

DISSERTATION

VOCATIONAL DISCERNMENT THROUGH FAITH SCALE: DEVELOPMENT AND
VALIDATION

Submitted by

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ABSTRACT

VOCATIONAL DISCERNMENT THROUGH FAITH SCALE: DEVELOPMENT AND VALIDATION

People who identify as religious/spiritual may pray for direction and then wait until a clear response is received, however, theologians have argued that God has historically guided career paths indirectly through one's utilization of resources aiding in self-reflection and career discernment. Practical career development recommendations have encouraged students who may identify as religious or spiritual to take active discernment approaches instead of passive discernment approaches within the career decision-making process. There is a paucity of research quantitatively exploring the role of religion/spirituality in one's career decision-making process. The current project involved two studies designed to comprehensively explore and investigate the validity and reliability of the Vocational Discernment Through Faith Scale, which quantitatively measured the constructs of passive discernment and active discernment approaches to the career decision-making process. Participants were undergraduate students at Colorado State University, a large Western (U.S.) public university, recruited from the population of students enrolled in introductory psychology courses. Results indicated initial evidence of psychometrically sound qualities of a condensed two-factor scale that showed adequate to good fit across factor analysis processes using both Exploratory Factor Analysis (Study One) and Confirmatory Factor Analysis (Study Two). Results also suggested strong internal consistency reliability for the two dimensions of the scale, and promising test-retest reliability results. These

results are promising, and point to the need for future research that continues to investigate the factor structure of the Vocational Discernment through Faith Scale.

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INTRODUCTION

Many people spend a significant amount of time working throughout their lives, and scholarly research has focused on studying potential deeper meanings and religious and spiritual significances associated with work (Carroll, 2013). In recent decades there has been a growing interest in the interface of religion, spirituality, and work, with much of this scholarship focusing on organizational and workplace contexts. However, research on religiousness in career development per se is sparse, despite a call for more investigation nearly 20 years ago (Duffy, 2006). Clearly, more work is needed to understand how religious experience may influence career development.

Career development research has explored career decision-making and the impact and effectiveness of different career decision-making styles (Gati & Kulcsár, 2021; Swanson & D'Achiardi, 2005). Most germane to religion/spirituality and career development is exploring the role of religion/spirituality in one's career decision-making process. Some religious people may rely on a passive vocational discernment strategy in which they pray for a divine revelation, then wait for a clear response before acting (Dik & Duffy, 2015), while others may take a more active approach. Passive vocational discernment strategies such as this "pray and wait" approach have been noted, and have also emerged in qualitative work, but have not yet been explored quantitatively (Alayan, 2021; Dik et al., 2009). The current research seeks to gather validity and reliability evidence for a new scale that measures passive and active vocational discernment related to one's religion/spirituality and career decision-making- process. In doing so, this research aims to advance knowledge of the role religion can play in the vocational discernment process.

Career Development and Faith Development Within Undergraduate Students

Many undergraduate students are within the ages of 18-25 years old, characterized by emerging adulthood within the developmental psychology literature (Arnett, 2000). Emerging adulthood is defined by identity explorations in various domains of life (e.g., career, religion/spirituality), instability, focus on self, feeling of transition, and focus on possibilities (Arnett, 2023). During this life phase, while undergoing identity exploration, emerging adults may find that their career development is characterized by finding the foundation for an occupation. Emerging adults may learn more about themselves through their career decision-making processes and, in college, this can involve sampling different majors and jobs, all while learning about themselves and the world of work (Arnett, 2023). Therefore, emerging adulthood and undergraduate students are an especially relevant population to focus on related to career decision-making and vocational discernment research. Indeed, Erikson's stages of psychosocial development include an Adolescence stage characterized by the conflict of identity versus identity confusion (Erikson, 1994). The focus on identity draws parallels to the focus on identity exploration within emerging adulthood theories of development, and provides additional developmental psychology focus on the identity exploration and development occurring during one's undergraduate years.

Super's life-span life-space career theory emphasizes career development through stages. Notably, the life-span aspect of the theory highlights the longitudinal component, and emphasizes career development as a process occurring throughout one's life (Super, 1980). Super proposed five stages of career development, with each stage consisting of specific developmentally-relevant vocational tasks. Most applicable to the undergraduate student population is Super's exploration life stage, occurring from age 14 to age 24. Super posited that

the exploration life stage is characterized by crystallization and actualizing occupational decisions (Super, 1980). Super's theory parallels Erikson's Adolescence stage and Arnett's emerging adulthood stage research, with the emphases on exploration, with Super's theory focusing on exploration within the career development process.

Throughout emerging adulthood and identity exploration, students may also be engaging in exploration of their religious/spiritual identities and values. Fowler's (1981) theory of faith development highlights that adolescence may be characterized by a synthetic-conventional faith stage, whereby one's faith beliefs are defined by other influences and not by one's personal reflections. Fowler posited that individuals can move to individuated-reflective faith, characterized by questioning faith beliefs subscribed to them by other influences, and begin to adopt value systems and beliefs characterized by their own exploration and development (Fowler, 1981). Undergraduate students may be operating in either stage, and/or they may be engaging in moving from the synthetic-conventional stage to the individuated-reflective stage (Fowler & Dell, 2006). This highlights the relevance of faith belief development during the undergraduate years. Of note, stage research can be limiting and prescriptive, and fail to capture the individual exploration and identity experiences of students. However, it can provide important insight into the developmental considerations of students during the undergraduate years, a focus of the current work.

Religion, Spirituality, and Work

A July 2023 Gallup survey indicated that 47% of Americans identify as religious, 33% as spiritual but not religious, 18% as neither spiritual or religious, and 2% as both spiritual and religious (Gallup, 2023). Gallup surveys show 81% of Americans express a belief in God (Gallup, 2022). Although these numbers have decreased in recent years (e.g., 92% of Americans

expressed belief in God in 2011 and 87% expressed a belief in God in 2018; Gallup, 2011, 2018), religion still appears to play an important role in many people's lives. For example, 49% of Americans indicate that religion is "very important" to their lives and approximately 27% of Americans indicate that religion is "fairly important" (Gallup, 2021). Given this level of importance, religious beliefs may impact one's decision-making, including career decisions.

Research has examined some of the dynamics related to religion, spirituality, and work (Benefiel et al., 2014; Dean et al., 2003; Obregon et al., 2021) but, as noted above, there is a dearth of research on the potential influence of religious beliefs on career development specifically. Examples of work adjacent to religion/spirituality and career development include the Faith at Work movement, Workplace Spirituality, and Work as a Calling (Dik et al., 2012; Duffy et al., 2018; Mhatre & Mehta, 2023; Miller, 2003; Miller & Ewest, 2013). In what follows, I provide a brief overview of these three areas.

Faith at Work Movement

Individuals who identify as religious have reported struggles with the connection between their religious beliefs and their work (Epstein, 2002; Miller, 2003). In one study, Christians reported that pastors were not preaching about work and felt unsupported by the church in their weekly work lives (Miller, 2003). Miller (2007) described the Faith at Work movement as being "...organized around a quest to integrate one's personal faith teachings with one's professional work responsibilities" (p. 6). The Faith at Work movement began during the 19th century and is characterized by three eras of the movement: the Social Gospel era, the Ministry of the Laity era, and the current Integration of Faith and Work era (Benefiel et al., 2014).

The Faith at Work movement has many sub-groups and includes people working in major companies, academia, publishing, ministries, and a variety of other professions (Miller, 2003).

Faith at Work groups vary in size and structure, with some groups being informal and loosely structured and other groups being highly organized, including formal requirements for members (Miller, 2003). