, 2013), and career decidedness (e.g., Duffy & Sedlacek, 2007). Calling has also been linked to academic satisfaction for university students with career decision self-efficacy and work hope fully mediating this relationship (Duffy, Allan, & Dik, 2011). In a longitudinal study of Australian young adults by Praskova, Hood, and Creed (2014), initial measures of calling predicted work effort, career strategies (i.e., work involvement, seeking career guidance, creating career opportunities, and self-presentation), and career adaptability at a six-month follow-up. These studies suggest that higher rates of calling are associated with healthy career development.

Furthermore, calling appears to be linked to measures of broader well-being. Numerous cross-sectional studies have found moderate positive correlations between presence of calling and life meaning (e.g., Steger, Pickering, Shin, & Dik, 2010; Duffy & Sedlacek, 2010; Duffy, Manuel, Borges, & Bott, 2011; Duffy, Allan, & Bott, 2012) and life satisfaction (e.g., Davidson

& Caddell, 1994; Wrzesniewski et al., 1997; Peterson et al., 2009: Duffy, Allan, et al., 2014). It appears clear that those who experience a calling tend to be more satisfied and experience greater levels of meaning than those who do not.

Recent cross-sectional research has highlighted how living a calling in particular (vs. simply perceiving a calling) serves as a key pathway to positive outcomes. Many recent studies have found clear links between living a calling and job satisfaction (e.g., Allan, Tebbe, Duffy, & Autin, 2015; Chen, May, Schwoerer, & Augelli, 2016; Douglass, Duffy, & Autin, 2016; Kim, Praskova, & Lee, 2016; Lazar, Davidovitch, & Coren, 2016; Xie, Xia, Xin, & Zhou, 2016). Other recent studies have even shown links between living a calling and job performance (e.g., Lee, Chen, & Chang, 2016; Park, Sohn, & Ha, 2016). Additionally, in a cross-sectional study of working adults, Duffy, England, Douglass, Autin, and Allan (2017) found that those who were motivated to pursue a calling showed increased life meaning and living a calling, with positive indirect effects on life satisfaction. Other studies have found similar findings among working adults (e.g., Duffy, Allan, Autin, and Bott, 2013) and those in retirement (Duffy, Torrey, England, and Tebbe, 2017). It seems to be that living a calling is a key mediator between perceiving a calling and various positive outcomes. Gazica and Spector (2015) further highlighted the importance of living a calling in predicting positive outcomes. In this cross-sectional study, comparisons were made between academics who reported having "answered callings" (i.e., having a calling and living that calling), those who reported having "unanswered callings" (i.e., having a calling but not living that calling), and those who reported having no calling at all. These researchers found that those with answered callings reported better job attitudes, job satisfaction, and lower withdrawal intentions. Additionally, those who reported having no calling reported better life, job, and health-related outcomes compared to those who

reported having unanswered callings. This study suggests that living a calling may not only be important in predicting positive outcomes, but it may also be particularly detrimental when individuals with a calling are not able to live out that calling.

Similar to findings by Gazica and Spector (2015), not all studies suggest that calling is unequivocally associated with only positive outcomes. Other studies have suggested that having a calling may have a "dark side" (Duffy & Dik, 2013), predicting negative work-related outcomes. For example, some evidence suggests that calling, may be associated with workaholism (e.g., Duffy, Douglass, et al., 2015; Keller, Spurk, Baumeler, & Hirschi, 2016), which is linked to negative outcomes such as lower job satisfaction and poor work performance (Clark, Michel, Zhdanova, Pui, & Baltes, 2016). Other studies have found calling to be related to burnout (Creed et al., 2014) and organizational exploitation (Bunderson & Thompson, 2009). While calling may lead to various positive outcomes, an increased devotion to work consistent with calling may cause individuals to work long hours and experience negative outcomes that can be associated with this. Duffy, Dik, et al. (2018) proposed that individual personality factors and psychological climate (i.e., an individual's evaluation of their work environment; James et al., 2008) may moderate these negative effects. However, more research is needed in this area.

Despite findings regarding the potential "dark side" of calling, there is ample evidence that those who have a calling are also likely to experience many work-related and overall well-being benefits, though more research is needed to establish causal relationships between these constructs. Regardless of the directionality of these relationships, it is clear that it is important to understand what factors lead an individual to discern and foster a calling. This may help spur research toward interventions designed to develop and increase awareness around one's calling.

Discerning a Calling

Although most of the research on calling has examined correlates and consequences of calling, some research has explored the antecedents that facilitate the identification and discernment of a calling. Some scholars have explored various sources of calling and examined to what degree these varying sources matter with regard to the lived experience of calling. One manner in which source of calling has been investigated is through qualitative study in which participants have simply been asked to cite the source or sources of their calling. Studies of undergraduate students (Hunter et al., 2010) and working adults (Bunderson & Thompson, 2009; Duffy, Foley et al., 2012; Hernandez et al., 2011; White, Olivas, & Dik, 2016) have shown that callings seem to come from many different sources. These sources include a Higher Power, family, friends, personal interests and goals, values, altruistic desires, negative life experiences, and a sense of destiny, among others. Other studies have examined source of calling by providing participants with three response options: internal, external, or both internal and external. A recent study of adults in the United States who endorsed having the presence of a calling found that an external source of calling was the least cited (9.56%), while an internal source (43.71%) and a combination of internal and external source of calling (46.73%) were relatively equally reported (White, 2018).

Duffy, Allan, Bott, and Dik (2014) took the question of the importance of source of calling a step further by exploring whether one's source of calling resulted in different outcomes. Examining three sources of calling (external summons, destiny, and perfect fit), these researchers found that the source of one's calling did not moderate the relationship between living a calling and job satisfaction. However, they did find that source of calling moderated the relationship between living a calling and life satisfaction, though they noted that participants endorsing high

levels of living a calling experienced similar levels of life satisfaction regardless of the source of that calling. In contrast to Duffy et al., using three different sources of calling (internal, external, and both internal and external), White (2018) found that source of calling did moderate the relationship between living a calling and job satisfaction. For those citing an internal source or a combination of both internal and external, a positive relationship was found between living a calling and job satisfaction. However, for those citing an external source of calling, living a calling did not predict job satisfaction.

While many sources of calling have been identified, the matter of how one arrives at a calling is a complicated one. In her review of the literature on calling, Wrzesniewski (2012) highlighted the existing tension found in the literature regarding whether callings are discovered or if they are created and developed over time. In one view, callings can be thought of as preexisting entities that are either communicated from a transcendent source or discovered based on defining traits within a person. In the second view, callings are thought of as an approach toward one's work that an individual creates or enacts to derive greater meaning. As Wrzesniewski explains, these differences have important implications for practical applications in discovering a calling. For example, depending on one's view, a calling may best be "discovered" through activities such as self-reflection, prayer, or gathering data about oneself. Conversely, it may be best "developed" in a dynamic process of crafting one's job activities.

It appears that previous scholarship on calling has acknowledged the tension regarding the process of arriving at a calling described by Wrzesniewski (2012), indicating that both approaches may simultaneously be true. While Dik and Duffy (2009) highlighted that callings can arise from a transcendent or external summons, they also described ways in which a calling can be dynamic: callings can vary in their degree (i.e., one does not simply have or not have a

calling) and they can be conceptualized as an ongoing process rather than state of being that one discovers or achieves at one point in time. Furthermore, individuals often report having more than one calling, some of which may go unanswered (Berg, Grant, & Johnson, 2010).

The dynamic nature of calling has also been demonstrated in longitudinal studies. In a study of undergraduate students, Bott and Duffy (2015) found that meaning in life and actively engaging in personal growth (i.e., engaging in self-improvement) predicted greater levels of calling at a six-month follow-up. In another longitudinal study, Dobrow (2013) observed young musicians for seven years to examine how callings changed over time. Interestingly, this research showed that those with greater behavioral involvement and higher social comfort at the beginning of the study experienced higher levels of calling initially, but experienced a decline in calling over time. More recently, Dalla Rosa, Vianello, and Anselmi (2019) followed Italian university students for a period of two years. They tested whether calling was a consequence of positive experiences in a domain (which they referred to as the "a posteriori hypothesis"), an antecedent to career development (the "a priori hypothesis"), or a combination of both of these experiences (the "reciprocal hypothesis"). In examining various models, these researchers found that the best fitting model included clarity of professional identity, engagement in learning activities, and social support as being predictive of calling, which was consistent with the a posteriori hypothesis. These studies support assertions made by previous researchers (e.g., Dik & Duffy, 2009) that callings are dynamic and evolve over time. It also suggests that callings may wane over time.

Qualitative studies of those who experience a calling also provide rich information about what factors may spur the process of developing a calling. For example, French and Domene (2010) interviewed seven White, Christian, female college students. These participants reported

receiving support from others, early work experience, and personal attributes shaped the development of their callings. Another study of seven Roman Catholics found that having a relationship with God, being shaped by difficult circumstances, feeling supported by others, and utilizing prayer were all instrumental in developing their callings (Hernandez et al., 2011). Duffy, Foley, et al. (2012) explicitly asked eight counseling psychologists about the process of discerning a calling. Similar to previous studies, they found that the process of discerning a calling was indirect and contained numerous struggles (e.g., trying out different jobs and areas of academic study that ultimately did not result in a satisfying career path). These participants also cited self-reflection and receiving support from others as important. Consistent with theories proposed regarding the nature of calling (e.g., Wrzesniewski, 2002; Dik & Duffy, 2009; Berg et al., 2010), these qualitative studies suggest that calling develops over time and factors such as self-reflection, social support, and even trial-and-error are part of the process. It appears clear that callings are dynamic and can increase or decrease over time based on a variety of factors. Evidence from longitudinal and qualitative studies suggests that interventions that focus on facilitating self-reflection regarding the meaning of one's work experiences, regardless of whether those experiences were judged to be successful or unsuccessful, and interventions allowing for support from others in the discernment process would be beneficial in promoting the development of a calling.

Interventions to Increase Calling

Given the positive outcomes associated with calling and what has been learned regarding antecedents to calling, pursuing interventions that may help individuals discover or develop a calling is warranted. However, there are currently only a small handful of studies that have tested interventions with the intention of increasing one's sense of calling specifically. In testing a

career intervention workshop (which consisted of individual career assessments, psychoeducation on person-environment fit, group activities to promote social support, and written exercises to integrate material) for college students, Dik and Steger (2008) investigated whether or not counselor self-disclosure and workshops that included calling and vocation-infused interventions (i.e., activities that were adapted to encourage participants to think about their own work in terms of a calling) were more effective than a standard person-environment fit workshop. These researchers found that both the calling-infused and standard workshops improved career decision-making self-efficacy (CDMSE), which is the confidence that one has in their ability to successfully navigate the career decision-making process (Betz, Klein, & Taylor, 1996). Furthermore, main effects on CDMSE were found for participants whose workshops included counselor self-disclosure. Interestingly, those in the calling and vocation-infused workshop that included counselor self-disclosure reported greater levels of meaning in life compared to other groups. However, contrary to what was hypothesized, the calling and vocation-infused workshop on its own did not increase meaning in life compared to the standard workshop format.

Subsequent studies of calling-related interventions have adopted a variety of approaches to facilitating calling and related work outcomes. In a pilot study of adolescents, Dik, Steger, Gibson, and Peisner (2011) tested a career intervention comprised of an interview of a parent, values card sort, and board game that encouraged participants to think about the social function of occupations. Those in the intervention group showed improved career development attitudes compared to a control group, though there were no differences observed for a sense of purpose, calling, or prosocial attitudes. A more recent study used a religiously-tailored career intervention presented to students in a group format at a Christian university (Dik, Scholljegerdes, Ahn, &

Shim, 2015). Though positive effects were shown for a sense of calling, meaning in life, and career-decision self-efficacy, there was only mixed support for the religiously-tailored intervention being more efficacious than the standard format. Most recently, Harzer and Ruch (2016) found that a web-based strengths intervention was successful in increasing a sense of calling and global life satisfaction at a 6-month follow-up. Aside from these studies, no research has investigated interventions with the intent of increasing a sense of calling in participants. Though the study measured meaningful work and not calling, Allan, Duffy, and Collisson (2017) found that manipulating task significance of work increased individuals' sense of meaningfulness in their work.

The aforementioned studies are ways in which researchers have attempted to increase calling and meaningful work through intervention. In addition to these studies, theoretical papers have made recommendations for increasing calling in the context of career counseling. These recommendations have applications for empirical study as well. Dik, Duffy, and Eldridge (2009) proposed strategies to increase calling based on the three components of calling included in Dik and Duffy's (2009) definition of the construct: transcendent summons, connections between work and meaning, and prosocial motivations for work. Regarding transcendent summons, Dik et al. (2009) recommended that career counselors assess the importance of religion and spirituality in their clients' lives and, if judged to be relevant, seek to incorporate these concepts along with active discernment (i.e., actively considering potential career paths rather than passively waiting for direction from a Higher Power). To promote meaning derived from work, they recommended that career counselors help clients draw connections between their work activities and their overall meaning in life. Lastly, regarding prosocial motivations for work, they recommended that career counselors help clients explore their unique skills and abilities and

consider how these may fit with the needs of society. Similar to strategies recommended by Dik et al., authors of subsequent reviews (e.g., Dik & Duffy, 2015; Dik, Reed, Shimizu, Marsh, & Morse, 2019) have recommended a number of interventions to increase the presence of calling including encouraging active discernment, connecting one's unique gifts with work opportunities, considering how one's gifts may match the needs of society, and aligning career goals with life goals. Dik, Canning, and Marsh (2019) explored how several of these interventions might be employed in various cultural contexts, adding that providing culturally relevant role models may also be helpful in encouraging career counseling clients foster a calling. These studies provide theory-driven practical interventions to increase calling but need further study to test their effectiveness.

Given the relatively small number of intervention studies that exist in the literature on calling, Duffy, Dik, et al. (2018) called for more interventions to help discover ways that career counselors can help clients clarify and develop their calling. Importantly, literature on career choice interventions more broadly provides useful insights about what interventions have been found to be useful in facilitating important career-related constructs that may correlate with a sense of calling. Whiston, Li, Mitts, and Wright (2017) replicated and extended Brown and Krane's (2000) meta-analysis of career choice interventions. Whiston et al. examined studies that explored interventions targeted toward several outcomes such as vocational identity, career decision-making self-efficacy, and career maturity, among others. An average effect size of 0.352 was found across outcomes, similar to Brown and Krane, with career decision-making self-efficacy having the largest average effect size (0.446). With regard to "critical ingredients" (i.e., separate components of career interventions) that facilitate positive career decision-making self-efficacy outcomes, Whiston et al. found that counselor support, values clarification, and

psychoeducation interventions were important predictors. They also noted that, of the five critical ingredients predicting career maturity previously found by Brown and Krane, there was the most support for workbooks or written exercises (ES = 0.421). It appears that interventions that include support from a counselor, a means of clarifying values as they relate to work, and education regarding the importance of congruence with one's work all help facilitate career decision-making self-efficacy and other important career-related outcomes. Importantly, having the opportunity to engage in written reflection concerning one's career also appears to be an important predictor of career maturity (Brown and Krane) and career decision-making self-efficacy (Whiston et al.). Considering interventions that focus on written exercises may be important.

Writing and Psychological Interventions

While the use of workbooks and other written exercises have been applied to career choice interventions specifically (Whiston et al., 2017), the use of written intervention in facilitating positive outcomes has a significant history in clinical psychology as well. Early research on expressive writing arose from interest in long-term effects of traumatic experiences. Given ideas that suggested choosing not to disclose a traumatic experience could have negative health implications, researchers sought to understand whether expressive writing could help participants reduce the negative effects of traumatic experiences (Pennebaker & Chung, 2007). In an initial study, Pennebaker and Beall (1986) found that those who emotionally disclosed about traumatic experiences had fewer doctor visits, fewer reports of aspirin usage, and more positive evaluations of the effect of the experiment in subsequent months compared to those who wrote about superficial topics. Though later studies have varied the methodology of this original study in a variety of ways, generally in these studies participants are assigned to a writing group

(e.g., an intervention group who are told to write about their "very deepest thoughts and feeling about the most traumatic experience" of their lives vs. a control group who are told to write about superficial topics) and instructed to write on consecutive days (generally between one and five days), writing 15-30 minutes each day (Pennebaker & Chung, 2007).

With hundreds of studies in existence (Pennebaker & Chung, 2007), subsequent research on expressive writing has applied the intervention and examined many different outcomes. For example, researchers have found other positive physical health-related outcomes connected to expressive writing such as improved immune functioning (e.g., Petrie, Booth, Pennebaker, & Davison, 1995), blood pressure levels (Pennebaker, Hughes, & O'Heeron, 1987), and fatigue and pain levels (Broderick, Junghaenel, & Schwartz, 2005; Junghaenel, Schwartz, & Broderick, 2008). Similarly, various positive behavioral outcomes have been found to be connected to expressive writing. For example, college students who wrote about emotional topics showed improvements in grades following the study (e.g., Lumley & Provenzano, 2003). Similarly, those who engaged in expressive writing more quickly found employment after losing their jobs (Spera, Buhrfeind, & Pennebaker, 1994). Clearly, writing about trauma in one's past has many positive effects.

Though expressive writing about traumatic events certainly has positive effects, other writing topics have been explored as a means of clinical intervention. King (2001) adapted Pennebaker's writing paradigm by including four intervention groups in her study of undergraduate students: those who wrote about traumatic life events, those who wrote about their "best possible future self," those who wrote about both of these topics, and a control group who wrote about a nonemotional topic. As was predicted, writing about one's best possible future self was found to be less upsetting to participants than writing about traumatic events and was also

associated with increased subjective well-being three weeks after the intervention. Importantly, though, similar to writing about traumatic events, those who wrote about their best possible future selves demonstrated fewer health center visits compared to controls in the five months after the intervention. King suggested that writing about self-regulatory topics (such as one's best possible future self) may be associated with similar outcomes as those who wrote about traumatic experiences without the emotional cost of revisiting traumatic experiences. Similar to this research, Burton and King (2004) found that writing about "intensely positive experiences" resulted in significantly better mood and fewer health center visits compared to controls. There appears to be some evidence that the topic of written disclosure need not focus on traumatic experiences and that participants may also experience benefits when writing about the future rather than only about the past.

As expressive writing has been found to be an effective intervention in promoting physical and mental health, researchers have attempted to develop theories as to why this method works. Smyth and Pennebaker (2008) noted that many theories have been proposed and that there is probably not a single theory that explains all of the findings. However, a few theories appear to be more prevalent in the literature than others. Pennebaker and Beall's (1986) original study was guided by the theory of inhibition: people who experience trauma experience more negative physical and mental health effects if they "inhibit" their emotional expression regarding the trauma than those who express their emotions. Indeed, these researchers found that those who just wrote about the facts of the trauma, avoiding emotional expression, did not experience improvement in symptoms. Based on this and similar studies, it has been theorized that expressive writing is effective because it allows for the release of inhibited emotions and habituation to emotional stimuli (Pennebaker & Chung, 2007).

One way that researchers have attempted to explore whether elicited emotions help explain the effectiveness of expressive writing methods is by examining the journal entries of participants. Theoretically, the increased use of emotion-related words in participants' journal entries should be predictive of improved symptoms. Relatively recent technological advancements have allowed researchers to employ the use of text analysis software, which allows for a rapid assessment of words used in participant responses. One such software, Linguistic Inquiry and Word Count (LIWC) was developed by having groups of judges evaluate the degree to which many English words or word stems fit into categories such as positive emotion words and negative emotion words (Pennebaker, Francis, & Booth, 2001). Later revisions of this software have yielded as many as 80 "psychologically meaningful" categories (Tausczik & Pennebaker, 2010). Using this software, Pennebaker, Mayne, and Francis (1997) re-analyzed the data of six early expressive writing studies exploring the use of positive and negative emotion words. Their analysis showed that the more participants used positive emotion words, the better the health-related outcomes. Interestingly, however, a curvilinear relationship was observed for the use of negative emotion words. Individuals who used a moderate amount of negative emotion words in their writing about traumatic events were observed to have the best health-related outcomes. Pennebaker and Chung (2007) speculated that these findings may support the notion that using too few negative emotion words is representative of inhibiting emotions or alexithymia, leading to poor coping. Conversely, a high use of negative emotion words may be characteristic of those with high levels of negative affect, excessively ruminating on negative events without gaining closure by resolving negative emotions related to the trauma.

Rather than focusing only on the emotional content of one's writing, another theory that has been used to explain findings of expressive writing studies is conceptualizing these writings

as a narrative exercise for the individual. Pennebaker and Chung (2007) posited that translating one's experience into language allows information to be processed in a conceptual manner: an individual can assign structure and meaning to their experience, allowing events to be assimilated. This, in turn, is thought to lead to positive effects that are not otherwise seen when someone does not completely process their experience. In this way, an individual who writes about a traumatic event allows himself or herself to assign meaning to the situation and integrate the event into a broader narrative. In support of this perspective, Smyth, True, and Souto (2001) found that those instructed to write about their traumatic experience(s) in a coherent narrative showed improved health outcomes, whereas those told to list their thoughts about their trauma in a fragmented format did not differ from the control group on any outcome measure. Writing in a coherent story appears to be important in shaping outcomes.

Similar to studying the use of emotion words, text analysis software has been used to help understand whether the benefits of expressive writing interventions are explained by the use of personal narrative. One way to examine this is to measure the use of causation words (e.g., "because, effect, hence") and insight words (e.g., "think, know, consider;" Tausczik & Pennebaker, 2010). Graybeal, Seagal, and Pennebaker (2002) had judges review essays of participants who used high rates of causation and insight words, finding that these judges observed these essays to involve the construction of a narrative. The use of causation and insight words in writing about a traumatic experience has been associated with positive health outcomes (e.g., Pennebaker, Mayne, & Francis, 1997; Boals & Klein, 2005). This may be because individuals using causation and insight words report drops in intrusive thinking about negative events (Klein & Boals, 2001).

Pennebaker and Chung (2007) note that constructing a narrative often leads individuals to change perspectives on a situation. Individuals who exhibit changes in perspective may be better able to integrate a negative event into their life story. Campbell and Pennebaker (2003) analyzed three expressive writing studies. They found that increased oscillation in use of first-person singular pronouns (e.g., I and me) and other personal pronouns (e.g., we, you, and they) across writing sessions was predictive of greater health outcomes compared to those whose rates of personal pronoun use remained unchanged across journal entries. That is, those who showed a greater range of pronoun use appeared to take on a variety of narrative perspectives, improving outcomes. It appears that expressive writing may be particularly effective when a variety of perspectives are taken in constructing a narrative. Pennebaker and Chung propose that expressive writing interventions may be effective because they cause an individual to correct one's "life course." Expressive writing forces individuals to take a step back and shift their perspective, taking stock of how past events have shaped one's current self and how they may clarify paths moving forward.

Both emotion and narrative-focused theories help explain reasons why expressive writing interventions are effective. Increased use of positive emotion words and moderate use of negative emotion words appear to be indicative of individuals who have effectively assimilated past experiences into beliefs about themselves and the world, reducing the potential of avoidance and negative rumination that are associated with poor health outcomes. Additionally, the increased use of causation and insight words and variable use of personal pronouns are characteristic of individuals who have attributed the causes of personal events in an adaptive manner (e.g., avoiding unduly attributing too much blame to oneself for a traumatic event) and considered a variety of perspectives, integrating events into a broader life narrative. While these

theories differ in some ways, both perspectives appear to suggest that writing can be thought of as a meaning-making exercise. Writing may allow individuals to put previous experiences in context, weaving events into one's life-story. This, in turn, may lead to a greater sense of meaning and purpose, which is beneficial for one's well-being (e.g., Ryff & Singer, 1998).

Writing and Fostering a Calling

As has been noted, more research is needed to explore potential interventions that may facilitate a calling and it appears that interventions that encourage reflection on the meaning of one's work experiences and social support may be beneficial. Research on expressive writing demonstrates that this method is an effective way to help integrate negative experiences into one's life story. Writing about one's desired future also appears to be beneficial (King, 2001). Writing appears to predict positive outcomes because it leads individuals to engage in meaning-making, integrating emotional and cognitive aspects of one's experience into a coherent narrative. The experience of a vocational calling is also characterized by a high degree of purpose and meaning (Duffy et al., 2018). If writing is an exercise in meaning-making, it stands to reason that written interventions targeted at creating a coherent narrative out of one's work life may also increase one's sense of calling by way of increased perceived meaning regarding one's work.

The concept of creating a narrative out of one's experiences has roots in other paradigms within psychology. In the field of personality psychology, McAdams (2008) reviewed the concept of narrative identity in describing personality development. According to McAdams, rather than focusing only on static traits, as is common in the field, narrative approaches explore each individual's "life-story," conceptualizing identity as an attempt to integrate one's experiences into an ongoing narrative. McAdams (1985) proposed a "life-story model" of

identity, arguing that each individual construes their life as an evolving story as a means of reconstructing the past and forecasting the future, which provides one with a sense of unity and purpose. McAdams (2005) argues that life stories are used to integrate one's sense of self and that we often solidify our stories by sharing them with others. They are also dynamic, prone to changing as autobiographical memory is unstable. This view of personality development appears to take into account the ways in which we interact and adapt to our social environment by creating and living out a narrative that is based on our life experiences and circumstances.

Savickas (2004) noted how McAdams' ideas informed career construction theory (CCT). Similar to McAdams' conceptualization of personality development as an ongoing construction of one's life-story, Savickas noted that CCT approaches career development through the lens of social constructionism and narrative perspective. He stated that CCT asserts that "individuals construct their careers by imposing meaning on their vocational behavior and occupational experiences" (p. 43). While previous theories of career development have focused on traits that exist in varying degrees between individuals (e.g., Holland, 1997), CCT views individuals as storied (Del Corso & Rehfuss, 2011). Building on previous personality theory, individuals are understood based on their unique vocational personality, the ways in which they flexibly navigate career obstacles (i.e., career adaptability), and life themes that guide behavior (Savickas, 2013). In this way, narrative approaches such as CCT help individuals understand themselves as "actors, agents, and authors" within their own career journey and life-story. As "authors" of their career, individuals take stock of their previous work experiences and career obstacles, considering how these experiences may inform their future career decisions (Del Corso & Rehfuss, 2011). Ideas proposed by McAdams and Savickas highlight the importance of

the narrative perspective in forming meaning regarding one's life experiences, including those related to work.

Research on meaning-making has also been applied to explain how individuals may experience meaning in their work. According to Park (2010), individuals all develop global meaning (i.e., an overarching meaning system that provides structure to one's life), which is comprised of beliefs, goals, and a subjective sense of meaning. Park explains that global beliefs are assumptions that individuals have about themselves and the world, making it so that one's sense of identity is tied up in one's global beliefs. When individuals encounter an experience that does not fit with their beliefs, they may assimilate the new experience into their previous beliefs or accommodate their beliefs accordingly. Global goals incorporate one's values and are ideal states or outcomes that one works toward. A subjective sense of meaning refers to the degree to which one feels they experience "meaningfulness" in their activities and can include the degree to which one feels their life is connected to greater causes.

Park (2012) connects the concept of global meaning to work life by proposing that meaningful work is comprised of the degree to which an individual experiences congruence between their global meaning (i.e., beliefs, goals, values, and sense of meaning) and work experiences. According to Park, global meaning can be applied to a number of work circumstances: in choosing one's career path, in the way one conducts herself or himself on the job (e.g., affecting one's motivation to do their work), in managing work-related stress and coping with setbacks, and in maintaining a sense of well-being in one's work environment.

Park (2012) notes how a vocational calling may help individuals apply global meaning to various work circumstances while incorporating one's sense of spirituality and religiosity. By approaching one's career as a calling, individuals may derive more meaning from their work

activities as they are able to connect their work to a broader purpose. Dik and Duffy (2015) expanded on this idea by arguing that the development of a calling is a key way in which individuals can cultivate meaning in their work. They argued that individuals may be more likely to experience a calling and meaning from work if they are able to connect their work to their own life's purpose and to a larger prosocial purpose.

Theories proposed by McAdams, Savickas, and Park all highlight that human beings are meaning-making creatures. Evaluating one's life experiences and current decision-making through a narrative lens provides a framework for individuals to derive meaning from their previous experiences and chart a course into the future. With regard to one's work life, calling appears to mesh with these concepts well. Calling can be thought of as a way of organizing knowledge gained through work experiences. This knowledge may include information about one's unique interests, values, developed skills, and workplace preferences, which is integrated into a narrative that informs future decision-making, providing a sense of meaning and purpose, in part, by connecting this narrative to an understanding of how to serve the "greater good." In this sense, the development of a calling can be thought of as a way that individuals can understand their life-story. Given Pennebaker and Chung's (2007) proposition that expressive writing interventions work by helping individuals construct a meaningful narrative to organize life experiences, it may be that encouraging written reflection regarding one's work life can increase meaningfulness and a sense of calling regarding one's career path.

The Present Study

In summary, research on calling has grown substantially in the past decade, with calling tied to a variety of desirable career and overall well-being constructs. However, only a small handful of studies have tested interventions with the intent of increasing one's sense of calling.

Longitudinal and qualitative studies have highlighted how a calling develops from a combination of social support, self-reflection, and meaning derived from one's work-related history, even if that history involves high amounts of trial-and-error experimentation. Career intervention studies have generally been found to be effective, with promising evidence that interventions involving written exercises are particularly beneficial. More broadly, expressive writing interventions have a substantial history in psychology, suggesting individuals experience a wide range of physical and mental health benefits when writing about traumatic events in their past or imagining a desired future. Theories attempting to explain this phenomenon have proposed that emotional expression and the creation of a narrative are key mechanisms underlying this process. Theories from personality psychology, career development, and literature on meaning also provide support for the notion that creating a narrative out of one's experiences can help individuals arrive to a sense of meaning and improved well-being in their lives. Importantly, the concept of vocational calling is one obvious way that individuals create and experience a sense of narrative and meaning in their work lives. Given the literature highlighting the effectiveness of written intervention in career development and other realms of psychology, it appears worth exploring whether written exercises targeted at creating a narrative by reflecting on one's work experiences can help individuals arrive to an increased sense of calling.

The present study aimed to leverage these ideas by testing several expressive writing intervention exercises with the intent of increasing participants' sense of calling. Specifically, this study used a sample of undergraduate students to explore whether or not articulating one's general career goals, considering ways that one could adaptively navigate potential future career obstacles, or reflecting on one's life purpose as it relates to one's future career helped individuals increase their sense of calling, meaning in life, career adaptability, career confidence, and

vocational identity. Furthermore, using text analysis software, this study aimed to examine the degree to which rates of positive and negative emotion words, insight and causation words, and variability in personal pronoun use across journal entries explained study outcomes.

A few research questions guided this study, providing the opportunity to test several hypotheses. The research questions and hypotheses for this study were as follows:

1. Can expressive writing interventions, namely articulating one's general career goals, anticipating potential future career obstacles, or reflecting on one's life purpose as it relates to one's future career, help individuals increase their sense of calling, meaning in life, career adaptability, career confidence, and vocational identity?

   Hypothesis 1: It was hypothesized that those completing written reflections on one's general career goals (i.e., the career goals condition) would show significant increases in their sense of calling, meaning in life, career adaptability, career confidence, and vocational identity compared to the control group. This hypothesis was based on King's (2001) findings that those who wrote about their "best possible future self" showed improved subjective well-being and health-related outcomes compared to controls.

   Hypothesis 2: It was hypothesized that those completing written reflections anticipating potential future career obstacles (i.e., the adaptability condition) would show significant increases in their sense of calling, meaning in life, career adaptability, career confidence, and vocational identity compared to the control group. This hypothesis was based on research that has highlighted the efficacy of written interventions to broadly increase positive career-related constructs (e.g., Brown & Krane, 2000; Whiston et al. 2017). Additionally, Super's Life-Span,

Life-Space Theory (e.g., Super & Knasel, 1981) and CCT (Savickas, 2013) propose that fostering aspects of career adaptability (e.g., concern, control, curiosity, and confidence) reflects increasing adaptability and leads to positive outcomes. As such, it is expected that those in the adaptability condition would experience improved outcomes to the extent that the writing prompts for this condition address these aspects of career adaptability.

Hypothesis 3: It was hypothesized that those completing written reflections on their purpose as it relates to their career (i.e., the purpose condition) would show significant increases in their sense of calling, meaning in life, career adaptability, career confidence, and vocational identity compared to the control group. This hypothesis was based on studies that have linked calling, purpose, and meaning in life (e.g., Dik & Steger, 2008; Bott & Duffy, 2015). Increases in calling are also believed to be associated with increases in career adaptability (e.g., Praskova, Hood, & Creed, 2014), vocational identity (e.g., Hirschi & Hermann, 2012), and career decision-making self-efficacy (e.g., Dik & Steger, 2008; Duffy, Allan, Dik, 2011).

Hypothesis 4: It was hypothesized that those completing written reflections focused on anticipating potential future career obstacles (i.e., the adaptability condition) would show a significantly greater increase on a measure of career adaptability compared to other intervention groups. This hypothesis was informed by a conceptualization of career adaptability as an ability to flexibly navigate career obstacles (Savickas, 2013). Participants in this condition were encouraged to imagine future career obstacles and consider how they may draw on strengths

and supports to navigate these obstacles. It was anticipated that this reflection would address components of career adaptability.

Hypothesis 5: It was hypothesized that those reflecting on their purpose as it relates to their career (i.e., the purpose condition) would show significantly greater increases on measures of meaning in life compared to other intervention groups. This hypothesis was based on a conceptualization of meaning in life as being understood as highly related to the degree to which one feels they have a purpose (Steger, Frazier, Oishi, & Kaler, 2006). It was thought that encouraging participants to reflect on their life's purpose as it relates to their career would significantly increase overall meaning in life.

2. Does the linguistic content of one's written responses predict participant reports of sense of calling, meaning in life, career adaptability, career confidence, and vocational identity?

   Hypothesis 6: It was hypothesized that the use of positive emotion words in written responses would predict sense of calling, meaning in life, career adaptability, career confidence, and vocational identity such that higher rates of positive emotion words would be associated with higher levels of these outcome variables. This hypothesis was based on the research of Pennebaker, Mayne, and Francis (1997) who found that the more participants used positive emotion words in their expressive writing, the better the health-related outcomes.

   Hypothesis 7: It was hypothesized that the use of negative emotion words in written responses would predict sense of calling, meaning in life, career adaptability, career confidence, and vocational identity such that higher rates of

negative emotion words would be associated with lower levels of these outcome variables. This hypothesis was based on the research of Pennebaker, Mayne, and Francis (1997) who found that high levels of participant negative emotion word use in expressive writing was associated with poorer health-related outcomes.

Hypothesis 8: It was hypothesized that the use of insight and causation words in written responses would predict sense of calling, meaning in life, career adaptability, career confidence, and vocational identity such that higher rates of causation and insight words would be associated with higher levels of these outcome variables. This hypothesis was based on similar findings in other studies examining health behavior outcomes (Pennebaker, Mayne, & Francis, 1997; Boals & Klein, 2005).

Hypothesis 9: It was hypothesized that the use of personal pronouns in written responses would predict sense of calling, meaning in life, career adaptability, career confidence, and vocational identity such that greater variability between first-person singular and other personal pronoun usage across writing sessions would be associated with higher levels of these outcome variables. This hypothesis mirrored the findings of Campbell and Pennebaker (2003) who found that increased oscillation in use of first-person singular pronouns (e.g., I and me) and other personal pronouns (e.g., we, you, and they) across writing sessions was predictive of greater health outcomes compared to those whose rates of personal pronoun use remained unchanged across journal entries.

3. Does the linguistic content of one's written responses moderate the relationship between writing interventions and sense of calling, meaning in life, career adaptability, career confidence, and vocational identity?

    Hypothesis 10: It was hypothesized that the use of positive emotion words would increase the effectiveness of interventions compared to those in the control group. Specifically, it was hypothesized that the use of positive emotion words would moderate the effects of the intervention groups on study outcomes (sense of calling, meaning in life, career adaptability, career confidence, and vocational identity), such that those who were in an intervention group and used a high level of positive emotion words would experience the highest level of study outcomes compared to others in the study. This was based on aforementioned hypotheses regarding main effects for the intervention groups and positive emotion words used.

    Hypothesis 11: It was hypothesized that the use of negative emotion words would decrease the effectiveness of interventions compared to those in the control group. Specifically, it was hypothesized that the use of negative emotion words would moderate the effects of the intervention groups on study outcomes (sense of calling, meaning in life, career adaptability, career confidence, and vocational identity), such that those who were in an intervention group and used a low level of negative emotion words would experience the highest level of study outcomes compared to others in the study. This was based on aforementioned hypotheses regarding main effects for the intervention groups and negative emotion words used.

Hypothesis 12: It was hypothesized that the use of insight and causation words would increase the effectiveness of interventions compared to those in the control group. Specifically, it was hypothesized that the use of insight and causation words would moderate the effects of the intervention groups on study outcomes (sense of calling, meaning in life, career adaptability, career confidence, and vocational identity), such that those who were in an intervention group and used higher rates of insight and causation words would experience the highest level of study outcomes compared to others in the study. This was based on aforementioned hypotheses regarding main effects for the intervention groups and insight and causation words used.

Hypothesis 13: It was hypothesized that the use of personal pronouns would increase the effectiveness of interventions compared to those in the control group. Specifically, it was hypothesized that the use of personal pronouns would moderate the effects of the intervention groups on study outcomes (sense of calling, meaning in life, career adaptability, career confidence, and vocational identity), such that those who were in an intervention group and exhibited greater variability between first-person singular and other personal pronoun usage across writing sessions would experience the highest level of study outcomes compared to others in the study. This was based on aforementioned hypotheses regarding main effects for the intervention groups and the use of personal pronouns.

CHAPTER II

Method

Participants

Participants for this study included 230 undergraduate students participating in introductory psychology courses at a large western United States public university. Participants who volunteered for the study were compensated for their participation by receiving research credit for their introductory psychology course. The sample included 74.9% females and 25.1% males, with an average age of 19.84 years (*SD* = 3.69). Most participants self-identified as White (70.5%); 6% identified as Asian or Pacific Islander, 10.9% as Hispanic or Central/South American, 1.1% as African American or African, and 11.5% identified as Multiracial. Regarding religious affiliation, the sample consisted of 46.4% identifying as Christian, 1.1% as Muslim, 1.6% as Jewish, 3.8% as Atheist, 12% as Agnostic, 26.2% as non-religious, and 8.7% as "Other." Most participants in the study were freshman (58.5%), with the sample also including sophomore students (24.6%), junior students (10.4%), senior students (4.9%), as well as students in their fifth year or higher (1.9%). The average self-reported grade-point average (GPA) of the sample was 3.18 (*SD* = .67). The sample was also represented by a wide variety of academic majors, with 18.6% reporting themselves as a psychology major.

Procedure

Participants recruited to participate in this study were provided an online survey using Qualtrics, a web-based survey software program. After electronically signing an informed consent document that described the study, outlined potential risks and benefits of participation, and assured confidentiality, all participants completed an initial online survey measuring

demographic characteristics of participants, presence and search for calling, presence and search for meaning in life, career adaptability, career confidence, and vocational identity.

After completing the initial survey, participants were randomly assigned to one of four groups. Similar to the "best possible future self" condition in King's (2001) study, the first group, the career goals condition, was instructed to imagine an ideal future career in which they had worked hard and were accomplishing all of their career goals. They responded to the same prompt across writing sessions, as is common across expressive writing studies (Pennebaker & Chung, 2007). The second group, the adaptability condition, was provided different prompts for each writing session. Drawing on theory that has suggested that career adaptability consists of planful attitudes, exploration of personal and environmental resources, and well-informed decision-making when faced with career choices or transitions (e.g., Savickas, 1997), prompts for this condition were developed with the intent of maximizing participants' perceptions that they would be able to cope effectively with an unexpected career obstacle. As such, these prompts consisted of imagining a future career obstacle and reflecting on individual strengths and social supports that would help one overcome such an obstacle. The third group, the purpose condition, was also provided different prompts for each writing session. These prompts consisted of reflections on what one considers most important in one's life, what one is most passionate about, what one is motivated by, and the impact that one wants to have as it relates to one's career. These prompts were developed with the intent of increasing participants' sense of calling and global meaning (Park, 2012). Reviews of calling (e.g., Dik et al., 2009; Dik & Duffy, 2015) have suggested that one's sense of calling may be enhanced by aligning life goals with career goals and by considering how one's unique gifts may match the needs of society. It was hoped that these prompts would address these components of calling and meaning. The prompts for

both the adaptability and purpose conditions were derived from a workbook that had previously been used in a career counseling context (Dik, 2019). The fourth group served as a control. These participants were instructed to write about their plans for the day in as much detail as possible across all writing sessions, consistent with the methodology used by King. Appendix A contains copies of the writing prompts provided to participants during each writing session.

Consistent with previous methodology (e.g., Pennebaker and Beall, 1986; King, 2001), all participants were instructed to write responses to prompts accessed through the survey on four consecutive days at a specific time of their choosing. Each day, participants were asked to spend 20 uninterrupted minutes writing their journal entries in an environment that was free from distractions. They were instructed to write without worrying about using correct grammar and punctuation and to instead focus on getting their thoughts written down. Participants were unable to advance through this portion of the online survey until the allotted 20 minutes had passed. During the administration of the initial online survey, participants were instructed to create a unique identification number that was used to log in during each subsequent online journal entry session and ensured that responses remained de-identified. After each writing session, participants provided subjective ratings of their essay content.

Immediately after the completion of the fourth journal entry, participants completed a survey measuring search for and presence of calling, search for and presence of meaning in life, career adaptability, career confidence, and vocational identity. Upon completion of this survey, participants received a web-delivered debriefing form and contact information for the primary investigator. Participants were informed that their participation in the study was complete at that time. However, participants were also informed that they were eligible to complete an additional brief follow-up survey in one month and that completion of this survey would result in additional

research credit. Participants completing all four days of the study were provided the additional follow-up online survey one month after the intervention. This survey included the outcome measures provided at pre-intervention and post-intervention. Participants' surveys were de-identified, and all questionnaires were stored in a protected electronic folder. All measures and procedures for this study were approved by Colorado State University's Institutional Review Board (IRB).

Measures

Prior to completing journal entries and at each intervention measurement time point, participants were administered surveys using Qualtrics software which included the following measures of relevant constructs:

Demographic Data. During the pretest administration of the survey, a brief questionnaire was administered to gather demographic information of participants. This questionnaire included items related to age, gender, race, religion, year in school, academic major, and self-reported GPA.

Ratings of Writing Content. Similar to methodology used in King's (2001) study of written interventions, after each writing session, participants provided ratings on a scale from 1 ("not at all") to 5 ("extremely much") of how important (M = 3.03, SD = 1.09), emotional (M = 2.44, SD = .98), difficult (M = 2.18, SD = .91), and motivational/inspiring (M = 2.75, SD = 1.09) the writing experience was.

Search for and Presence of Calling. Prior to the intervention and at each posttest, participants were asked to report the degree to which they were experiencing the search for and presence of a calling. Search for calling and presence of calling were measured using the Brief Calling Scale (BCS; Dik, Eldridge, Steger, & Duffy, 2012). The BCS is a 4-item scale that gives

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.” Five response options are provided for each item on the BCS: not true, mildly true, moderately true, mostly true, or totally true. Scores for the two items measuring presence of calling correlate $r = .81$ with each other and scores on the two items measuring search for calling correlate $r = .75$. Scores on the BCS have also been found to correlate in hypothesized directions with other measures of calling, career decidedness, self-clarity, career decision self-efficacy, meaning in life, intrinsic work motivation, and materialism. Scores on the BCS also appear to have good evidence of convergent and discriminant validity when assessed using a multitrait, multimethod analysis incorporating both self- and informant-report ratings (Dik et al., 2012). In the present study, scores for the two items pertaining to presence of calling were found to be correlated at pretest ($r = .73$, $p < .001$), posttest ($r = .81$, $p < .001$), and at follow-up one month after the intervention ($r = .75$, $p < .001$). Scores for the two items pertaining to search for calling were found to be correlated at pretest ($r = .71$, $p < .001$), posttest ($r = .74$, $p < .001$), and at follow-up one month after the intervention ($r = .71$, $p < .001$) as well.

Meaning in Life. To examine whether the written intervention created effects broader than just career-related outcomes, participants’ sense of meaning in their lives was also measured. The Meaning in Life Questionnaire (MLQ; Steger et al., 2006) is a 10-item self-report scale consisting of two subscales: Perceived Presence and Search for Meaning in Life. The Perceived Presence subscale consists of five items measuring the degree to which participants perceive their lives as meaningful (e.g., “I understand my life’s meaning”). The Search for Meaning subscale consists of five items measuring the degree to which participants are searching

for meaning in their lives (e.g., "I am looking for something that makes my life feel meaningful"). Seven response options are provided for each item on the MLQ: absolutely untrue, mostly untrue, somewhat untrue, cannot say true or false, somewhat true, mostly true, and absolutely true. Scores on the MLQ have shown good test-retest stability and convergent, discriminant, and structural validity (Steger et al., 2006; Steger, Kashdan, Sullivan, & Lorentz, 2008). Studies have also shown good internal consistency for scores on each subscale on the MLQ, ranging from .80 to .93 (e.g., Steger et al., 2006; Steger & Kashdan, 2007; Steger et al., 2009; Duffy & Raque-Bogdan, 2010). In this sample, scores for the subscales yielded alpha levels ranging from .90-.91 (Perceived Presence) and .92-.93 (Search for Meaning) over the three time points.

Career Adaptability. Career adaptability was measured using the Career Adapt-Abilities Scale-Short Form (CAAS-SF; Maggiori, Rossier, & Savickas, 2015). The CAAS-SF is a 12-item scale designed to measure global career adaptability and consists of four subscales measuring four dimensions of career adaptability: concern, control, curiosity, and confidence. Each item contains five response options ranging from one ("strongly disagree") to five ("strongly agree"). This measure was created as a shortened version to the well-established Career Adapt-Abilities Scale (CAAS; Savickas & Porfeli, 2012) and strong convergence was found between scores on these measures (r = .98). Maggiori et al. (2015) found that scores on the CAAS correlated in expected directions with job satisfaction, work-related stress, and occupational self-efficacy and that these correlations were very similar to correlations found between the CAAS-SF and these variables. In the present study, full-scale reliability for scores on the 12-item scale was found to range from .89-.92 across the three time points.

Career Confidence. Career confidence was measured using the Confidence subscale from the Career Transitions Inventory (CTI; Heppner, 1991). The CTI is a 40-item scale measuring "psychological resources and potential barriers an individual may experience during a career transition (Heppner, 1998)." The Confidence subscale measures confidence in one's ability to successfully perform career planning activities necessary to make a career transition (e.g., "In dealing with aspects of this career transition, I am unsure whether I can handle it" and "I feel confident in my ability to do well in this career transition process."). In the present study, given that the survey was administered to university students who were likely to not be in the midst of a career transition, an expanded definition of career transition was provided. Students were encouraged to think of their transition from being a student to work after graduation as a career transition and to respond to CTI items accordingly. Response options for each item ranged from one ("strongly disagree") to six ("strongly agree") with higher scores indicating greater self-confidence. Heppner (1998) found that the alpha coefficient for scores on the CTI was .85. The alpha coefficient for scores on the Confidence subscale was found to be .87 (Fernandez, Fouquereau, & Heppner, 2008). Test-retest reliability was also found to be good over a three-week period (Heppner, Multon, & Johnston, 1994). Heppner et al. also found good evidence of construct validity, finding that the CTI correlated in expected directions with measures of coping and job satisfaction. In this sample, scores for the Confidence subscale were found to have an internal consistency ranging from .83-.85 across the three time points.

Vocational Identity. Vocational identity was measured using the Vocational Identity Scale (Holland, Gottfredson, & Power, 1980). The Vocational Identity Scale is an 18 true-false item scale that includes desirable vocational attitudes, vocational commitment, career beliefs, problem-solving attitudes, and rational career-decision making styles, though it has been

suggested that the scale is best represented by a single factor (Holland, Johnston, & Asama, 1993). Holland et al. (1993) reviewed evidence for the validity and reliability of this scale based on studies from 1980-1992, finding good evidence of construct validity and test-retest reliability. They found positive correlations with other established career development and decision scales. This study also showed test-retest reliability of around .75 across one- and three-month intervals. In the present study, internal consistency for scores on this measure were found to range between .88-.90 across the three time points.

LIWC Measures. All participant journal entries were analyzed using Linguistic Inquiry and Word Count, 2015 Edition (LIWC2015; Pennebaker, Boyd, Jordan, & Blackburn, 2015). LIWC2015 is a computerized text analysis program that reads files containing written text and sorts words into psychologically meaningful categories. Output generated represents the percentage of words in the text that were earlier judged to reflect a particular content category (Tausczik and Pennebaker, 2010). While LIWC was originally developed in 1993 as part of an exploratory study of language and disclosure, the most recent evolution of the software, LIWC2015, provides an expanded dictionary of words, among other capabilities. Pennebaker, Boyd et al. (2015) state that the LIWC2015 dictionary contains almost 6,400 words and word stems and that this dictionary was created through a seven-step collection, statistical and qualitative review, and refinement process. In the present study, each participant's four journal entries were analyzed with LIWC2015 software and output for five separate content categories were generated for each journal entry. The five categories used in this study included positive emotion words (e.g., "love" and "sweet"), negative emotion words (e.g., "hurt" and "nasty"), insight words (e.g., "think" and "know") causation words (e.g., "because" and "effect"), and personal pronouns (e.g., "I" and "we").

Data Analysis

This study aimed to identify whether expressive writing interventions promoted meaningful changes in presence of calling, presence of meaning in life, career adaptability, career confidence, and vocational identity, with a primary interest in examining changes between pre- (Time 1) to post-intervention (Time 2). Furthermore, this study also aimed to understand whether the linguistic content of participants' journal entries (i.e., positive and negative emotion words, insight and causation words, and change in personal pronoun use) was predictive of study outcomes. Third, this study aimed to explore whether the linguistic content of participants' journal entries moderated the relationships between intervention groups and each outcome variable. To examine main effects and interactions of these variables, three-step hierarchical multiple regression analyses were conducted for each outcome variable. Following a procedure recommended by Frazier, Tix, and Barron (2004), pre-intervention scores were entered in step one, followed by main effects of intervention condition and linguistic content in step two, and interactions in step three. Beyond examining changes at post-intervention, analyses were also completed to assess whether there were significant changes across the pre-intervention, post-intervention, and one-month follow-up (Time 3) time points. To examine how the intervention effects changed over these three time points, repeated-measures ANOVAs were conducted within each intervention condition for each outcome variable (i.e., presence of calling, presence of meaning in life, career adaptability, career confidence, and vocational identity) in a manner similar to methodology used by Dik et al. (2015). These analyses were also used to explore group by time interactions to see if patterns of change significantly differed across groups.

CHAPTER III

Results

Analysis of Electronic Journal Entries

Before main analyses for this study were begun, participant journal entries were analyzed using LIWC2015 software and output was generated related to the specific content categories used in this study. Prior to running the text analysis program, guidelines for preparing the written text for analysis were followed based on recommendations provided by Pennebaker, Booth, Boyd, and Francis (2015). Specifically, journal entries were reviewed for misspelled words and abbreviations. For cases in which a word appeared to be misspelled and the intended spelling was easily identified, words were corrected to allow them to be included in the analyses. Similarly, when words were abbreviated and the full form of the word was easily identified, the text was edited to include the full spelling of the word (e.g., "Jan." was changed to "January"). For cases in which misspellings and abbreviations could not be easily identified, the misspelled words and abbreviations were left in their original form to reduce the risk of data being inaccurately coded.

After participants' written journal entries were prepared, the text of each entry was analyzed and percentages of words for each content category were calculated. Next, using methodology employed by Pennebaker et al. (1997), mean and change scores were computed for content categories for each participant across writing days. Based on findings of previous studies of average positive emotion and negative emotion words (e.g., Pennebaker et al.) and average insight and causation words (e.g., Boals & Klein, 2005), mean scores were calculated for these content categories by averaging percentages across writing days. Based on findings by Campbell

and Pennebaker (2003) regarding the link between personal pronoun variability across writing days and outcome variables, change scores were calculated to examine the degree to which participants varied in their use of personal pronouns across writing days. Change scores were based on linear orthogonal polynomials and scores were calculated using the following equation used by Pennebaker et al.: (Day4 x 3) + (Day3 x 1) – (Day2 x 1) – (Day1 x 3).

Attrition

A total of 230 participants provided useable data for the pre-intervention survey (Time 1): 58 participants in the control condition, 54 in the career goals condition, 54 in the adaptability condition, and 64 in the purpose condition. Importantly, a qualitative review of journal entries was completed to ensure that directions in writing prompts were reasonably followed. This review resulted in four participants being deleted from further analyses (two in the career goals condition, one in the adaptability condition, and one in purpose condition) due to study instructions not being followed. Beyond these deleted responses, an additional 43 participants dropped out before the post-intervention survey and were deleted from the analyses. This resulted in a remaining 183 participants who completed all four journal entries and provided useable data for both the pre- and post-intervention survey (Time 2): 48 participants in the control condition, 44 in the career goals condition, 42 in the adaptability condition, and 49 in the purpose condition. Of these 183 participants, 106 provided useable data for the follow-up survey administered one month after the study (Time 3): 32 participants in the control condition, 24 in the career goals condition, 20 in the adaptability condition, and 30 in the purpose condition.

To assess for potential differences between those who completed post-intervention surveys and those who did not, independent samples *t*-tests and chi-square analyses were completed for pre-intervention outcome variables and demographic variables. With regard to

demographic variables, the two groups did not significantly differ with regard to age (t[228] = 1.24, p = .19), year in school (t[228] = 0.49, p = .67), or GPA (t[228] = 1.54, p = .13). Additionally, the two groups did not significantly differ regarding representation of gender (χ^2 [1] = 2.32, p = .18), race (χ^2 [4] = 2.88, p = .33), or religion (χ^2 [5] = 3.74, p = .72). With regard to outcomes at pre-intervention, the two groups did not significantly differ with regard to presence of calling (t[228] = 0.84, p = .38), presence of meaning in life (t[228] = 0.32, p = .74), career adaptability (t[228] = 1.50, p = .14), career confidence (t[228] = 1.01, p = .45), or vocational identity (t[228] = 0.11, p = .85).

Similarly, independent samples t-tests and chi-square analyses were completed to examine potential differences in post-intervention outcomes and demographic variables between those who completed the follow-up survey one month after the intervention and those who did not. With regard to demographic variables, the two groups did not significantly differ in age (t[181] = 1.54, p = .13) or year in school (t[181] = 0.67, p = .50). However, those who completed the follow-up survey at Time 3 (M = 3.27, SD = .59) had significantly higher GPAs than those who did not (M = 3.05, SD = .75), t(181) = 2.18, $p < .05$. The two groups did not significantly differ with regard to representation of gender (χ^2 [1] = 2.57, p = .11), race (χ^2 [4] = 2.50, p = .25), or religion (χ^2 [5] = 3.75, p = .71). With regard to outcomes at post-intervention, the two groups did not significantly differ with regard to presence of calling (t[181] = 0.98, p = .33), presence of meaning in life (t[181] = 0.35, p = .73), career adaptability (t[181] = 1.55, p = .12), career confidence (t[181] = 1.22, p = .23), or vocational identity (t[181] = 0.07, p = .94).

Preliminary Analyses

Prior to investigating the present study's main research questions, several preliminary analyses were conducted. First, all continuous study variables were explored to assess whether

assumptions of univariate normality were met. Tabachnick and Fidell (2013) suggest that skewness and kurtosis should not exceed 3.9 times their standard errors for studies using small to moderate sample sizes. All continuous study variables fell within these acceptable ranges. Furthermore, histograms were visually inspected, and all variables appeared to be approximately normally distributed. Based on these approaches, all continuous variables were treated as normally distributed.

Second, similar to Dik et al. (2015), several one-way analyses of variance (ANOVAs) and chi-square analyses were conducted to evaluate potential differences across intervention conditions with regard to demographic variables and pre-intervention study outcome variables. With regard to demographic variables, chi-square analyses demonstrated that the four intervention groups did not significantly differ with regard to representation of gender (χ^2 [3] = 4.23, p = .23), race (χ^2 [12] = 31.26, p = .40), or religion (χ^2 [15] = 15.32, p = .64). Additionally, ANOVAs demonstrated that the four intervention groups did not significantly differ with regard to age (F[3, 179] = 0.84, p = .47), year in school (F[3, 179] = 1.81, p = .15), and GPA (F[3, 179] = 1.14, p = .33). With regard to pre-intervention outcome variables, ANOVAs demonstrated that the four intervention groups also did not significantly differ with regard to measures of presence of calling (F[3, 179] = 0.64, p = .59), presence of meaning in life (F[3, 179] = 0.41, p = .75), career adaptability (F[3, 179] = 0.17, p = .91), career confidence (F[3, 179] = 0.95, p = .42), and vocational identity (F[3, 179] = 0.73, p = .54). These results suggest that random assignment succeeded in creating four balanced groups.

Third, preliminary analyses were also completed to explore each combination of relationships between outcome variables. Descriptive statistics and intercorrelations for continuous variables are presented in Table 1. Correlations between outcome variables at pre-

intervention, post-intervention, and the follow-up one month later were all significant and in expected directions. Notably, at post-intervention correlations between outcome variables ranged from $r = .26$ ($p < .01$) to $r = .65$ ($p < .01$). Additionally, the highest correlation among linguistic content categories was $r = .53$ ($p < .01$), indicating that although there is shared variance among some of these variables, they represent distinct constructs.

Fourth, though not a part of the main research questions, analyses were conducted to examine whether the linguistic content of participants' journal entries significantly differed across intervention conditions (see Table 2). An ANOVA showed that there was a significant difference between intervention groups with regard to average positive emotion words used, $F(3, 179) = 119.61$, $p < .001$. Post hoc comparisons revealed that the control group ($M = 1.73$, $SD = 0.83$), career goals ($M = 5.32$, $SD = 1.47$), adaptability ($M = 4.61$, $SD = 1.48$), and purpose condition ($M = 6.65$, $SD = 1.42$) nearly all significantly differed from each other (Tukey HSD $p < .001$) with the exception that the career goals and adaptability conditions did not significantly differ from each other (Tukey HSD $p = .07$). Intervention groups also significantly differed with regard to average negative emotion words used, $F(3, 179) = 22.90$, $p < .001$. Post hoc comparisons (using Tukey HSD $p < .05$) revealed that those in the adaptability condition used significantly more negative emotions words ($M = 1.73$, $SD = 0.90$) compared to those in the control ($M = 0.60$, $SD = 0.64$), career goals ($M = 0.78$, $SD = 0.67$), and purpose conditions ($M = 0.78$, $SD = 0.61$). The other groups did not significantly differ from each other. Intervention groups significantly differed with regard to average insight words used, $F(3, 179) = 52.69$, $p < .001$. Post hoc comparisons (using Tukey HSD $p < .05$) revealed that those in the control condition used significantly fewer insight words ($M = 0.76$, $SD = 0.69$) compared to those in the career goals ($M = 3.18$, $SD = 1.84$), adaptability ($M = 3.69$, $SD = 1.13$), and purpose conditions

(M = 3.16, SD = 1.05). The other groups did not significantly differ from each other. Additionally, intervention groups significantly differed with regard to average causation words used, $F(3, 179) = 28.26$, $p < .001$. Post hoc comparisons revealed that the control (M = 1.14, SD = 0.57), career goals (M = 1.57, SD = 0.77), adaptability (M = 2.17, SD = 1.32), and purpose condition (M = 2.66, SD = 0.71) nearly all significantly differed from each other (Tukey HSD $p < .05$) with the exception that the career goals and control conditions did not significantly differ from each other (Tukey HSD $p = .08$). Finally, intervention groups did not significantly differ with regard to change in personal pronoun use across writing days, $F(3, 179) = 2.41$, $p = .07$.

Participant Ratings of Written Content

Similar to King (2001), participants were asked to rate each of their own journal entries in terms of how important, emotional, difficult, and motivational/inspiring they were. ANOVAs were performed to examine whether the four intervention conditions differed with regard to their averages of these ratings. Analyses showed that there was a significant difference between intervention groups with regard to how important participants rated their writing to be, $F(3, 179) = 4.22$, $p < .01$. Post hoc comparisons (using Tukey HSD $p < .05$) revealed that those in the control group (M = 2.58, SD = 1.19) rated their writing as significantly less important than those in the adaptability (M = 3.18, SD = 1.05) and purpose conditions (M = 3.29, SD = 1.06). Those in the career goals condition (M = 3.11, SD = 0.93) did not rate their writing as significantly more important than the control group (Tukey HSD $p = .08$) nor less important than those in the adaptability (Tukey HSD $p = .99$) and purpose conditions (Tukey HSD $p = .84$). The adaptability and purpose conditions also did not significantly differ from each other (Tukey HSD $p = .96$). An ANOVA also demonstrated that there was a significant difference between intervention groups with regard to how emotional participants judged their writing to be, $F(3, 179) = 7.03$, $p < .001$.

Post hoc comparisons (using Tukey HSD $p < .05$) revealed that those in the control condition rated their writing as significantly less emotional ($M = 1.92$, $SD = 0.90$) than those in the career goals ($M = 2.57$, $SD = 0.92$), adaptability ($M = 2.73$, $SD = 1.02$), purpose conditions ($M = 2.57$, $SD = 0.90$). The other groups did not significantly differ from each other. There was a significant difference between intervention groups with regard to how difficult participants rated their writing to be, $F(3, 179) = 4.35$, $p < .01$. Post hoc comparisons (using Tukey HSD $p < .05$) showed those in the career goals condition rated their writing as significantly more difficult ($M = 2.47$, $SD = 0.89$) than those in the control condition ($M = 1.82$, $SD = 0.84$), though not significantly more difficult than those in the adaptability ($M = 2.28$, $SD = 1.00$) and purpose conditions ($M = 2.19$, $SD = 0.84$). All other group differences were non-significant. Finally, there was a significant difference between intervention groups with regard to how motivational/inspiring participants judged their writing to be, $F(3, 179) = 6.87$, $p < .001$. Post hoc comparisons (using Tukey HSD $p < .05$) revealed that those in the control condition rated their writing as significantly less motivational/inspiring ($M = 2.16$, $SD = 1.07$) than those in the career goals ($M = 2.94$, $SD = 1.04$), adaptability ($M = 3.01$, $SD = 1.06$), and purpose conditions ($M = 2.92$, $SD = 1.01$). The other groups did not significantly differ from each other.

Outcomes at Post-Intervention

The primary objectives of the present study were to explore the effects of expressive writing interventions on presence of calling, presence of meaning in life, career adaptability, career confidence, and vocational identity, as well as explore the contribution of the linguistic content of these writings to study outcomes. To explore main effects of and interactions between writing interventions and linguistic content, five separate hierarchical multiple regression analyses were completed following steps for testing moderator effects outlined by Frazier, Tix,

and Barron (2004). Specifically, steps were followed regarding coding categorical variables, centering continuous variables, creating product (i.e., interaction) terms, and structuring the hierarchical multiple regression equation. To represent the effects of intervention condition in the model, dummy coding was selected as the coding strategy. Three dummy-coded variables were generated with the control condition selected as the reference category, which allowed direct comparisons to be made between intervention conditions and the control condition (West, Aiken, & Krull, 1996). Next, all continuous variables in the model were standardized (i.e., converted into *z*-scores), which served two purposes: standardization reduced potential problems associated with multicollinearity and made for easier plotting and interpretation of significant moderator effects (Cohen, Cohen, West, & Aiken, 2003). Each combination of these dummy-coded and standardized continuous variables was multiplied, creating fifteen product terms which represented the interactions between these variables. Finally, these variables were arranged into specified blocks and entered in a hierarchical fashion with post-intervention outcomes as the criterion variable. For each model, standardized pre-intervention outcomes were entered in the first step as a covariate (e.g., Wampold & Freund, 1987; Aiken & West, 1991). Main effects of intervention condition and linguistic content categories were entered in the second step. Finally, interaction terms were entered in the third step (West et al., 1996; Frazier et al., 2004).

Testing Assumptions. Prior to completing analyses, relevant assumptions of hierarchical multiple regression analyses were tested for each hierarchical model. An a priori power analysis estimated a necessary sample size of 178 for a hierarchical multiple regression analysis to detect a medium effect size of f^2 =.15 with a .05 alpha and a power value of .80. The number of participants who completed the pre- and post-intervention surveys (n = 183) exceeded this necessary sample size. The assumptions of linearity, multivariate normality, homoscedasticity,

and multicollinearity were also explored. The assumption of linearity was explored by examining scatterplots between pairs of variables included in the analyses and this assumption appeared to hold for all pairs examined. Next, the assumption of multivariate normality was assessed by examining histograms and Q-Q-Plots of residuals for each model (Nimon, 2012). Examination of these plots confirmed that this assumption was met for each model. Additionally, Cook's distances were examined to ensure that no influential cases were biasing the models (i.e., Cook's distance greater than 1) that were examined (Stevens, 1984). This was not the case for any model. The assumption of homoscedasticity was assessed by examining scatterplots of residuals versus predicted values (Tabachnick & Fidell, 2001) and this assumption was met for all models. Finally, the assumption of multicollinearity was assessed by examining bivariate correlations between all predictor variables in the models, including correlations between predictor variables and their components. For all models, the magnitude of these correlations did not exceed $r = .80$, suggesting that multicollinearity was not a concern for these models (Frazier et al., 2004)

Presence of Calling. A three-step hierarchical multiple regression was conducted with presence of calling at post-intervention as the dependent variable. The standardized pre-intervention measure of presence of calling was entered as a covariate in step one. The three intervention condition dummy-coded variables were entered in step two, along with the standardized linguistic content categories (i.e., average positive emotion word use, average negative emotion word use, average insight word use, average causation word use, and change in personal pronoun use). Interactions between effects of intervention condition and linguistic content categories were entered in step three. Results for this model are displayed in Table 3. First-order effects presented reflect the effects obtained before interactions were added to the equation.

As expected, the hierarchical multiple regression revealed that at step one, pre-intervention scores of presence of calling significantly predicted post-intervention scores, $F(1, 181) = 144.80$, $p < .001$. Examination of the R^2 change statistic showed that pre-intervention scores accounted for 44.4% of the variance in post-intervention scores. Introducing effects of intervention condition and linguistic content categories in step two explained an additional 5.2% of the variance of presence of calling at post-intervention and significantly added to the model, $F(9, 173) = 18.92$, $p < .001$. Finally, the addition of interaction terms in step three explained an additional 6.0% of the variance in post-intervention presence of calling. However, this R^2 change was not significant, suggesting that the introduction of interaction terms did not significantly add to the model. The final model itself was a significant predictor of presence of calling at post-intervention, $F(24, 158) = 8.21$, $p < .001$.

In the final model including all study variables, several effects were found to be significant. In multiple regression models including moderator effects, relationships are interpreted as "conditional" effects: they are each interpreted as an effect of a predictor variable on an outcome variable when other variables in the model are coded as zero. Because continuous predictors were standardized, interpretation of predictors was meaningful as zero represented the average level of these variables (Frazier et al., 2004). In the final model, a conditional effect was found for those in the purpose group ($B = 2.45$, $p < .05$) with a squared semi-partial correlation (sr^2) of .01, suggesting that those in the purpose group reported significantly higher presence of calling at post-intervention relative to controls, but that this only uniquely explained 1% of the total variance in presence of calling at post-intervention. All other effects of intervention condition were non-significant. Increased causation word use was also associated with

significantly greater presence of calling (B = 1.17, p < .01, sr^2 = .02), while other effects of linguistic content were non-significant.

Of the 15 interactions tested in total, significant conditional effects were found for interactions between the adaptability condition and negative emotion word use (B = -1.05, p < .05, sr^2 = .02), the adaptability condition and causation word use (B = -1.18, p < .01, sr^2 = .02), the career goals condition and causation word use (B = -1.15, p < .01, sr^2 = .01), and the purpose condition and causation word use (B = -1.28, p < .01, sr^2 = .01). To understand the form of these interactions, it was necessary to explore them further. To do this, plots for predicted values for presence of calling at post-intervention were generated. Specifically, using a recommended procedure (e.g., Cohen et al., 2003; Frazier et al., 2004), scores for each intervention condition were plotted at low (-1 *SD*), mean, and high (+1 *SD*) values of the continuous predictor. Figure 1 shows the interaction between intervention condition and negative emotion word use in predicting presence of calling at post-intervention. As the plot demonstrates, higher use of negative emotion words tended to be associated with lower presence of calling, but the slope was steeper for those in the adaptability condition. Notably, at low levels of negative emotion word use, those in the control condition appeared to have significantly lower levels of presence of calling while the groups appeared to be more similar at high levels of negative emotion word use. Figure 2 shows the interaction between intervention condition and causation word use. Importantly, participants in the control group appeared to have lower levels of presence of calling when they used fewer causation words. Conversely, outcomes tended to be more similar across intervention conditions when high amounts of causation words were used.

Presence of Meaning in Life. A three-step hierarchical multiple regression was also conducted with presence of meaning in life at post-intervention as the dependent variable (see

Table 4). The hierarchical multiple regression revealed that at step one, pre-intervention scores of presence of meaning in life significantly predicted post-intervention scores, $F(1, 181) = 339.20$, $p < .001$. Examination of the R^2 change statistic showed that pre-intervention scores accounted for 65.2% of the variance in post-intervention scores. Introducing effects of intervention condition and linguistic content categories in step two explained only an additional 1.0% of the variance of presence of meaning in life at post-intervention and did not significantly add to the model, though the overall model remained significant, $F(9, 173) = 37.59$, $p < .001$. Finally, the addition of interaction terms in step three explained an addition 4.6% of the variance in post-intervention presence of meaning in life, which also did not significantly add to the model. Altogether, the final model itself was a significant predictor of presence of meaning in life at post-intervention, $F(24, 158) = 15.94$, $p < .001$. However, in the final model all conditional effects of intervention conditions, linguistic content categories, and their interactions were found to be non-significant, suggesting that these variables were not predictive of meaning in life at post-intervention above and beyond pre-intervention scores.

Career Adaptability. A three-step hierarchical multiple regression was also conducted with career adaptability at post-intervention as the dependent variable (see Table 5). The hierarchical multiple regression revealed that at step one, pre-intervention scores of career adaptability significantly predicted post-intervention scores, as was expected, $F(1, 181) = 149.34$, $p < .001$. Pre-intervention scores accounted for 45.2% of the variance in post-intervention scores. Importantly, introducing effects of intervention condition and linguistic content categories in step two explained only an additional 0.7% of the variance of career adaptability at post-intervention and did not significantly add to the model. The overall model remained significant, $F(9, 173) = 16.33$, $p < .001$. The addition of interaction terms in step three

explained an addition 5.9% of the variance in post-intervention career adaptability, which also did not significantly add to the model. The final model itself was a significant predictor of career adaptability at post-intervention, $F(24, 158) = 7.08$, $p < .001$.

In the final model including all study variables, two effects were found to be significant in predicting career adaptability. While no significant conditional effects were found for study condition, increased causation word use was associated with significantly greater career adaptability ($B = 0.42$, $p < .01$, $sr^2 = .02$). All other effects of linguistic content were non-significant. With regard to interactions, the only significant conditional effect was the interaction between the adaptability condition and causation word use ($B = -0.51$, $p < .01$, $sr^2 = .03$). Specifically, increased use of causation words tended to be associated with higher levels of career adaptability for those in the career goals, purpose, and control conditions. However, for those in the adaptability condition, the slope was negative meaning greater use of causation words tended to be associated with lower career adaptability (see Figure 3).

Career Confidence. Next, a three-step hierarchical multiple regression was also conducted with career confidence at post-intervention as the dependent variable (see Table 6). As expected, pre-intervention scores of career confidence entered in step one significantly predicted post-intervention scores, $F(1, 181) = 183.33$, $p < .001$. Pre-intervention scores accounted for 50.3% of the variance in post-intervention scores. Intervention condition and linguistic content categories entered in step two explained only an additional 1.5% of the variance of career confidence at post-intervention and did not significantly add to the model, though the overall model remained significant, $F(9, 173) = 20.66$, $p < .001$. The addition of interaction terms in step three explained an addition 3.6% of the variance in post-intervention career confidence, which

also did not significantly add to the model. The final model itself was a significant predictor of career confidence at post-intervention, $F(24, 158) = 8.18$, $p < .001$.

In the final model including all study variables, several effects were found to be significant in predicting career confidence. While no significant conditional effects were found for study condition, increased negative emotion word use was associated with significantly greater career confidence ($B = 4.92$, $p < .01$, $sr^2 = .02$). All other effects of linguistic content were non-significant. With regard to interactions, significant conditional effects were found for the interactions between the adaptability condition and negative emotion word use ($B = -4.30$, $p < .05$, $sr^2 = .02$) and between the career goals condition and negative emotion word use ($B = -5.30$, $p < .01$, $sr^2 = .02$). Specifically, for those in the control and purpose conditions, increased use of negative emotion words tended to be associated with higher career confidence. However, for those in the adaptability condition, the slope was less steep, suggesting these individuals tended to experience more similar outcomes regardless of whether their use of negative emotion words was low or high. Additionally, for those in the career goals condition, the slope was negative meaning greater use of negative emotion words tended to be associated with lower career confidence (see Figure 4). All other interactions appeared to be non-significant.

Vocational Identity. Finally, a three-step hierarchical multiple regression was conducted with vocational identity at post-intervention as the dependent variable (see Table 7). As expected, pre-intervention scores of vocational identity entered in step one significantly predicted post-intervention scores, $F(1, 181) = 257.90$, $p < .001$. Pre-intervention scores accounted for 58.8% of the variance in post-intervention scores. Importantly, intervention condition and linguistic content categories entered in step two explained only an additional 2.0% of the variance of vocational identity at post-intervention and did not significantly add to the

model, though the overall model remained significant, $F(9, 173) = 29.75$, $p < .001$. The addition of interaction terms in step three explained an addition 4.2% of the variance in post-intervention vocational identity, which also did not significantly add to the model. The final model itself was a significant predictor of vocational identity at post-intervention, $F(24, 158) = 12.23$, $p < .001$.

In the final model including all study variables, two effects were found to be significant in predicting vocational identity. With regard to intervention condition, a conditional effect for the purpose condition was significant ($B = -5.69$, $p < .05$, $sr^2 = .01$) suggesting that those in the purpose group reported significantly greater vocational identity at post-intervention relative to controls. All other effects for intervention condition were non-significant. With regard to linguistic content categories, increased positive emotion word use was associated with significantly greater vocational identity ($B = -4.05$, $p < .05$, $sr^2 = .01$). All other effects of linguistic content were non-significant. All interactions in predicting vocational identity were found to be non-significant.

Outcomes Across Three Time Points

Beyond examining changes at post-intervention, analyses were completed to assess whether there were significant changes across the pre-intervention, post-intervention, and one-month follow-up time points. To examine how the intervention effects changed over these three time points, one-way within-subjects ANOVAs were conducted within each intervention condition for each outcome variable (i.e., presence of calling, presence of meaning in life, career adaptability, career confidence, and vocational identity). Prior to these analyses, assumptions were tested. An a priori power analysis estimated a necessary sample size of 20 participants for a repeated-measures ANOVA to detect a medium effect size of partial $\eta^2 = .06$ with a .05 alpha and a power value of .80. Of the 106 participants who completed the entire one-month follow-up

survey, the smallest group (i.e., adaptability condition) had a n = 20, matching the estimated necessary sample size. For this reason, listwise deletion was used for these analyses. Mauchly's tests were also reviewed for each analysis to determine whether assumptions of normality and homogeneity of variance were met. For analyses in which these assumptions were violated, Greenhouse-Geisser estimates of sphericity with corrected degrees of freedom were used (e.g., Koen, Klehe, & Van Vianen, 2012; Dik et al., 2015).

When presence of calling was the outcome (see Figure 5), repeated-measures ANOVA tests revealed that a significant main effect for time was found only for participants in the purpose condition, $F(2, 58) = 6.76$, $p < .01$, partial $\eta^2 = .19$. No significant main effects for time were found among participants in the control ($F[2, 62] = 2.37$, $p = .10$, partial $\eta^2 = .07$), career goals ($F[2, 46] = 2.61$, $p = .08$, partial $\eta^2 = .10$), and adaptability conditions ($F[2, 38] = 0.07$, $p = .93$, partial $\eta^2 = .004$). For those in the purpose condition, post hoc tests using the Bonferroni correction revealed that presence of calling significantly increased from pre- ($M = 6.78$, $SE = .37$) to post-intervention ($M = 7.60$, $SE = .34$; $p < .01$). However, a slight decrease from post-intervention to the one-month follow-up ($M = 7.38$, $SE = .31$) meant that the difference between pre-intervention and the one-month follow-up was non-significant ($p = .07$). This suggests that those in the purpose condition experienced a significant increase in presence of calling after the intervention, but this change was only partially maintained one month later.

When presence of meaning in life was the outcome (see Figure 6), repeated-measures ANOVA tests revealed no significant main effects for time for those in the control ($F[1.61, 49.82] = 0.30$, $p = .74$, partial $\eta^2 = .01$), career goals ($F[2, 46] = 0.01$, $p = .99$, partial $\eta^2 < .001$), and adaptability conditions ($F[2, 38] = 0.93$, $p = .40$, partial $\eta^2 = .05$). A main effect for time was also non-significant for those in the purpose condition, $F(2, 58) = 2.67$, $p = .08$, partial $\eta^2 = .08$.

This suggests that presence of meaning in life did not significantly change over time regardless of intervention group.

When career adaptability was the outcome (see Figure 7), repeated-measures ANOVA tests revealed no significant main effects for time for those in the control (F[1.65, 51.04] = 1.92, p = .16, partial η^2 = .06), career goals (F[2, 46] = 0.27, p = .77, partial η^2 = .01), adaptability (F[1.19, 22.53] = 2.13, p = .16, partial η^2 = .10), or purpose condition (F[2, 58] = 1.86, p = .17, partial η^2 = .06). These analyses suggest that career adaptability did not significantly change over time for any intervention group.

When career confidence was the outcome (see Figure 8), repeated-measures ANOVA tests revealed no significant main effects for time for those in the control (F[2, 62] = 1.59, p = .21, partial η^2 = .05), career goals (F[2, 46] = 0.75, p = .48, partial η^2 = .03), adaptability (F[2, 38] = 0.08, p = .92, partial η^2 = .004), or purpose condition (F[1.53, 44.28] = 2.37, p = .12, partial η^2 = .08). These analyses suggest that career confidence did not significantly change over time for any intervention group.

When vocational identity was the outcome (see Figure 9), repeated-measures ANOVA tests revealed no significant main effects for time for those in the control (F[1.49, 46.17] = 0.05, p = .90, partial η^2 = .002), career goals (F[2, 46] = 0.27, p = .79, partial η^2 = .01), adaptability (F[1.41, 26.71] = 0.91, p = .38, partial η^2 = .05), or purpose condition (F[2, 58] = 0.72, p = .49, partial η^2 = .02). These analyses suggest that vocational identity did not significantly change over time for any intervention group.

After analyses for differences within each group were examined, further analyses were completed to examine observed patterns differed across intervention groups. Repeated-measures ANOVAs were conducted for each outcome variable to examine potential interactions between

intervention condition and time. No such interactions were found to be significant for presence of calling (F[6, 204] = 0.66, p = .68, partial η^2 = .02), presence of meaning in life (F[6, 204] = 0.64, p = .70, partial η^2 = .02), career adaptability (F[6, 204] = 1.00, p = .43, partial η^2 = .03), career confidence (F[6, 204] = 1.61, p = .15, partial η^2 = .05), or vocational identity (F[5.35, 181.90] = 0.62, p = .70, partial η^2 = .02). These results suggest that patterns of results across the three time points were not significantly different between the control, career goals, adaptability, and purpose intervention conditions.

CHAPTER IV

Discussion

The primary goal of the present study was to test the effectiveness of several expressive writing intervention exercises with the intent of increasing a sample of undergraduate students' presence of calling, presence of meaning in life, career adaptability, career confidence, and vocational identity. These exercises included articulating one's career goals, considering ways that one could adaptively navigate potential future career obstacles, and reflecting on one's life purpose as it relates to one's future career. The present study also aimed to examine the degree to which the linguistic content of participants' writings, namely rates of positive and negative emotion words, insight and causation words, and variability in personal pronoun usage, explained study outcomes. Potential interactions between intervention conditions and linguistic content categories were also explored.

Broadly speaking, the results of this study were mixed. The first set of hypotheses pertained to the role of intervention condition in predicting main study outcomes. Of the three treatment groups, the purpose condition demonstrated the greatest efficacy in predicting greater levels of study outcomes at post-intervention and the one-month follow-up. Regarding outcomes at post-intervention, controlling for pre-intervention scores, those in the purpose group reported significantly higher levels of presence of calling and vocational identity compared to controls. Furthermore, for those in the purpose condition, presence of calling significantly increased from pre- to post-intervention and these effects were largely retained one month later. Conversely, those in the purpose group did not report significantly different scores on presence of meaning in life, career adaptability, or career confidence at post-intervention when controlling for pre-

intervention scores. Those in the purpose group also did not experience significant changes in presence of meaning in life, career adaptability, career confidence, and vocational identity across the three time points. It had been hypothesized that those in the purpose condition would report significantly higher levels of all study outcomes compared to those in the control group (H3) and that these participants' scores on presence of meaning in life would even be significantly higher than those in the other two intervention conditions (H5). These hypotheses only received partial support.

While there was partial support for the efficacy of the purpose condition, the career goals and adaptability conditions did not demonstrate efficacy in predicting study outcomes. These two groups did not significantly differ from the control condition in terms of presence of calling, presence of meaning in life, career adaptability, career confidence, or vocational identity at post-intervention. Furthermore, these two groups did not demonstrate significant changes in any of these variables across the three time points. It had been hypothesized that those in the career goals (H1) and adaptability conditions (H2) would report significantly higher levels of all study outcomes compared to those in the control condition. Further, it had been hypothesized that those in the adaptability condition would achieve even higher scores on career adaptability compared to those in the other two intervention conditions (H4). These hypotheses were not supported by the results.

While not a central focus of the present study, participants were asked to provide ratings of their written content in a manner similar to methodology used by King (2001). Ratings were provided regarding how important, emotional, difficult, and motivational/inspiring participants judged their own writing to be. Overall, those in the adaptability and purpose conditions rated their writing as more important, emotional, and motivational/inspiring than those in the control

condition. While those in the career goals condition also rated their writing as more emotional and motivational/inspiring compared than those in the control condition, they did not rate their writings as significantly more important. Furthermore, those in the career goals condition rated their writing as significantly more difficult than other groups, while these other groups did not significantly differ from each other. These results suggest that the prompts provided in the adaptability and purpose conditions elicited written responses that were generally perceived to be more psychologically meaningful than prompts provided to controls, as was intended. However, it appears less clear that this was the case for those in the career goals condition.

In addition to ratings of writing content, potential group differences in linguistic content (i.e., positive and negative emotion words, insight and causation words, and variability in personal pronoun use) were explored. Those in the purpose condition tended to use the most positive emotion words in their writing, while those in the adaptability and career goals conditions also used more positive emotion words than the control condition. Regarding negative emotion words, those in the adaptability condition used higher rates of these words compared to other groups, while the remaining groups did not differ. Participants in all treatment conditions used significantly more insight words than those in the control condition, though the use of words in this category was not significantly different across treatment conditions. Those in the purpose condition used the most causation words, followed by those in the adaptability condition. The career goals condition did not significantly differ from the control condition in terms of causation word use. Finally, there were no group differences in terms of personal pronoun use.

Beyond group differences in linguistic content, the second set of hypotheses for this study related to whether linguistic content categories had direct effects on study outcomes. It was

hypothesized that greater use of positive emotion words would be associated with higher levels of study outcomes (H6). While positive emotion word use was a significant predictor of greater vocational identity at post-intervention when controlling for other relationships in the model, this hypothesis was not otherwise supported for other outcomes. It was also hypothesized that greater use of negative emotion words would be associated with lower levels of outcome variables (H7). This hypothesis was not supported. In fact, for career confidence at post-intervention, a relationship in the opposite direction was found: higher use of negative emotion words was associated with higher career confidence. Regarding insight and causation words, it was hypothesized that greater use of words in these categories would be predictive of higher levels of study outcomes (H8). This hypothesis was partially supported. While no significant relationships were found for insight words, increased use of causation words was associated with greater levels of presence of calling and career adaptability at post-intervention (relationships with other outcome variables were non-significant). Finally, it was hypothesized that greater variability in personal pronoun use would be associated with higher levels of study outcomes (H9). This hypothesis was not supported as no significant relationships were detected.

The third set of hypotheses for this study were related to potential interactions between intervention conditions and linguistic content categories. Hypotheses were such that it was anticipated that participants who were in one of three treatment conditions and used high rates (or, in the case of negative emotion words, low rates) of words in linguistic content categories would experience the highest levels of study outcomes (H10-13). Generally speaking, these hypotheses were not supported. For example, no significant interactions were observed between treatment group and positive emotion words (H10), insight words (H12), or change in personal

pronoun use (H13) for any outcome variable. However, other significant interactions were observed.

A significant interaction was observed between negative emotion words and intervention condition in predicting presence of calling at post-intervention. At low levels of negative emotion word use, those in the three treatment conditions reported higher levels of presence of calling than controls, whereas presence of calling tended to be lower and more similar to controls at high levels of negative emotion word use. This declining slope was steepest for those in the adaptability condition. This pattern provided partial support for our hypothesis (H11). Another significant interaction between negative emotion words and intervention condition was observed for career confidence. Participants in the three treatment conditions tended to have similar career confidence scores regardless of whether they used high or low rates of negative emotion words. However, for those in the control condition, higher rates of negative emotion word use were associated with higher rates of career confidence. Those in this condition who used a lower amount of negative emotion words had the lowest levels of career confidence while groups appeared to be similar at high levels of negative emotion word use. Other interactions between negative emotion word use and intervention condition were non-significant meaning that our hypothesis was generally not supported.

Regarding interactions between causation word use and intervention condition (H12), our hypothesis was not supported, yet significant interactions were still observed for presence of calling and career adaptability. For presence of calling, participants in each of the four groups tended to have similar outcomes when high levels of causation words were used. When few causation words were used, outcomes tended to be similar with the exception that those in the control had substantially lower presence of calling. For career adaptability, high rates of

causation word use were associated with higher levels of career adaptability for those in the career goals, purpose, and control conditions. However, the slope was negative for those in the adaptability condition: high use of causation words was associated with lower career adaptability. All other interactions between causation word use and intervention condition were non-significant.

In interpreting the results of this study, it is important to note that no study outcomes significantly changed across the three time points for participants in the control, career goals, and adaptability conditions. For participants in the purpose condition, significant increases across time were only seen in terms of presence of calling. This pattern of results may help explain and put into context findings at post-intervention. Even after controlling for pre-intervention scores which explained significant and large portions of variance in post-intervention outcomes, several significant effects were found for intervention condition, linguistic content, and interactions between these variables. Importantly, though, introducing these effects in blocks generally did not significantly add to the overall models' predictive power and individual effect sizes for significant findings within these blocks tended to be small. Bedeian and Mossholder (1994) note that there is much debate and little consensus on whether individual effects of a block should be interpreted when the R^2 change is not significant. These authors conclude that an interpretation of individual effects may be acceptable despite a non-significant block-wise change when a priori hypotheses are being investigated, as was the case in the present study. However, it is noted that interpretation of such effects may result in increased risk of committing a Type-1 error (Frazier et al., 2004). Given this risk and given the generally small effect sizes observed in the hierarchical multiple regression models in this study, these results should be interpreted cautiously.

Implications for Theory

This study yielded several notable findings that contribute to the existing knowledge base. Importantly, Duffy, Dik, et al. (2018) noted the relative scarcity of intervention studies existing in research on calling and advocated for exploration of new interventions to help discover ways that career counselors can help clients identify their callings. This study addresses this gap in the literature by exploring the effectiveness of several expressive writing interventions intended to increase participants' presence of calling. To this writer's knowledge, this study represents the first study in research on calling to test such a paradigm. The interventions used in this study provided mixed results. However, consistent with several other intervention studies involving calling (e.g., Dik et al., 2015, Harzer & Ruch, 2016), our results provide further evidence that sense of calling can be increased through experimental intervention suggesting that these interventions should be investigated further.

While results pertaining to the effectiveness of writing exercises tested in this study were certainly mixed, one intervention condition, the purpose condition, did appear to show some significant effects. Participants in this condition experienced significant increases in presence of calling and vocational identity at post-intervention compared to participants in other conditions. Furthermore, participants in this condition rated their writing as more important, emotional, and motivational/inspiring than controls. As such, it appears worth exploring what elements distinguished the writing prompts for this condition from others used in the study. One obvious distinguishing feature of this condition was its encouragement of participants to reflect on their passions, motivations, and matters of ultimate importance in their lives. These topics were explored in one's life holistically, not just in the context of work. A second defining feature of this condition was that participants were prompted to reflect on what kind of positive impact they

would like to have on people or causes. Participants were asked to imagine their future with these factors in mind. While those in the career goals condition were also prompted to think about their future careers, the focus was on one's work future as it related to achievement of personal career goals rather than matters of ultimate importance and prosocial impact of one's work specifically.

The distinguishing features of the purpose condition writing prompts have precedent in previous literature, and this may help explain why this condition was predictive of some study outcomes. Various proposed definitions of calling (e.g., Wrzesniewski et al., 1997; Hall & Chandler, 2005; Dik & Duffy 2009; Dobrow & Tosti-Kharas, 2011) have broadly agreed that a calling is characterized by a sense of meaning and purpose. It is logical, then, that participants who were asked to reflect on ultimate meaning and purpose in their lives experienced an increase in their sense of calling. Additionally, there is ample evidence to suggest that reflecting on the prosocial impact of one's work is beneficial. For example, Allan et al. (2017) found that reflecting on the ways a work task might benefit someone else, rather than oneself, was predictive of greater work meaningfulness. Though definitions of calling vary, the prosocial impact of one's work remains an important feature of the construct (Duffy, Dik et al., 2018, Thompson & Bunderson, 2019). As such, encouraging participants to reflect on their unique passions, motivations, and perceptions of what is ultimately important and how they might use these insights for the betterment of others appears to be important in predicting outcomes. In previous reviews of calling that included discussions of practical applications, authors have generally recommended that career counselors assist clients in aligning their life goals with their career goals and encourage them to consider how their unique gifts may match the needs of society, among other recommendations (e.g., Dik et al., 2009; Dik & Duffy, 2015; Dik, Reed et

al., 2019; Dik, Canning et al., 2019). Of the interventions tested in this study, the prompts provided in the purpose condition appear to have been most congruent with these recommendations and therefore may explain the effectiveness of this condition in predicting presence of calling and vocational identity.

Another significant contribution of the present study concerns the examination of linguistic content in predicting career-related outcomes. To this writer's knowledge, text-analysis software had not previously been used to predict career-related outcomes. Results from this study provided some evidence that linguistic content may be a valid predictor of career-related outcomes. Specifically, use of causation words was predictive of higher presence of calling and career adaptability at post-intervention and use of negative emotion words was associated with higher career confidence after controlling for other effects. Additionally, both of these linguistic content categories played a role in interactions with treatment condition for several outcome variables.

While the use of causation words has not been studied in career development literature, expressive writing studies involving participant reflection on traumatic memories have found links between use of these words and positive health outcomes (e.g., Pennebaker, Mayne, & Francis, 1997; Boals & Klein, 2005). Authors of these studies have hypothesized that causation words (e.g., "because, effect, hence") may be used by individuals who have begun to construct a meaningful narrative out of their previous experiences and subsequently decreased their intrusive thinking about negative events (Tausczik & Pennebaker, 2010). In support of this theory, Graybeal et al. (2002) found that essays containing high rates of causation words (as well as insight words) were judged by independent raters to be more likely to include construction of a narrative. Given these findings, it is possible that participants in the present study who used a

higher rate of causation words were similarly engaged in constructing a narrative, even if this narrative did not necessarily include reflection on past experiences.

The idea that constructing a narrative can play an important role in career development is not a new one. For example, career construction theory (CCT) posits that careers are constructed, in part, when individuals make meaning out of their vocational behavior and experiences. Among other tenets of the theory, CCT conceptualizes individuals as "actors, agents, and authors" in their career stories. As authors, individuals use identity narratives, career themes, and character arcs to impose meaning on their occupational experiences and chart a course for future action. Individuals who are able to do this may be more likely to clarify their vocational identity and navigate their careers adaptively (Savickas, 2013). In the present study, it may be that individuals who used a high rate of causation words were able to successfully construct such a narrative, imposing meaning on their work experiences, which may have led to increased presence of calling and career adaptability. It is notable that individuals in the purpose condition used significantly more causation words than other groups in this study, which may provide further evidence that the prompts in this condition were conducive to construction of a meaningful narrative. However, it is also notable that those in the adaptability condition who used a high rate of causation words actually experienced lower levels of career adaptability at post-intervention than those who used a lower rate of these words. Unlike other groups, individuals in the adaptability condition were explicitly asked to reflect on the impact of experiencing a significant career obstacle. One explanation could be that individuals in this condition using a high rate of causation words tended to focus on reasons why this obstacle occurred, rather than focusing on how they would cope with these obstacles, which, in turn, had a negative impact on career adaptability. Further research is necessary to test this speculation.

Regarding negative emotion word use, a previous study by Pennebaker et al. (1997) demonstrated a curvilinear relationship between negative emotion word use in writing about trauma and health-related outcomes. They hypothesized that a low rate of use of these words may be characteristic of alexithymia and poor coping, while a high rate of use may be characteristic of someone engaging in excessive rumination. Conversely, a moderate level of negative emotion word use may be reflective of individuals who adaptively express their negative affect without falling into either extreme maladaptive coping pattern and thereby experience positive outcomes because of this. While curvilinear relationships were not found in our study, this seems unsurprising as it can be safely assumed that the prompts provided in our study were less likely to result in expression of content laden with a high degree of negative affect compared to studies including reflection on traumatic memories examined by Pennebaker et al.

In our study, negative emotion word use was positively associated with career confidence. One condition, the adaptability condition, did ask participants to reflect on feelings associated with a hypothetical career obstacle, which likely explains why individuals in this condition used a higher rate of negative emotion words compared to other conditions. Interestingly, an interaction demonstrated that while most study participants using high amounts of negative emotion tended to experience increases in career confidence, the slope was actually negative for those in the adaptability condition: high use of negative emotion words was associated with slightly lower career confidence compared to low use for this condition. Given that participants in this condition were primed to share about negative affect, high use of negative emotion words may have been characteristic of excessive rumination as Pennebaker et al. (1997) observed, whereas individuals using a high rate of negative emotion words in other

groups may have demonstrated more moderate (i.e., more adaptive) expression of negative affect. However, interactions between intervention condition and negative affect in predicting presence of calling showed that most participants experienced lower presence of calling when they used a high amount of negative emotion words compared to a low amount. This pattern was reversed for individuals in the control group. These results appear to be somewhat contradictory and it is unclear what may have led to this pattern of findings.

A notable pattern of results was also observed for individuals in the control condition. Though individuals in this condition did not experience any significant changes in any outcome variable across the three time points, the control conditions often played a role in significant interactions between intervention condition and linguistic content categories in predicting study outcomes at post-intervention. For example, for individuals in the control condition, high use of negative emotion words and causation words was associated with greater presence of calling compared to individuals in this condition who used a low amount of these words, whereas this effect was not observed in any of the three treatment conditions. Conversely, individuals in the control condition who used a low amount of these words tended to have the lowest presence of calling among all participants. Altogether, results do not suggest that the prompt provided in the control condition (i.e., to write about one's day in as much detail as possible) was itself a useful predictor of study outcomes. However, it could suggest that individuals in this condition were able to experience increased presence of calling despite not being in one of three treatment conditions, provided that they used a high amount of these words. Conversely, individuals in the control condition using a low amount of causation words and negative emotion words may have been the least engaged participants and experienced lower levels of calling at post-intervention because of this.

A final important contribution of the present study is that it extended core components of Pennebaker's expressive writing paradigm (Pennebaker & Beall, 1986) to a new domain. While this paradigm had previously been applied to recovery from traumatic events, a key component of King's (2001) study was the finding that writing about self-regulatory topics and the future, or one's "best possible future self," can also lead to beneficial outcomes. The present study attempted to extend these findings to the realm of vocational psychology by having individuals in the career goals condition write each day about an ideal future in which they had accomplished all their career goals. Contrary to King, however, participants in this condition did not experience beneficial outcomes relative to controls. It is also worth noting that participants in this condition did not rate their writing as any more important than those in the control group, whereas this was not the case for King's best possible future self condition. Despite results for the career goals condition, individuals in the purpose condition also wrote about an ideal future career scenario and this did result in some significant positive changes in career-related outcomes. However, the methodology in this condition differed from Pennebaker's paradigm in that different prompts were provided each day. Altogether, the present study provided some support for King's assertion that writing about self-regulatory topics and a desired future are beneficial, but further study is needed in this area.

While the significant findings related to the purpose condition are of interest, this study was also marked by many non-significant findings. The majority of results failed to support hypotheses that expressive writing interventions would improve career-related outcomes. Perhaps most notably, the career goals and adaptability conditions did not significantly impact any main study outcomes and even the purpose condition intervention failed to significantly increase participants' presence of meaning in life, career adaptability, or career confidence.

These results stand in contrast to previous experimental research that has demonstrated that presence of calling (e.g., Dik et al., 2015), presence of meaning in life (e.g., Dik & Steger, 2008), career adaptability and confidence (e.g., Koen et al., 2012), and vocational identity (e.g., Mau, 1999) can be increased through various experimental interventions. This could suggest that Pennebaker's expressive writing paradigm simply does not generalize to the career domain. However, previous meta-analyses (e.g., Brown & Krane, 2000; Whiston et al., 2017) have shown that interventions including workbooks and written exercises specifically have resulted in significant changes in relevant career-related outcomes with sizeable effects observed. Other factors unique to the design of this study may better explain non-significant findings.

One important way that the design of this study differed from Pennebaker's paradigm concerns the mode in which the writing interventions were delivered. Pennebaker and Chung (2007) note that this paradigm has generally been carried out in an in-person, laboratory setting. In the present study, the intervention was delivered online and participants were free to complete their journal entries in an environment of their choosing and on their own time (with the limitation that they were required to complete entries on consecutive days). While this convenient approach appeared to help in recruitment of participants, it may have come at the sacrifice of controlling for extraneous variables present in participants' unique writing environments, which could have negatively impacted engagement in the writing process. For example, given that the writing exercises did not occur in a controlled laboratory setting, participants may have been more prone to distractions and consequently been less likely to engage in 20 minutes of deep, uninterrupted processing related to the writing prompts. Additionally, in this study participants provided typed responses to prompts (vs. writing responses by hand) and this is far from a ubiquitous practice in expressive writing studies

(Pennebaker & Chung). Interestingly, the issue of the specific writing method used in expressive writing studies has been explored in research. Brewin and Lennard (1999) found that having participants write about traumatic memories by hand produced greater levels of negative affect and led to greater self-reported disclosure than did typing. As such, it could be that results from the present study may have differed had participants been required to provide handwritten responses. In short, these two elements of this study's design may have watered down the effectiveness of the interventions used. Furthermore, while participants provided ratings of their own written content, this study lacked ratings provided by independent judges. Such ratings could have provided an additional check to evaluate how engaged participants appeared to be in their writing process. Future research should address this issue. It is also recommended that future studies explore whether introducing these interventions in person and providing handwritten responses affect results.

Another factor that could have contributed to null findings may have been the prompts themselves. Given that no significant findings were observed for the adaptability and career goals conditions, it is worth considering whether the prompts provided in these conditions were adequate to achieve desired results. In hindsight, the three treatment conditions appeared to differ in terms of how directive the prompts were. The purpose condition, for which some significant results were observed, was arguably the most directive in that participants were given different guiding questions each day and vivid examples of responses were provided. On the final writing day, participants were even encouraged to write responses in a specific format. In the adaptability condition, participants were provided somewhat broader instructions, with only a single open-ended question differing across prompts each day. The career goals condition was the most open-ended in that participants were asked to respond to the same prompt regarding an

imagined future each day. While expressive writing studies have generally included the same open-ended prompt across writing days (Pennebaker & Chung, 2007), it is possible that the varied, more specific directives provided in the purpose condition were more useful to participants and generated deeper reflection that promoted changes in this study's outcomes. Conversely, it could be that the prompts provided in the career goals and adaptability conditions were too unspecific and therefore did not map as neatly onto study outcomes. These considerations are also notable given the characteristics of the sample used in this study. The participants in this study were predominantly first- and second-year college students. Developmentally, these students may have higher levels of career uncertainty and therefore have greater need for self-assessment of their abilities, values, and interests compared to individuals further along in their career development (Orndorff & Herr, 1996). Furthermore, per Super's Life-Span, Life-Space Theory (e.g., Super & Knasel, 1981), the majority of participants in this study were likely in the exploration stage of their career development. In this stage, individuals have generally not established a career and instead are in the process of identifying, specifying, and beginning to implement a career path. As such, it may be that the more directive prompts provided in the purpose condition were better suited for this sample. Furthermore, the examples of journal entries provided to participants in this condition may have demonstrated appropriate modeling of self-assessment which may have supplied these participants with useful language for discussing their unique passions and motivations.

Applications for Practice

This study yielded several useful results that can practically be applied within the context of career counseling. Consistent with other research on career interventions, this study demonstrated that written exercises can provide a meaningful way to positively impact career-

related outcomes and, as such, are beneficial to use in working with career counseling clients. However, it is recommended that counselors be mindful of what written exercises they use as this study showed that not all writing prompts were equally efficacious. Given that the purpose condition demonstrated the most promising results, clients seeking to increase their sense of calling and vocational identity would benefit from the types of prompts provided to participants in this condition. Specifically, counselors may find it beneficial to encourage clients to engage in written reflection regarding what they find to be ultimately important, what they are most passionate about, and what motivates them in their lives and see how these influences might inform an imagined future career. Importantly, in addition to these personal reflections, clients may also find it clarifying to engage in written reflection regarding what prosocial impact they would like to have with their career. Beyond engaging in expressive writing to stimulate such reflection, it is presumed that discussions between clients and their career counselors regarding these topics would also be beneficial, though additional research is needed to verify this assertion. Given that this study's participants were primarily first- and second-year college students, it is suggested that these topics may be particularly beneficial for career counselors to discuss with individuals early in their college experiences or who may have a higher degree of career uncertainty.

Results from this study also suggest that causation words are a meaningful predictor of career-related outcomes. It is speculated that this is because a high rate of causation word use was indicative of individuals who had begun to construct a narrative out of their career experiences. As such, career counselors may benefit from paying careful attention to the language that clients use to describe their previous work experiences and imagined future career, focusing on ways in which clients may or may not being using cause-and-effect narratives in

their reflections. For clients who are able to construct these kinds of narratives, reflecting back specific cause-and-effect language used by clients could be reinforcing. For clients who are having greater difficulty constructing such narratives, helping them reframe their work experiences in terms of causal events may help them start to create meaning out of their career paths and experience better outcomes. Similarly, it is recommended that career counselors pay attention to their clients' use of negative emotion words. Though results in this domain of linguistic content were less straightforward, results generally suggest that moderate expression of negative affect can be beneficial and even predictive of improved outcomes for some clients. However, it is recommended that career counselors attend carefully to clients who engage in excessive negative rumination about career experiences, particularly in situations in which significant career obstacles (e.g., job loss) are being faced, as this may be predictive of poorer outcomes.

Limitations

In addition to contributions of this study, several limitations are noted. One such limitation pertains to the rate of familywise error in this study. Many researchers have demonstrated that increasing the number of statistical tests included in a study increases the potential for committing a Type-I error, also known as a "false positive" (e.g., Shear & Zumbo, 2013; Streiner, 2015; Sawilowksy & Markman, 2017). As previously discussed, Frazier et al. (2004) noted the particular risk of increased Type-I error rate associated with multiple regression analyses. The present study tested 13 separate hypotheses for five main outcome variables and included a large number of statistical tests, suggesting that some of the significant effects detected in this study could simply be due to chance given the sheer number of analyses included. Streiner (2015) noted that a multitude of corrections to control for familywise error

have been proposed by researchers including single-step adjustments to experiment alpha levels (e.g., Bonferroni correction), multi-step procedures, false discovery rate control, and resampling approaches. While arguments for and against such approaches are many, Streiner notes that arguments regarding whether to use such corrections are ultimately philosophical with no one recommended approach. Given that the present study was the first of its kind regarding the relationships between variables that were explored, the more liberal decision to not correct for familywise error in our *p*-value (i.e., the conventional $p < .05$ that was used) was judged to be appropriate. However, the increased risk of familywise error associated with decision is an important caveat to the results and reinforces the need for future research to replicate this study's findings.

Another limitation of the present study concerns the generalizability of the results. This study used a convenience sample of undergraduate students at a large Western university in the United States. While this does not negate the validity of the results, it is unclear whether similar findings would be found in another sample (e.g., a stratified sample of working adults undergoing a career transition). Notably, many studies of calling have relied on convenience samples of university students (Duffy, Dik et al., 2018). Career development concerns are also a developmentally relevant concern for this population. However, the sample used in this study was not comprised of university students seeking career interventions, but rather a pool of predominantly first- and second-year students who may or may not have had career choice concerns. As such, it is unclear whether these findings may generalize to another setting.

Another limitation of this study concerns the reliability and validity of specific outcome measures that were used. For example, in this study career confidence was measured using the Career Transitions Inventory (CTI; Heppner, 1991). This measure is designed for individuals

who are currently experiencing a career transition. Given the sample used in this study, the measure was modified to encourage students to think of their future change from student status to post-graduation employment as a sort of career transition and to respond to CTI items with this future transition in mind. This modification may have negatively impacted the validity of the results in a way that would not have happened if another measure of career confidence were used or if the sample consisted of individuals who experiencing a career change at the time of the study. Additionally, this study relied on the short form scale measuring career adaptability (i.e., the CAAS-SF; Maggiori et al., 2015). While this scale appeared to have performed as expected with regard to internal consistency, it is unclear whether different results may have been found had the full version of these scale been used or had a different measure been used.

A fourth limitation of this study pertains to the way in which personal pronoun variability was operationally defined. While this study did not find any significant effects related to variability in personal pronoun use, Campbell and Pennebaker (2003) found that greater oscillation in use of first-person singular pronouns (e.g., I and me) and other personal pronouns (e.g., we, you, and they) across writing sessions was predictive of improved health outcomes. It has been speculated that this oscillation is reflective of individuals who have engaged in taking on a variety of perspectives regarding their traumatic experiences, which may assist in constructing a narrative. In the present study, all personal pronouns (including first-person singular pronouns and other personal pronouns) were summed together and represented in a single change score calculated using methodology used by Pennebaker et al. (1997). While it is unclear how Campbell and Pennebaker operationally defined this construct in their study, it is possible that the method used in the present study inadvertently masked any effects that may have been observed if first-person singular pronouns or other personal pronouns were isolated

and measured separately. It could be argued, for example, that measuring changes in second- and third-person pronouns on their own would have more accurately reflected an individual who had incorporated a variety of perspectives in their written reflections.

Yet another limitation of this study concerns the online, computer-based format of this study. As previously discussed, the online format likely reduced experimental control of extraneous variables and there is some evidence that having participants type responses, rather than write them by hand, may have negatively impacted the depth of processing that occurred while generating responses. These two factors appeared to differ from Pennebaker and Beall's (1986) original paradigm and may have inadvertently weakened the effectiveness of the interventions used. It is possible that different results would have occurred had the interventions been delivered in a laboratory setting with participants writing their responses by hand.

A final limitation of the present study is that an in-depth qualitative review and independent judge ratings of essay content were not included in the analyses. Many previous expressive writing studies have included an in-depth qualitative review of essay content (e.g., Pennebaker & Beall, 1986) or, minimally, independent numerical ratings of essay content (e.g., King, 2001). While journal entries in this study were spell-checked and reviewed to ensure study instructions were followed, a deeper review of essay content was missing. Such a review could have corroborated participant ratings of how important, emotional, difficult, and motivational/inspiring their writing was. Alternatively, an in-depth review of essays could have provided evidence for or against explanations of results related to intervention condition and linguistic content categories. For example, while it is speculated that causation word use was reflective of construction of a cohesive narrative, an independent qualitative analysis of participant journal entries could have provided support for or against this assertion.

Future Directions

The present study was successful in introducing a brief intervention that led to significant changes in several career-related outcomes. As such, future study of these interventions would be beneficial. There are several ways in which the findings of this study could be extended to future research. To address potential limitations related to familywise error in this study, it is hoped that future studies will seek to replicate the methodology used in this study and introduce new analyses to either corroborate or challenge our findings. Other methodological changes may also extend this research in important ways. Given stated limitations regarding the online, computer-based format of this study, it is recommended that future studies examine whether changing the format to an in-person, laboratory setting where participants are asked to provide handwritten responses to prompts results in different findings. Such changes may better reflect standard methodology used in expressive writing studies and help clarify whether this paradigm extends to the career domain.

Given significant results that were found for participants in the purpose condition, the prompts used in this condition should be tested in future interventions studies to see if similar results are found. It has been speculated here that these prompts were effective because of two key elements: the focus on aligning life meaning with career goals and the focus on the prosocial impact of one's career. One way to test this hypothesis would be to use a factorial design in a randomized controlled trial predicting calling and other career-related outcomes. This would allow the individual components of these prompts to be tested and help to refine the prompts to better understand what makes them effective. Additionally, it may also be beneficial to explore whether these elements are only beneficial within the context of writing or whether they may be extended to other career intervention formats (e.g., one-on-one discussions). This may guide

career counselors in how to better assist clients in reflecting on important elements of their career.

Additionally, this study's novel findings regarding linguistic content and career-related outcomes provide precedent for further study in this area. While it is speculated that the use of causation words was representative of individuals who constructed a meaningful narrative in reflecting on their career trajectories, further study could investigate this hypothesis. Qualitative analysis by independent judges could investigate whether individuals using a high rate of causation words do indeed appear to be constructing narratives in their writing, for example. Alternatively, rather than investigating hypotheses related to participant journal entries, an inductive, grounded theory approach could be applied in a future study. For example, independent judges could be provided with a collection of journal entries from participants who demonstrated the greatest change in career-related outcomes at post-intervention. Such an approach could shed light on unexpected themes associated with these participants' writings that explain outcomes and guide future research.

Given somewhat mixed results regarding negative emotion word use and study outcomes, future research studies could continue examining whether negative emotion word use is a significant predictor of career-related outcomes. In this study, for most intervention groups high use of negative emotion words was associated with lower levels of presence of calling compared to those who used a low amount of negative emotion words, and this slope appeared to be steeper for those in the adaptability condition. Further research is needed to corroborate these findings. Interestingly, research on the "dark side" of calling has demonstrated links between calling and workaholism (e.g., Duffy, Douglass, et al., 2015; Keller, Spurk, Baumeler, & Hirschi, 2016), burnout (Creed et al., 2014) and organizational exploitation (Bunderson & Thompson, 2009).

Future research could examine potential relationships between negative emotion word use, calling, and these related outcomes.

Finally, future research may seek to combine the expressive writing paradigm with other career interventions. In their meta-analysis of career choice interventions, Whiston et al. (2017) found that counselor support, values clarification, and psychoeducational interventions were important predictors, or "critical ingredients," in career choice interventions that resulted in significant findings. On the surface, it appears that the present study may have lacked these critical ingredients (e.g., the use of online surveys may have reduced perceived support from study facilitators) which could help explain our non-significant results. These ingredients may have been particularly helpful for the career development level of our present sample. Future studies could attempt to enhance writing interventions by integrating these ingredients. For example, a future study could combine expressive writing with a workshop format for a sample of first-year college students. In an initial session, participants could be provided with psychoeducation regarding the importance of considering values, strengths, and abilities in charting a satisfying career. Participants could then complete an individualized career assessment battery to provide them with a deeper understanding of their unique interests and abilities. After these steps were completed, participants could then complete written reflections similar to those provided in this study. Providing an educational workshop and career assessment before writing may increase the degree to which these participants perceive the prompts as salient and thereby result in changes at post-intervention.

TABLES

Table 1

Descriptive Statistics for Main Continuous Study Variables

	n	*M*	*SD*	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1. Positive Emotion Words	183	4.57	2.27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2. Negative Emotion Words	183	0.95	0.83	0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3. Insight Words	183	2.66	1.68	0.53**	0.26**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4. Causation Words	183	1.89	1.05	0.40**	0.05	0.42**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5. Change in Pronoun Use	183	0.94	10.38	0.41	0.09	0.05	-0.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pre-Intervention																							
6. Presence of Calling	183	6.70	2.07	-0.08	-0.14	-0.19**	-0.13	0.03	(0.73)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7. Presence of Meaning in Life	183	24.83	5.93	0.02	-0.16*	-0.11	-0.08	0.08	0.47**	(0.90)	-	-	-	-	-	-	-	-	-	-	-	-	-
8. Career Adaptability	183	3.77	0.62	0.01	-0.04	0.01	-0.08	0.04	0.32**	0.47**	(0.89)	-	-	-	-	-	-	-	-	-	-	-	-
9. Career Confidence	183	44.13	8.53	0.03	-0.05	0.02	0.07	0.15*	0.22**	0.41**	0.35**	(0.83)	-	-	-	-	-	-	-	-	-	-	-
10. Vocational Identity	183	10.04	4.97	-0.10	-0.27**	-0.15*	0.05	0.19*	0.45**	0.39**	0.38**	0.52**	(0.88)	-	-	-	-	-	-	-	-	-	-
Post-Intervention																							
11. Presence of Calling	183	7.13	2.01	0.11	-0.17*	-0.15*	-0.02	0.02	0.67**	0.51**	0.40**	0.26**	0.45**	(0.81)	-	-	-	-	-	-	-	-	-
12. Presence of Meaning in Life	183	24.96	6.28	0.06	-0.15*	-0.11	-0.05	0.03	0.50**	0.81**	0.49**	0.43**	0.50**	0.65**	(0.91)	-	-	-	-	-	-	-	-
13. Career Adaptability	183	3.83	0.67	0.01	-0.04	-0.01	-0.05	-0.04	0.22**	0.42**	0.67**	0.28**	0.26**	0.49**	0.51**	(0.92)	-	-	-	-	-	-	-
14. Career Confidence	183	44.42	9.15	0.05	0.03	0.04	0.07	0.04	0.18*	0.30**	0.38**	0.71**	0.43**	0.26**	0.43**	0.34**	(0.85)	-	-	-	-	-	-
15. Vocational Identity	183	10.72	5.18	-0.12	-0.18	-0.18*	0.02	0.17*	0.40**	0.38**	0.33**	0.41**	0.77**	0.48**	0.48**	0.27**	0.43**	(0.89)	-	-	-	-	-
Follow-Up																							
16. Presence of Calling	106	7.17	2.00	-0.10	-0.12	-0.25*	-0.10	-0.01	0.69**	0.53**	0.41**	0.36**	0.44**	0.67**	0.61**	0.41**	0.26**	0.43**	(0.75)	-	-	-	-
17. Presence of Meaning in Life	106	24.99	5.89	-0.07	-0.08	-0.23*	-0.09	0.05	0.50**	0.75**	0.51**	0.57**	0.53**	0.54**	0.81**	0.48**	0.48**	0.48**	0.67**	(0.90)	-	-	-
18. Career Adaptability	106	3.77	0.65	-0.08	-0.06	-0.12	-0.08	0.00	0.30**	0.41**	0.65**	0.50**	0.38**	0.36**	0.46**	0.62**	0.46**	0.36**	0.50**	0.59**	(0.91)	-	-
19. Career Confidence	106	45.11	9.14	-0.19	0.07	-0.13	-0.05	0.14	0.22*	0.28**	0.37**	0.72**	0.39**	0.25*	0.37**	0.29**	0.81**	0.42**	0.29**	0.45**	0.49**	(0.85)	-
20. Vocational Identity	106	10.59	5.35	-0.18	-0.16	-0.27**	-0.05	0.21*	0.48*	0.41**	0.42**	0.41**	0.73**	0.51**	0.54**	0.36**	0.43**	0.80**	0.54**	0.51**	0.39**	0.51**	(0.90)

Note. *SD* = standard deviation. The coefficient alpha for each measure is indicated in parentheses.

Table 2

Differences in Positive Emotion Words, Negative Emotion Words, Insight Words, Causation Words, and Change in Pronoun Use by Group

	Adaptability ($N = 42$)		Career Goals ($N = 44$)		Control ($N = 48$)		Purpose ($N = 49$)		
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*F*
Positive Emotion Words	4.61	1.48	5.32	1.47	1.73	0.83	6.65	1.42	119.61**
Negative Emotion Words	1.73	0.90	0.78	0.67	0.60	0.64	0.78	0.61	22.90**
Insight Words	3.69	1.13	3.18	1.84	0.76	0.69	3.16	1.05	52.69**
Causation Words	2.17	1.32	1.57	0.77	1.14	0.57	2.66	0.71	28.26**
Change in Pronoun Use	3.74	10.99	1.92	11.92	0.41	6.63	-1.83	10.93	2.41

Note. SD = standard deviation.

*$p < .05$. **$p < .01$.

Table 3

Regression Analysis Predicting Presence of Calling at Post-Intervention

Step and Variable	*B*	*SE B*	β	R^2	$R^2\Delta$	*F*
Step 1						
Presence of Calling Pre-Intervention (z-score)	1.34	0.11	0.67**		0.44**	144.80**
Step 2						
Presence of Calling Pre-Intervention (z-score)	1.31	0.11	0.65**			
Adaptability	0.34	0.49	0.07			
Career Goals	0.45	0.46	0.10			
Purpose	0.45	0.56	0.10			
Positive Emotion Words (z-score)	0.35	0.19	0.17			
Negative Emotion Words (z-score)	-0.12	0.13	-0.06			
Insight Words (z-score)	-0.36	0.16	-0.18*			
Causation Words (z-score)	0.08	0.14	0.04			
Change in Pronoun Use (z-score)	0.03	0.11	0.01	0.50	0.05*	18.92**
Step 3						
Presence of Calling Pre-Intervention (z-score)	1.31	0.12	0.65**			
Adaptability	1.79	1.05	0.38			
Career Goals	1.72	1.03	0.37			
Purpose	2.45	1.08	0.54*			
Positive Emotion Words (z-score)	-0.95	0.80	-0.47			
Negative Emotion Words (z-score)	0.65	0.40	0.32			
Insight Words (z-score)	-1.10	0.72	-0.55			
Causation Words (z-score)	1.17	0.47	0.58**			
Change in Pronoun Use (z-score)	0.18	0.34	0.09			
Adaptability × Positive Emotion Words	1.59	0.88	0.25			
Career Goals × Positive Emotion Words	1.37	0.87	0.23			
Purpose × Positive Emotion Words	0.91	0.88	0.23			
Adaptability × Negative Emotion Words	-1.05	0.45	-0.34*			
Career Goals × Negative Emotion Words	-0.88	0.48	-0.18			
Purpose × Negative Emotion Words	-0.88	0.50	-0.17			
Adaptability × Insight Words	1.02	0.80	0.21			
Career Goals × Insight Words	0.80	0.75	0.22			
Purpose × Insight Words	0.26	0.81	0.04			
Adaptability × Causation Words	-1.18	0.51	-0.36*			
Career Goals × Causation Words	-1.15	0.57	-0.22*			
Purpose × Causation Words	-1.28	0.59	-0.30*			
Adaptability × Change in Pronoun Use	-0.15	0.41	-0.04			
Career Goals × Change in Pronoun Use	-0.26	0.40	-0.07			
Purpose × Change in Pronoun Use	-0.04	0.41	-0.01	0.56	0.06	8.21**

Note. SE = standard error.

*$p < .05$. **$p < .01$.

Table 4

Regression Analysis Predicting Presence of Meaning in Life (MIL) at Post-Intervention

Step and Variable	*B*	*SE B*	β	R^2	$R^2\Delta$	*F*
Step 1						
Presence of MIL Pre-Intervention (z-score)	5.07	0.28	0.81**		0.65**	339.20**
Step 2						
Presence of MIL Pre-Intervention (z-score)	5.03	0.29	0.80**			
Adaptability	0.32	1.26	0.02			
Career Goals	-0.46	1.19	-0.03			
Purpose	0.89	1.43	0.06			
Positive Emotion Words (z-score)	0.26	0.50	0.04			
Negative Emotion Words (z-score)	-0.11	0.34	-0.02			
Insight Words (z-score)	-0.24	0.40	-0.04			
Causation Words (z-score)	-0.13	0.35	-0.02			
Change in Pronoun Use (z-score)	-0.17	0.29	-0.03	0.66	0.01	37.59**
Step 3						
Presence of MIL Pre-Intervention (z-score)	5.13	0.30	0.82**			
Adaptability	1.70	2.66	0.11			
Career Goals	-0.67	2.59	-0.05			
Purpose	4.17	2.73	0.30			
Positive Emotion Words (z-score)	0.70	2.02	0.11			
Negative Emotion Words (z-score)	1.18	1.01	0.19			
Insight Words (z-score)	-2.34	1.83	-0.37			
Causation Words (z-score)	0.91	1.18	0.15			
Change in Pronoun Use (z-score)	0.54	0.87	0.09			
Adaptability × Positive Emotion Words	-0.34	2.23	-0.02			
Career Goals × Positive Emotion Words	0.77	2.21	0.04			
Purpose × Positive Emotion Words	-2.50	2.22	-0.21			
Adaptability × Negative Emotion Words	-2.11	1.14	-0.22			
Career Goals × Negative Emotion Words	-2.32	1.21	-0.15			
Purpose × Negative Emotion Words	-0.27	1.26	-0.02			
Adaptability × Insight Words	1.99	2.02	0.13			
Career Goals × Insight Words	2.56	1.90	0.22			
Purpose × Insight Words	1.06	2.05	0.06			
Adaptability × Causation Words	-1.14	1.28	-0.11			
Career Goals × Causation Words	-1.01	1.42	-0.06			
Purpose × Causation Words	-1.39	1.49	-0.11			
Adaptability × Change in Pronoun Use	-0.76	1.02	-0.06			
Career Goals × Change in Pronoun Use	-0.88	1.00	-0.08			
Purpose × Change in Pronoun Use	-0.36	1.03	-0.03	0.71	0.05	15.94**

Note. SE = standard error.

*$p < .05$. **$p < .01$.

Table 5

Regression Analysis Predicting Career Adaptability at Post-Intervention

Step and Variable	*B*	*SE B*	β	R^2	$R^2\Delta$	*F*
Step 1						
Career Adaptability Pre-Intervention (z-score)	0.45	0.04	0.67**		0.45**	149.34**
Step 2						
Career Adaptability Pre-Intervention (z-score)	0.45	0.04	0.67**			
Adaptability	0.04	0.17	0.03			
Career Goals	-0.08	0.16	-0.05			
Purpose	-0.002	0.19	-0.001			
Positive Emotion Words (z-score)	0.01	0.07	0.02			
Negative Emotion Words (z-score)	-0.02	0.04	-0.03			
Insight Words (z-score)	-0.003	0.05	-0.004			
Causation Words (z-score)	-0.01	0.05	-0.01			
Change in Pronoun Use (z-score)	-0.04	0.04	-0.06	0.46	0.01	16.33**
Step 3						
Career Adaptability Pre-Intervention (z-score)	0.44	0.04	0.66**			
Adaptability	0.26	0.36	0.16			
Career Goals	0.19	0.35	0.12			
Purpose	0.17	0.37	0.11			
Positive Emotion Words (z-score)	-0.13	0.27	-0.20			
Negative Emotion Words (z-score)	-0.04	0.14	-0.05			
Insight Words (z-score)	-0.25	0.25	-0.37			
Causation Words (z-score)	0.42	0.16	0.63**			
Change in Pronoun Use (z-score)	-0.14	0.12	-0.20			
Adaptability × Positive Emotion Words	0.29	0.30	0.13			
Career Goals × Positive Emotion Words	-0.04	0.30	-0.02			
Purpose × Positive Emotion Words	0.10	0.30	0.08			
Adaptability × Negative Emotion Words	-0.06	0.16	-0.06			
Career Goals × Negative Emotion Words	0.14	0.17	0.08			
Purpose × Negative Emotion Words	0.04	0.17	0.02			
Adaptability × Insight Words	0.34	0.28	0.21			
Career Goals × Insight Words	0.26	0.26	0.21			
Purpose × Insight Words	0.16	0.28	0.08			
Adaptability × Causation Words	-0.51	0.18	-0.47**			
Career Goals × Causation Words	-0.34	0.19	-0.20			
Purpose × Causation Words	-0.34	0.20	-0.24			
Adaptability × Change in Pronoun Use	0.05	0.14	0.04			
Career Goals × Change in Pronoun Use	0.15	0.14	0.13			
Purpose × Change in Pronoun Use	0.12	0.14	0.10	0.52	0.06	7.08**

Note. SE = standard error.

*$p < .05$. **$p < .01$.

Table 6

Regression Analysis Predicting Career Confidence at Post-Intervention

Step and Variable	*B*	*SE B*	β	R^2	$R^2\Delta$	*F*
Step 1						
Career Confidence Pre-Intervention (z-score)	6.49	0.48	0.71**		0.50**	183.33**
Step 2						
Career Confidence Pre-Intervention (z-score)	6.67	0.50	0.73**			
Adaptability	-2.52	2.18	-0.12			
Career Goals	-1.01	2.07	-0.05			
Purpose	-1.66	2.49	-0.08			
Positive Emotion Words (z-score)	0.42	0.85	0.05			
Negative Emotion Words (z-score)	1.01	0.58	0.11			
Insight Words (z-score)	0.19	0.69	0.02			
Causation Words (z-score)	0.29	0.61	0.03			
Change in Pronoun Use (z-score)	-0.65	0.50	-0.07	0.52	0.02	20.66**
Step 3						
Career Confidence Pre-Intervention (z-score)	6.79	0.55	0.74**			
Adaptability	2.59	4.83	0.12			
Career Goals	3.35	4.74	0.16			
Purpose	2.71	4.94	0.13			
Positive Emotion Words (z-score)	-1.91	3.67	-0.21			
Negative Emotion Words (z-score)	4.92	1.81	0.54**			
Insight Words (z-score)	-1.70	3.31	-0.19			
Causation Words (z-score)	-0.22	2.19	-0.02			
Change in Pronoun Use (z-score)	-1.08	1.58	-0.12			
Adaptability × Positive Emotion Words	2.41	4.09	0.08			
Career Goals × Positive Emotion Words	1.43	4.00	0.05			
Purpose × Positive Emotion Words	1.39	4.05	0.08			
Adaptability × Negative Emotion Words	-4.30	2.05	-0.31*			
Career Goals × Negative Emotion Words	-5.30	2.19	-0.23*			
Purpose × Negative Emotion Words	-4.16	2.27	-0.18			
Adaptability × Insight Words	1.04	3.66	0.05			
Career Goals × Insight Words	1.36	3.45	0.08			
Purpose × Insight Words	4.05	3.68	0.15			
Adaptability × Causation Words	-0.18	2.39	-0.01			
Career Goals × Causation Words	2.02	2.64	0.08			
Purpose × Causation Words	-0.09	2.72	-0.004			
Adaptability × Change in Pronoun Use	-0.60	1.85	-0.03			
Career Goals × Change in Pronoun Use	1.17	1.80	0.07			
Purpose × Change in Pronoun Use	0.48	1.85	0.03	0.55	0.04	8.18**

Note. SE = standard error.

*$p < .05$. **$p < .01$.

Table 7

Regression Analysis Predicting Vocational Identity at Post-Intervention

Step and Variable	*B*	*SE B*	β	R^2	$R^2\Delta$	*F*
Step 1						
Vocational Identity Pre-Intervention (z-score)	3.97	0.25	0.77**		0.59**	257.90**
Step 2						
Vocational Identity Pre-Intervention (z-score)	3.87	0.27	0.75**			
Adaptability	1.94	1.12	0.16			
Career Goals	1.36	1.06	0.11			
Purpose	2.71	1.28	0.23*			
Positive Emotion Words (z-score)	-0.68	0.44	-0.13			
Negative Emotion Words (z-score)	0.11	0.30	0.02			
Insight Words (z-score)	-0.62	0.35	-0.12			
Causation Words (z-score)	-0.09	0.31	-0.02			
Change in Pronoun Use (z-score)	0.23	0.26	0.04	0.61	0.02	29.75**
Step 3						
Vocational Identity Pre-Intervention (z-score)	3.75	0.28	0.72**			
Adaptability	3.82	2.40	0.31			
Career Goals	3.00	2.34	0.24			
Purpose	5.69	2.47	0.49*			
Positive Emotion Words (z-score)	-4.05	1.82	-0.78*			
Negative Emotion Words (z-score)	0.09	0.90	0.02			
Insight Words (z-score)	1.37	1.65	0.26			
Causation Words (z-score)	-0.03	1.07	-0.01			
Change in Pronoun Use (z-score)	0.55	0.81	0.11			
Adaptability × Positive Emotion Words	3.56	2.02	0.21			
Career Goals × Positive Emotion Words	3.90	1.99	0.26			
Purpose × Positive Emotion Words	2.76	2.01	0.28			
Adaptability × Negative Emotion Words	0.82	1.02	0.10			
Career Goals × Negative Emotion Words	-0.80	1.10	-0.06			
Purpose × Negative Emotion Words	-0.63	1.14	-0.05			
Adaptability × Insight Words	-2.87	1.82	-0.23			
Career Goals × Insight Words	-1.64	1.72	-0.17			
Purpose × Insight Words	-2.59	1.85	-0.17			
Adaptability × Causation Words	-0.04	1.16	-0.01			
Career Goals × Causation Words	0.42	1.29	0.03			
Purpose × Causation Words	-0.43	1.35	-0.04			
Adaptability × Change in Pronoun Use	-1.12	0.94	-0.11			
Career Goals × Change in Pronoun Use	-0.40	0.91	-0.04			
Purpose × Change in Pronoun Use	0.40	0.93	0.04	0.65	0.04	12.23**

Note. SE = standard error.

*$p < .05$. **$p < .01$.

FIGURES

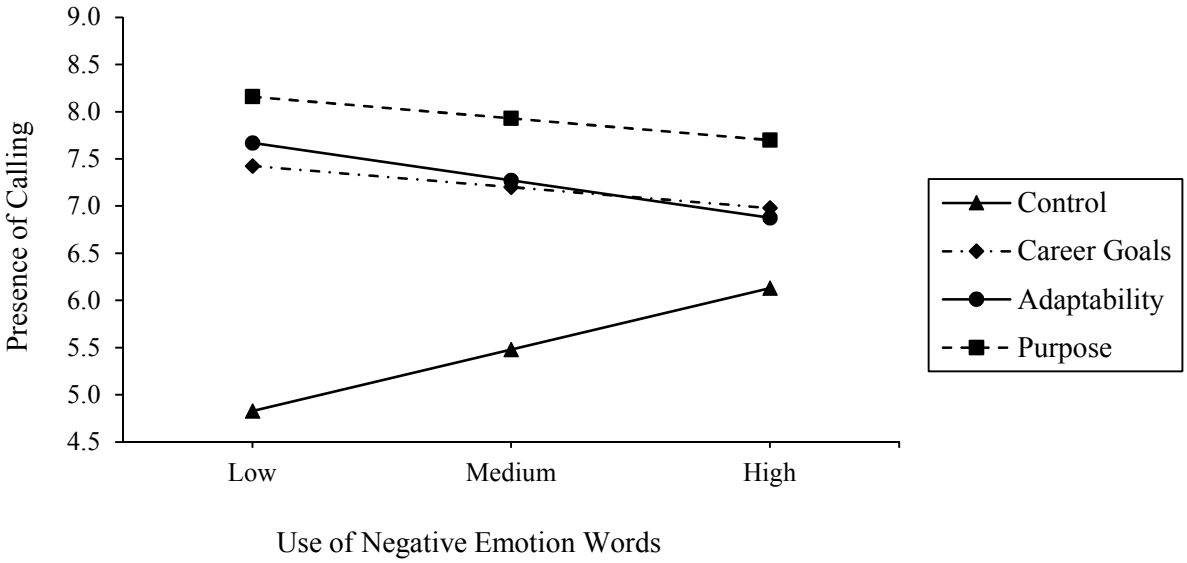

Figure 1. Use of negative emotion words as a moderator between intervention condition and presence of calling.

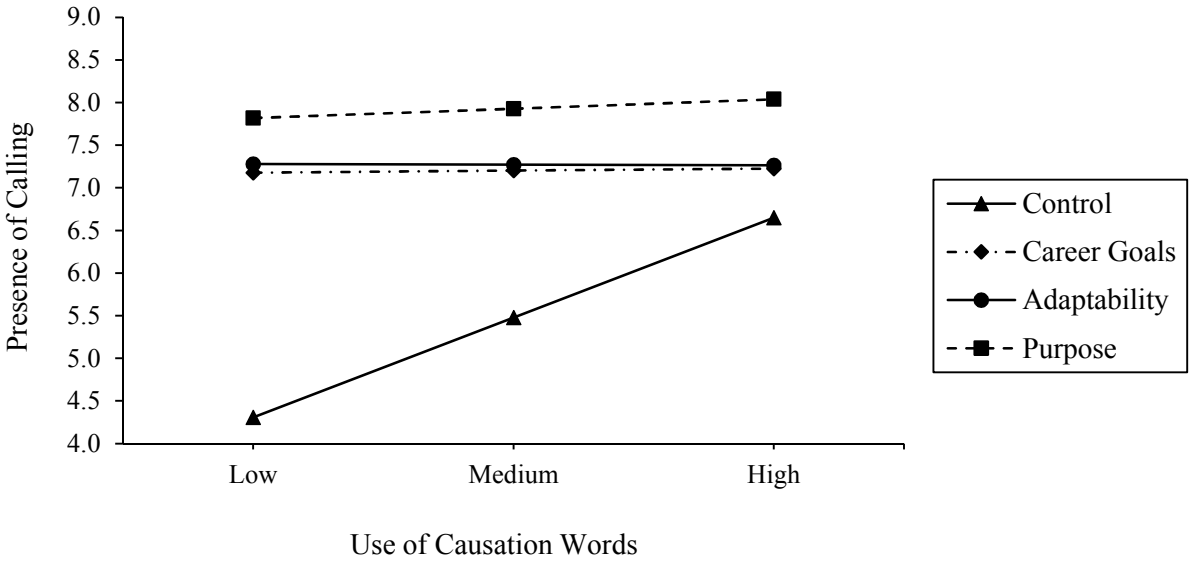

Figure 2. Use of causation words as a moderator between intervention condition and presence of calling.

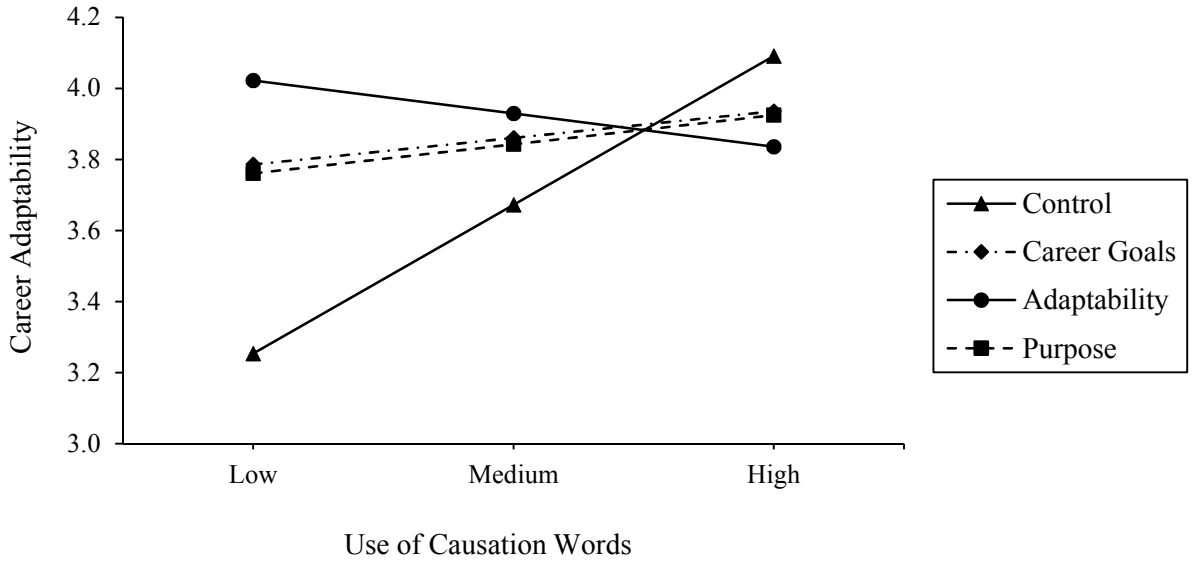

Figure 3. Use of causation words as a moderator between intervention condition and career adaptability.

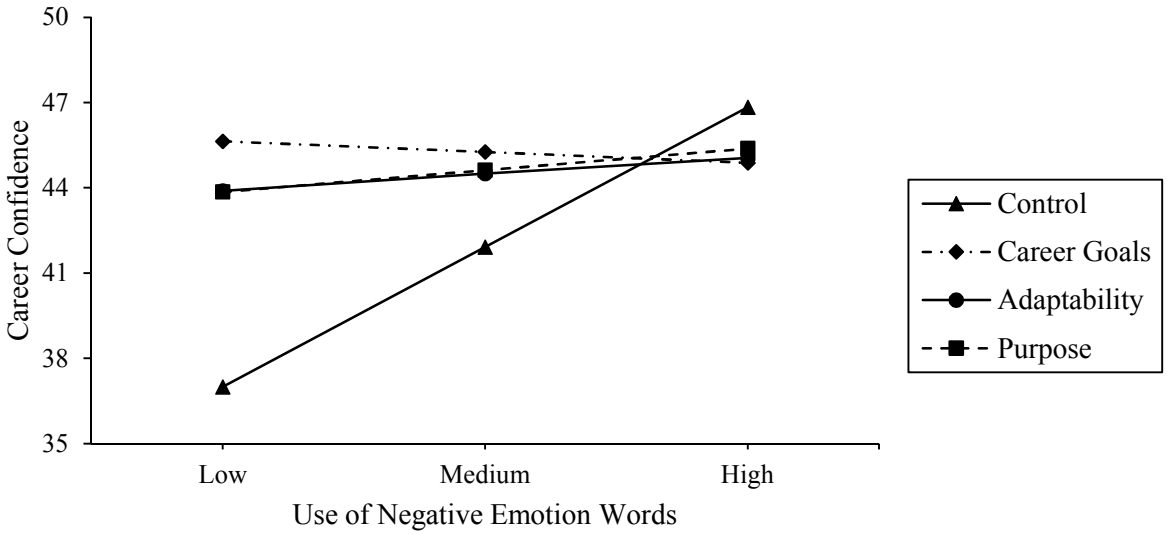

Figure 4. Use of negative emotion words as a moderator between intervention condition and career confidence.

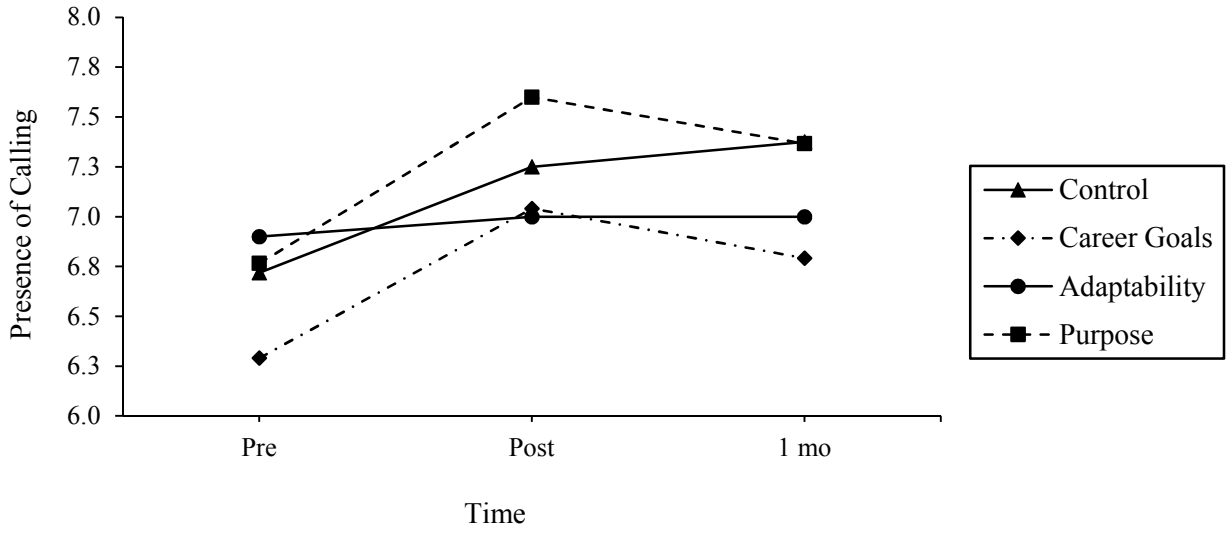

Figure 5. Mean Presence of Calling for four intervention conditions at pre-intervention, post-intervention, and 1-month follow-up.

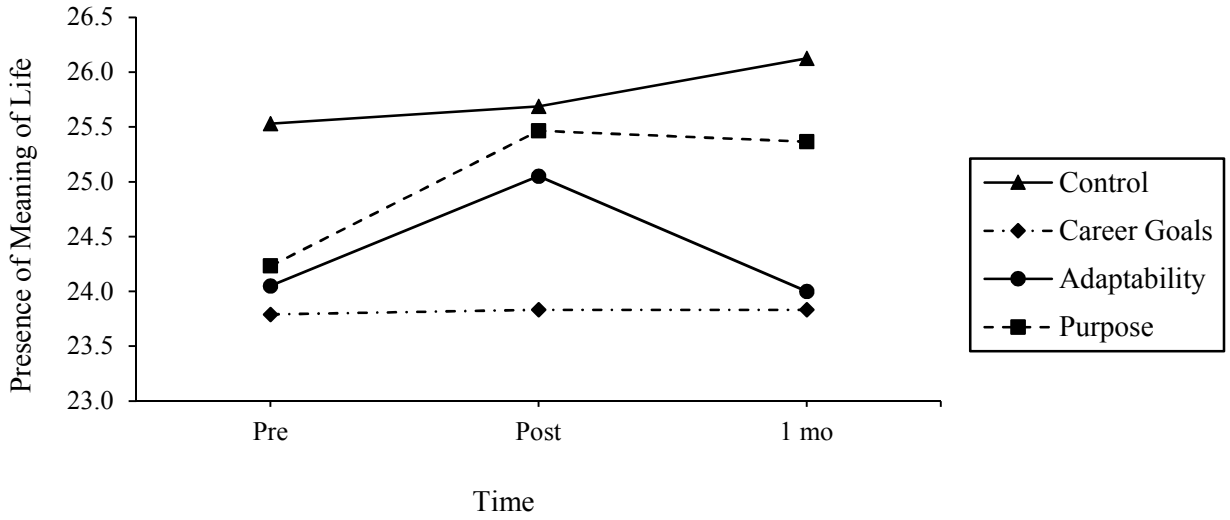

Figure 6. Mean Presence of Meaning in Life for four intervention conditions at pre-intervention, post-intervention, and 1-month follow-up.

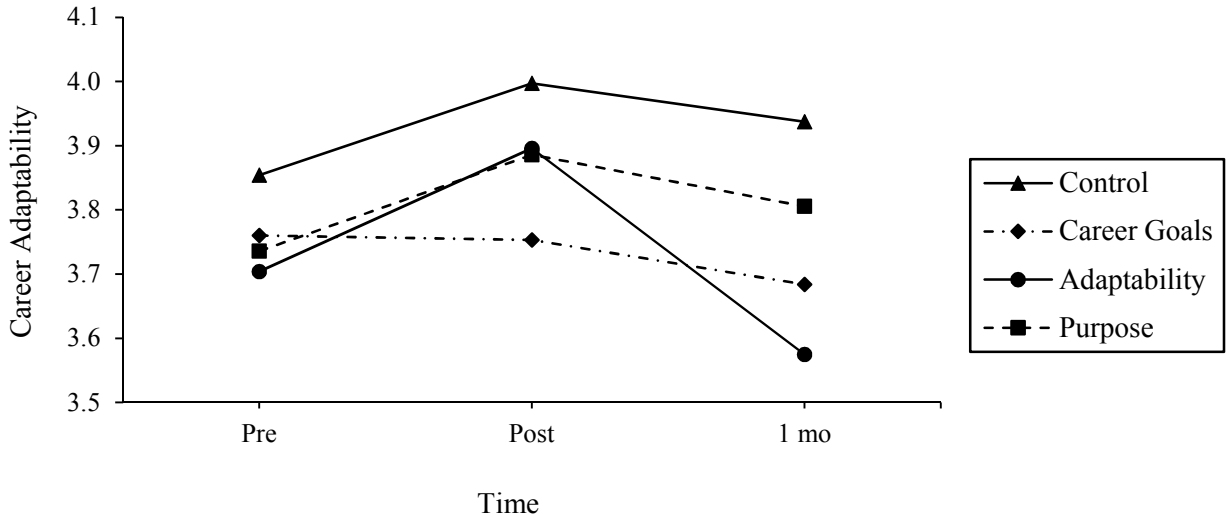

Figure 7. Mean Career Adaptability for four intervention conditions at pre-intervention, post-intervention, and 1-month follow-up.

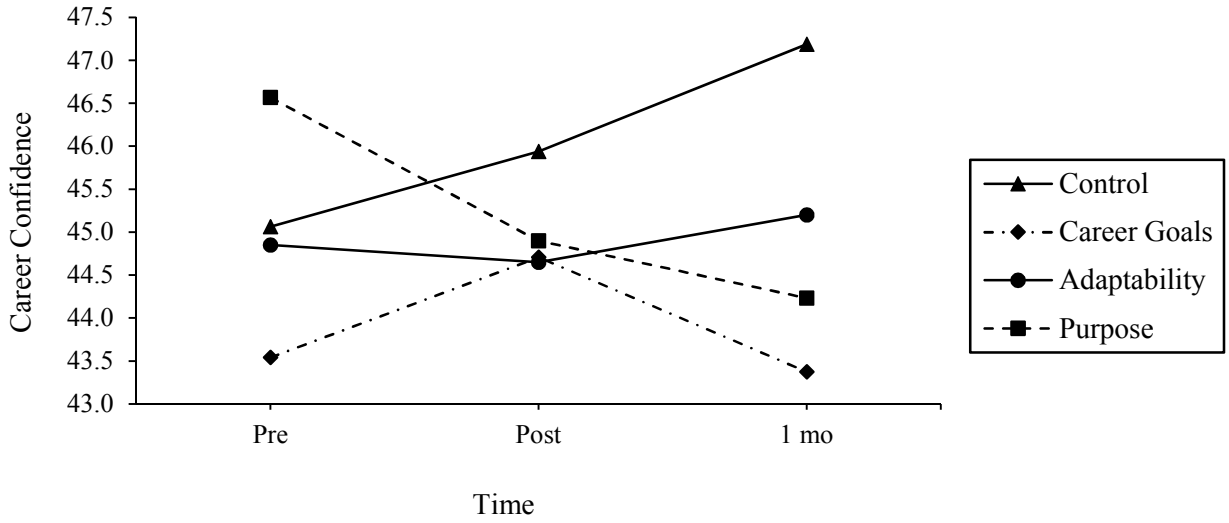

Figure 8. Mean Career Confidence for four intervention conditions at pre-intervention, post-intervention, and 1-month follow-up.

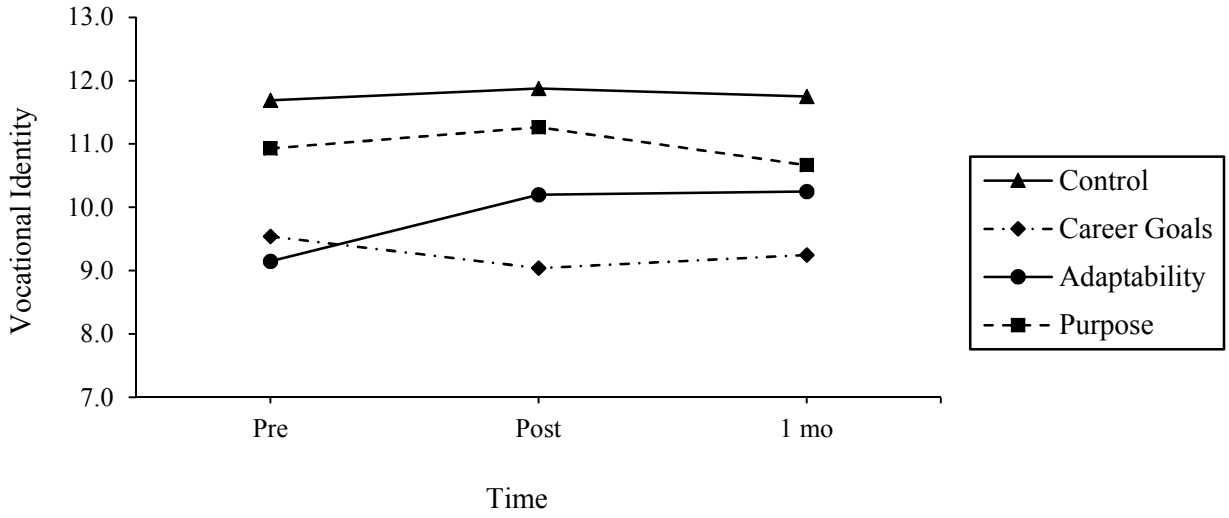

Figure 9. Mean Vocational Identity for four intervention conditions at pre-intervention, post-intervention, and 1-month follow-up.

REFERENCES

Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions.* Newbury Park, CA: Sage.

Allan, B. A., Duffy, R. D., & Collisson, B. (2017). Helping others increases meaningful work: Evidence from three experiments. *Journal of Counseling Psychology*. Advance online publication. https://doi.org/10.1037/cou0000228

Allan, B. A., Tebbe, E. A., Duffy, R. D., & Autin, K. L. (2015). Living a calling, life satisfaction, and workplace climate among a lesbian, gay, and bisexual population. *The Career Development Quarterly*, *63*(4), 306-319.

Bedeian, A. G., & Mossholder, K. W. (1994). Simple question, not so simple answer: Interpreting interaction terms in moderated multiple regression. *Journal of Management*, *20*(1), 159-165.

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,* 973-994. http://dx.doi.org/10.1287/orsc.1090.0497

Betz, N. E., Klein, K. L., & Taylor, K. M. (1996). Evaluation of a short form of the career decision-making self-efficacy scale. *Journal of Career Assessment*, *4*(1), 47-57.

Boals, A., & Klein, K. (2005). Word use in emotional narratives about failed romantic relationships and subsequent mental health. *Journal of Language and Social Psychology*, *24*(3), 252-268.

Bott, E. M., & Duffy, R. D. (2015). A two-wave longitudinal study of career calling among undergraduates: Testing for predictors. *Journal of Career Assessment*, *23*(2), 250-264.

Bott, E. M., Duffy, R. D., Borges, N. J., Braun, T. L., Jordan, K. P., & Marino, J. F. (2017). Called to medicine: Physicians' experiences of career calling. *The Career Development Quarterly*, *65*(2), 113-130.

Brewin, C. R., & Lennard, H. (1999). Effects of mode of writing on emotional narratives. *Journal of Traumatic Stress: Official Publication of The International Society for Traumatic Stress Studies*, *12*(2), 355-361.

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, N. E. (2000). Four (or five) sessions and a cloud of dust: Old assumptions and new observations about career counseling. In S.D. Brown, & R.W. Lent (Eds.), *Handbook of Counseling Psychology* (pp. 740-766) (3rd Ed.). New York: Wiley.

Brown, K. W., & Ryan, R. M. (2003). The benefits of being present: mindfulness and its role in psychological well-being. *Journal of Personality and Social Psychology*, *84*(4), 822.

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.

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.

Campbell, R. S., & Pennebaker, J. W. (2003). The secret life of pronouns: Flexibility in writing style and physical health. *Psychological Science*, *14*(1), 60-65.

Cardador, M. T., Dane, E., & Pratt, M. G. (2011). Linking calling orientations to organizational attachment via organizational instrumentality. *Journal of Vocational Behavior*, *79*(2), 367–378. https://doi.org/10.1016/j.jvb.2011.03.009.

Chen, J., May, D. R., Schwoerer, C. E., & Augelli, R. (2015). Boundaries of career calling: The moderating roles of procedural justice and psychological safety. *Academy of Management Proceedings, 2015*(1), 123-165.

Clark, M. A., Michel, J. S., Zhdanova, L., Pui, S. Y., & Baltes, B. B. (2016). All work and no play? A meta-analytic examination of the correlates and outcomes of workaholism. *Journal of Management, 42,* 1836-1873. http://dx.doi.org/10.1177/0149206314522301

Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2003). *Applied multiple regression/correlation analysis for the behavioral sciences* (3rd ed.). Mahwah, NJ: Erlbaum.

Creed, P. A., Rogers, M. E., Praskova, A., & Searle, J. (2014). Career calling as a personal resource moderator between environmental demands and burnout in Australian junior doctors. *Journal of Career Development*, *41*(6), 547-561.

Dalla Rosa, A., Vianello M., & Anselmi P. (2019). Longitudinal predictors of the development of a calling: New evidence for the a posteriori hypothesis. *Journal of Vocational Behavior, 114*, 44-56.

Davidson, J., & Caddell, D. (1994). Religion and the meaning of work. *Journal for the Scientific Study of Religion*, *33*(2), 135–147. https://doi.org/10.2307/1386600.

Del Corso, J., & Rehfuss, M. C. (2011). The role of narrative in career construction theory. *Journal of Vocational Behavior*, *79*(2), 334-339.

Diener, E., & Emmons, R. A. (1984). The independence of positive and negative affect. *Journal of Personality and Social Psychology*, *47*(5), 1105.

Dik, B. J. (2019). *Discern your calling, live your purpose: Using PathwayU to tell your career story* (workbook). Fort Collins, CO: jobZology.

Dik, B. J., Canning, B. A., & Marsh, D. R. (2019). A cultural lens approach to promoting work as a calling. In *Positive Psychological Intervention Design and Protocols for Multi-Cultural Contexts* (pp. 57-80). Springer, Cham.

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. https://doi.org/10.1177/0011000008316430.

Dik, B. J., & Duffy, R. D. (2015). Strategies for discerning and living a calling. *APA Handbook of Career Intervention*, 305-317.

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

Dik, B. J., Eldridge, B. M., Steger, M. F., & Duffy, R. D. (2012). Development and validation of the Calling and Vocation Questionnaire (CVQ) and Brief Calling Scale (BCS). *Journal of Career Assessment*, *20*(3), 242–263. https://doi.org/10.1177/1069072711434410.

Dik, B. J., Reed, K., Shimizu, A. B., Marsh, D. R., & Morse, J. L. (2019). Career callings and career development. In *International Handbook of Career Guidance* (pp. 185-206). Springer, Cham.

Dik, B. J., Scbolljegerdes, 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*, 1-14. https://doi.org/10.1177/1069072717748676

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. https://doi.org/10.1111/j.1744-6570.2011.01234.x.

Douglass, R. P., Duffy, R. D., & Autin, K. L. (2016). Living a calling, nationality, and life satisfaction: A moderated, multiple mediator model. *Journal of Career Assessment*, *24*(2), 253–269.

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. https://doi.org/10.1037/a0030635.

Duffy, R. D., Allan, B. A., Autin, K. L., & Douglass, R. P. (2014). Living a calling and work well-being: A longitudinal study. *Journal of Counseling Psychology*, *61*(4), 605–615. https://doi.org/10.1037/cou0000042.

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. https://doi.org/10.1007/s10902-011-9274-6.

Duffy, R. D., Allan, B. A., Bott, E. M., & Dik, B. J. (2014). Does the source of a calling matter? External summons, destiny, and perfect fit. *Journal of Career Assessment*, *22*(4), 562–574. https://doi.org/10.1177/1069072713514812.

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. https://doi.org/10.1016/j.jvb.2010.11.001.

Duffy, R. D., & Autin, K. L. (2013). Disentangling the link between perceiving a calling and living a calling. *Journal of Counseling Psychology*, *60*(2), 219–227. https://doi.org/10.1037/a0031934.

Duffy, R. D., Bott, E. M., Allan, B. A., & Autin, K. L. (2015). Calling among the unemployed: Examining prevalence and links to coping with job loss. *The Journal of Positive Psychology*, *10*(4), 332–345. https://doi.org/10.1080/17439760.2014.967798

Duffy, R. D., Bott, E. M., Allan, B. A., Torrey, C. L., & Dik, B. J. (2012). Perceiving a calling, living a calling, and job satisfaction: Testing a moderated, multiple mediator model. *Journal of Counseling Psychology*, *59*(1), 50–59. https://doi.org/10.1037/a0026129.

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. https://doi.org/10.1016/j.jvb.2013.06.006.

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.

Duffy, R. D., Douglass, R. P., & Autin, K. L. (2015). Career adaptability and academic satisfaction: Examining work volition and self-efficacy as mediators. *Journal of Vocational Behavior*, *90*, 46-54.

Duffy, R. D., Douglass, R. P., Autin, K. L., & Allan, B. A. (2016). Examining predictors of work volition among undergraduate students. *Journal of Career Assessment*, *24*(3), 441-459.

Duffy, R. D., England, J. W., Douglass, R. P., Autin, K. L., & Allan, B. A. (2017). Perceiving a calling and well-being: Motivation and access to opportunity as moderators. *Journal of Vocational Behavior*, *98*, 127–137. https://doi.org/10.1016/j.jvb.2016.11.003

Duffy, R. D., Foley, P. F., Raque-Bodgan, T. L., Reid-Marks, L., Dik, B. J., Castano, M. C., & Adams, C. M. (2012). Counseling psychologists who view their careers as a calling: A qualitative study. *Journal of Career Assessment*, *20*(3), 293–308. https://doi.org/10.1177/1069072711436145.

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. https://doi.org/10.1016/j.jvb.2011.03.023.

Duffy, R. D., & Raque-Bogdan, T. L. (2010). The motivation to serve others: Exploring relations to career development. *Journal of Career Assessment*, *18*(3), 250-265.

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. https://doi.org/10.1016/j.jvb.2007.03.007.

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. *Career Development Quarterly*, *59*(1), 27–41.

Duffy, R. D., Torrey, C. L., England, J., & Tebbe, E. A. (2017). Calling in retirement: A mixed methods study. *The Journal of Positive Psychology*, *12*(4), 399–413. https://doi.org/10.1080/17439760.2016.1187201

Elangovan, A. R., Pinder, C. C., & McLean, M. (2010). Callings and organizational behavior. *Journal of Vocational Behavior*, *76*(3), 428–440. https://doi.org/10.1016/j.jvb.2009.10.009.

Fernandez, A., Fouquereau, E., & Heppner, M. J. (2008). The Career Transitions Inventory: A psychometric evaluation of a French version (CTI-F). *Journal of Career Assessment*, *16*(3), 384-398.

Frazier, P. A., Tix, A. P., & Barron, K. E. (2004). Testing moderator and mediator effects in counseling psychology research. *Journal of Counseling Psychology*, *51*(1), 115.

French, J. R., & Domene, J. F. (2010). Sense of "calling": An organizing principle for the lives and values of young women in university. *Canadian Journal of Counselling*, *44*(1), 1-14.

Gazica, M. W., & Spector, P. E. (2015). A comparison of individuals with unanswered callings to those with no calling at all. *Journal of Vocational Behavior*, *91*, 1-10.

Graybeal, A., Seagal, J. D., & Pennebaker, J. W. (2002). The role of story-making in disclosure writing: The psychometrics of narrative. *Psychology and Health, 17,* 571–581.

Hagmaier, T., & Abele, A. E. (2012). The multidimensionality of calling: Conceptualization, measurement and a bicultural perspective. *Journal of Vocational Behavior*, *81*(1), 39–51. https://doi.org/10.1016/j.jvb.2012.04.001.

Hall, D. T., & Chandler, D. E. (2005). Psychological success: When the career is a calling. *Journal of Organizational Behavior: The International Journal of Industrial, Occupational and Organizational Psychology and Behavior*, *26*(2), 155-176.

Harzer, C., & Ruch, W. (2016). 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. https://doi.org/10.1080/17439760.2012.702784.

Heppner, M. J. (1991). The Career Transitions Inventory (Available from Mary J. Heppner, PhD, 305 Noyes Hall, University of Missouri, Columbia, MO 65211).

Heppner, M. J. (1998). The Career Transitions Inventory: Measuring internal resources in adulthood. *Journal of Career Assessment*, *6*(2), 135-145.

Heppner, M. J., Multon, K. D., & Johnston, J. A. (1994). Assessing psychological resources during career change: Development of the Career Transitions Inventory. *Journal of Vocational Behavior*, *44*(1), 55-74.

Hernandez, E. F., Foley, P. F., & Beitin, B. K. (2011). Hearing the call: A phenomenological study of religion in career choice. *Journal of Career Development*, *38*(1), 62–88. https://doi.org/10.1177/0894845309358889.

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. https://doi.org/10.1177/1069072711436158.

Hirschi, A., & Herrmann, A. (2013). Calling and career preparation: Investigating developmental patterns and temporal precedence. *Journal of Vocational Behavior*, *83*(1), 51–60. https://doi.org/10.1016/j.jvb.2013.02.008.

Holland, J. L. (1997). *Making vocational choices: A theory of vocational personalities and work environments*. Psychological Assessment Resources.

Holland, J. J., Gottfredson, D. C., & Power, P. G. (1980). Some diagnostic scales for research in decision making and personality: Identity, information, and barriers. *Journal of Personality and Social Psychology*, *39*(6), 1191.

Holland, J. L., Johnston, J. A., & Asama, N. F. (1993). The Vocational Identity Scale: A diagnostic and treatment tool. *Journal of Career Assessment*, *1*(1), 1-12.

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. https://doi.org/10.1016/j.jvb.2009.10.008.

James, L. R., Choi, C. C., Ko, C.-H. E., McNeil, P. K., Minton, M. K., Wright, M. A., & Kim, K. (2008). Organizational and psychological climate: A review of theory and research. *European Journal of Work and Organizational Psychology*, *17*, 5–32. https://doi.org/10.1080/13594320701662550

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.

Keller, A. C., Spurk, D., Baumeler, F., & Hirschi, A. (2016). Competitive climate and workaholism: Negative sides of future orientation and calling. *Personality and Individual Differences, 96*, 122-126. http://dx.doi.org/10.1016/j.paid.2016.02.061

Kim, H. J., Praskova, A., & Lee, K. H. (2017). Cross-Cultural Validation of the Career Calling Scale for Korean Emerging Adults. *Journal of Career Assessment*, *25*(3), 434-449.

King, L. A. (2001). The health benefits of writing about life goals. *Personality and Social Psychology Bulletin*, *27*(7), 798-807.

Klein, K., & Boals, A. (2001). Expressive writing can increase working memory capacity. *Journal of experimental psychology: General*, *130*(3), 520.

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.

Lazar, A., Davidovitch, N., & Coren, G. (2016). Gender differences in calling and work spirituality among Israeli academic faculty. *Journal of International Education Research*, *12*(3), 87-98. Retrieved from http://files.eric.ed.gov/fulltext/EJ1108338.pdf

Lee, A. Y. P., Chen, I. H., & Chang, P. C. (2016). Sense of calling in the workplace: The moderating effect of supportive organizational climate in Taiwanese organizations. *Journal of Management & Organization*. http://dx.doi.org/10.1017/jmo.2016.16

Lumley, M. A., & Provenzano, K. M. (2003). Stress management through written emotional disclosure improves academic performance among college students with physical symptoms. *Journal of Educational Psychology, 95,* 641–649.

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.

Mau, W. C. (1999). Effects of computer-assisted career decision making on vocational identity and career exploratory behaviors. *Journal of Career Development*, *25*(4), 261-274.

McAdams, D. P. (1985). Power, intimacy, and the life story. *Homewood, IL: Dorsey*, 11-32.

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.

Nimon, K. F. (2012). Statistical assumptions of substantive analyses across the general linear model: A mini-review. *Frontiers in Psychology*, *3*, 322.

Oates, K. L., Lewis Hall, M. E., & Anderson, T. L. (2005). Calling and conflict: A qualitative exploration of interrole conflict and the sanctification of work in Christian mothers in academia. *Journal of Psychology and Theology*, *33*(3), 210-223.

Orndorff, R. M., & Herr, E. L. (1996). A comparative study of declared and undeclared college students on career uncertainty and involvement in career development activities. *Journal of Counseling & Development*, *74*(6), 632-639.

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*.

Park, J., Sohn, Y. W., & Ha, Y. J. (2016). South Korean salespersons' calling, job performance, and organizational citizenship behavior the mediating role of occupational self-efficacy. *Journal of Career Assessment, 24,* 415-428. http://dx.doi.org/10.1177/1069072715599354

Pennebaker, J. W., & Beall, S. (1986). Confronting a traumatic event: Toward an understanding of inhibition and disease. *Journal of Abnormal Psychology, 95,* 274–281.

Pennebaker, J.W., Booth, R.J., Boyd, R.L., & Francis, M.E. (2015). *Linguistic inquiry and word count: LIWC2015.* Austin, TX: Pennebaker Conglomerates (www.LIWC.net).

Pennebaker, J.W., Boyd, R.L., Jordan, K., & Blackburn, K. (2015). *The development and psychometric properties of LIWC2015*. Austin, TX: University of Texas at Austin.

Pennebaker, J. W., & Chung, C. K. (2007). Expressive writing, emotional upheavals, and health. *Foundations of health psychology*, 263-284.

Pennebaker, J. W., Francis, M. E., & Booth, R. J. (2001). Linguistic inquiry and word count: LIWC 2001. *Mahway: Lawrence Erlbaum Associates*, *71*.

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.

Pennebaker, J. W., Mayne, T. J., & Francis, M. E. (1997). Linguistic predictors of adaptive bereavement. *Journal of Personality and Social Psychology*, *72*(4), 863.

Peterson, C., Park, N., Hall, N., & Seligman, M. E. P. (2009). Zest and work. *Journal of Organizational Behavior, 30*, 161–172, http://dx.doi.org/10.1002/job.584.

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., Creed, P. A., & Hood, M. (2014). Self-regulatory processes mediating between career calling and perceived employability and life satisfaction in emerging adults. *Journal of Career Development*. https://doi.org/10.1177/0894845314541517.

Rawat, A., & Nadavulakere, S. (2015). Examining the outcomes of having a calling: Does context matter? *Journal of Business and Psychology*, *30*(3), 499-512.

Rigotti, T., Schyns, B., & Mohr, G. (2008). A short version of the occupational self-efficacy scale: Structural and construct validity across five countries. *Journal of Career Assessment*, *16*(2), 238-255.

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, http://dx.doi.org/10.1016/j.riob.2010.09.001.

Ryff, C. D., & Singer, B. (1998). The contours of positive human health. *Psychological Inquiry*, *9*(1), 1-28.

Savickas, M. L. (1997). Career adaptability: An integrative construct for life□span, life□space theory. *The Career Development Quarterly*, *45*(3), 247-259.

Savickas, M. L. (2004). 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. (2013). Career construction theory and practice. *Career development and counseling: Putting theory and research to work*, *2*, 144-180.

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.

Sawilowsky, J., & Markman, B. (2017). Experiment-wise Type I error rates in nested (hierarchical) study designs. *Journal of Modern Applied Statistical Methods*, *16*(1), 4.

Schyns, B., & Von Collani, G. (2002). A new occupational self-efficacy scale and its relation to personality constructs and organizational variables. *European Journal of Work and Organizational Psychology*, *11*(2), 219-241.

Shear, B. R., & Zumbo, B. D. (2013). False positives in multiple regression: Unanticipated consequences of measurement error in the predictor variables. *Educational and Psychological Measurement*, *73*(5), 733-756.

Smyth, J. M., & Pennebaker, J. W. (2008). Exploring the boundary conditions of expressive writing: In search of the right recipe. *British Journal of Health Psychology*, *13*(1), 1-7.

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.

Spera, S. P., Buhrfeind, E. D., & Pennebaker, J. W. (1994). Expressive writing and coping with job loss. *Academy of Management Journal, 37,* 722–733.

Steger, M. F., & Dik, B. J. (2009). If one is looking for meaning in life, does it help to find meaning in work? *Applied Psychology-Health and Well Being*, *1*(3), 303–320. https://doi.org/10.1111/j.1758-0854.2009.01018.x.

Steger, M. F., Frazier, P., Oishi, S., & Kaler, M. (2006). The meaning in life questionnaire: Assessing the presence of and search for meaning in life. *Journal of Counseling Psychology*, *53*(1), 80.

Steger, M. F., & Kashdan, T. B. (2007). Stability and specificity of meaning in life and life satisfaction over one year. *Journal of Happiness Studies*, *8*(2), 161-179.

Steger, M. F., Kashdan, T. B., Sullivan, B. A., & Lorentz, D. (2008). Understanding the search for meaning in life: Personality, cognitive style, and the dynamic between seeking and experiencing meaning. *Journal of Personality*, *76*(2), 199-228.

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. https://doi.org/10.1177/1069072709350905.

Stevens, J. P. (1984). Outliers and influential data points in regression analysis. *Psychological Bulletin*, *95*(2), 334.

Streiner, D. L. (2015). Best (but oft-forgotten) practices: The multiple problems of multiplicity—whether and how to correct for many statistical tests. *The American Journal of Clinical Nutrition*, *102*(4), 721-728.

Super, D. E., & Knasel, E. G. (1981). Career development in adulthood: Some theoretical problems and a possible solution. *British Journal of Guidance and Counselling*, *9*(2), 194-201.

Tabachnick, B. G., & Fidell, L. S. (2001). Using multivariate statistics. Allyn and Bacon. *Needham Heights, MA*.

Tabachnick, B. & Fidell, L. (2013). *Using multivariate statistics*. Boston: Pearson Education.

Tausczik, Y. R., & Pennebaker, J. W. (2010). The psychological meaning of words: LIWC and computerized text analysis methods. *Journal of Language and Social Psychology*, *29*(1), 24-54.

Thompson, J. A., & Bunderson, J. S. (2019). Research on work as a calling… and how to make it matter. *Annual Review of Organizational Psychology and Organizational Behavior*, *6*, 421-443.

Wampold, B. E., & Freund, R. D. (1987). Use of multiple regression in counseling psychology research: A flexible data-analytic strategy. *Journal of Counseling Psychology, 34*(4), 372.

West, S. G., Aiken, L. S., & Krull, J. L. (1996). Experimental personality designs: Analyzing categorical by continuous variable interactions. *Journal of Personality, 64,* 1-49.

Whiston, S. C., Li, Y., Mitts, N. G., & Wright, L. (2017). Effectiveness of career choice interventions: A meta-analytic replication and extension. *Journal of Vocational Behavior*, *100*, 175-184.

White, M. (2018). *Calling in the United States: Prevalence and the role of source* (Master's thesis, Colorado State University. Libraries).

White, M. J., Olivas, N. T., & Dik, B. J. (2016). *Antecedents and sources of calling in the United States*. Poster session presented at the meetings of the American Psychological Association, Denver, CO.

Wrzesniewski, A. (2002). "It's Not Just a Job" Shifting Meanings of Work in the Wake of 9/11. *Journal of Management Inquiry*, *11*(3), 230-234.

Wrzesniewski, A. (2012). Callings. In K. S. Cameron & G. Spreitzer (Eds.), *Handbook of Positive Organizational Scholarship*. Oxford University Press. http://dx.doi.org/10.1093/oxfordhb/9780199734610.013.0004

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. https://doi.org/10.1006/jrpe.1997.2162.

Xie, B., Xia, M., Xin, X., & Zhou, W. (2016). Linking calling to work engagement and subjective career success: The perspective of career construction theory. *Journal of Vocational Behavior*, *94*, 70–78. https://doi.org/10.1016/j.jvb.2016.02.011.

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. https://doi.org/10.1177/1069072714535029.

APPENDICES

APPENDIX A

Writing Prompts for Participants

Control Condition:

Days 1-4: Write about your plans for the day in as much detail as possible. Spend 20 uninterrupted minutes writing about your plans. Don't worry about punctuation and grammar in your writing. Just get your thoughts down as best you can.

Career Goals Condition:

Days 1-4: Think about your career in the future. Imagine that everything has gone as well as it possibly could. You have worked hard and succeeded at accomplishing all of your career goals. Think of this as the fulfillment of your calling. Now, spend 20 uninterrupted minutes writing about what you imagined. Don't worry about punctuation and grammar in your writing. Just use the time to think deeply about your life and get your thoughts down as best you can.

Adaptability Condition:

Day 1: The goal for today is to spend 20 uninterrupted minutes engaging in reflective writing about your life and career. Read the questions below. Don't worry about punctuation and grammar in your writing. Just use the time to think deeply about your life and get your thoughts down as best you can.

Imagine a career-altering obstacle, for example not getting into medical school, law school, or being laid off from first job (an initial job that seemed exciting and really promising). **What would it feel like to experience that obstacle?**

Day 2: The goal for today is to reflect on your strengths in light of a potential career obstacle. Spend 20 minutes responding to the questions below, as you reflect about your life and career. Don't worry about punctuation and grammar. Just use the time to think deeply about your life and get your thoughts down as best you can.

Imagine a career-altering obstacle, for example not getting into medical school, law school, or being laid off from first job (an initial job that seemed exciting and really promising). **What strengths could you rely on/use that can help you overcome this obstacle?** (If you need assistance thinking of strengths: When have you overcome obstacles in the past? What skills and supports have you used at that time?)

Day 3: The goal for today is to reflect on your support network in light of a potential career obstacle. Spend 20 minutes responding to the questions below. Don't worry about punctuation

and grammar. Just use the time to think deeply about your life and get your thoughts down as best you can.

Imagine a career-altering obstacle, for example not getting into medical school, law school, or being laid off from first job (an initial job that seemed exciting and really promising). **How could you rely on sources of social support during this time?**

Day 4: Today's goal is to consider (in light of what you've written during the last three days) overcoming a potential career obstacle. Spend 20 minutes responding to the questions below. Don't worry about punctuation and grammar. Just use the time to think deeply about your life and get your thoughts down as best you can.

Imagine a career-altering obstacle, for example not getting into medical school, law school, or being laid off from first job (an initial job that seemed exciting and really promising). **What ways do you see yourself responding to this positively, and being able to overcome this obstacle?**

<u>Purpose Condition:</u>

Day 1: *The goal for today is to spend 20 uninterrupted minutes engaging in reflective writing about your life and career. Read the question below. An example is provided to get you thinking, but in 20 minutes you can add a lot of detail beyond what is shown in that example. Don't worry about punctuation and grammar. Just use the time to think deeply about your life and get your thoughts down as best you can.*

WHAT DO YOU FIND ULTIMATELY IMPORTANT? This is a big question, but don't shy away from it. Think carefully about why you feel you are walking the earth right now. What matters most to you, personally? One (somewhat morbid, but highly poignant) way to think about this is to imagine yourself attending your own funeral. What are you hoping that people will say about what mattered most to you? Write about that here:

EXAMPLE | *Chris wrote: "I think a lot about people in my life who I care about, but I also feel like I have been given a lot, so I ought to be a good steward. To me, that means using opportunities, resources, and my strengths in ways that are positive. That's really what it boils down to—if I am being a good steward of what I've got, not taking stuff for granted, trying to have a positive influence in any way I can, then I'm doing what I'm supposed to be doing."*

(~20 minutes)

Day 2: *Today, the goal is to move beyond what you find ultimately important, and to consider what you are most passionate about, and what motivates you. Spend 20 minutes total responding to two questions about these things, as you reflect deeply about your life and career. Again, examples are provided to get you thinking, but in 20 minutes you can add a lot of detail beyond what is shown in those examples. Don't worry about punctuation and grammar. Just use the time to think deeply about your life and get your thoughts down as best you can.*

WHAT ARE YOU MOST PASSIONATE ABOUT? Now think about what specific activities you get most excited about. When you are engaged in an activity that you thoroughly enjoy—one in which you are so fully absorbed, you lose track of time—what activity are you doing?

EXAMPLE | *Chris: "For me it is probably being outdoors. I love being outside, whether that's hiking, biking,*

camping, fly-fishing, and so on. Fishing especially--when I'm on the water I get totally into it. I spend a lot of time thinking about my impact on nature, and it makes me want to be a positive force for the environment. I try to walk or bike instead of drive when I can, and I don't buy stuff that uses tons of packaging. I try to tell other people to be more aware of their carbon footprint, too. These are small things obviously, but I love the outdoors and I always feel good when I am doing things to help it stay beautiful."

(~10 minutes)

WHAT MOTIVATES YOU? Motivation refers to the reason a person does something. Motivation is the answer to questions like "What gets you out of bed in the morning?" or "When it comes down to it, why do you do what you do?" or "What are you after?" When you are asked questions like that, what comes to mind?

EXAMPLE | *Chris: "I care a lot about growth—I think that's why I do a lot of the things I do. I feel motivated to get better, to have new experiences and always learn more. Just to improve as a person. I don't ever want to be stagnant or complacent, so I'm always trying to grow in lots of different ways."*

(~10 minutes)

Day 3: *Today's goal is to consider (in light of what you've written during the last two days) the kind of impact you'd like to have with your life and career, and also what your purpose might be. Spend 20 minutes total first writing about your impact, and then distilling your values, motives, passions, and desired impact into a "purpose statement." Again, examples are provided to get you thinking. Don't worry about punctuation and grammar. Just use the time to think deeply about your life and get your thoughts down as best you can.*

WHAT IMPACT DO YOU WANT TO HAVE? What people or causes do you most want to impact in a positive way—and what kind of positive impact feels most meaningful to you?

EXAMPLE | *Chris: "It's kind of crazy, but for a long time, people have given me really encouraging feedback about my leadership skills. I think I have a knack for influencing people—somehow, they listen to me. I can be persuasive, I guess. Knowing that, I feel a lot of responsibility for influencing people in positive ways, especially about the environment. I still have a lot to learn, but eventually I feel like maybe I'd be a good leader, because if you can influence other people in positive ways, than your impact multiplies. That's kind of exciting to me."*

(~10 minutes)

STATE YOUR PURPOSE. Take a look at what you wrote above. Now, sum up what you wrote in each of those boxes by pulling it together into a single statement. This statement summarizes your purpose, combining what you find important, your passion, what motivates you, and what kind of impact you want to have. Give it a try!

EXAMPLE | *Chris: "Because being a good steward is most important to me, I want to use my passion for enjoying and taking care of the environment, with personal growth as motivation, so that I can have a positive impact on the environment through leading other people to do the same.*

Because _____ is most important to me,
I want to use my passion for _____,
with _____ as motivation,
so that I can have a positive impact on _____.

(~10 minutes)

Day 4: *Today's goal is to consider (in light of what you've written during the last three days) what you hope a typical day in the life of your future self might look like. Don't worry about punctuation and grammar. Just use the time to think deeply about your life and get your thoughts down as best you can.*

YOUR FUTURE SELF. First, take a few minutes and re-read what you've written over the last three days. Next, with those things fresh in your mind, write a narrative about a typical day in the

life of your future self, from the time you wake up to the time your head hits the pillow. Take your time, add in lots of details, be thorough (you have unlimited space for this!), and enjoy the experience. Within your narrative, make sure you describe the following:

- What you are doing.
- The setting you are doing it in.
- The kind of people you are with.
- The impact you are having.
- How it feels.

(~20 minutes)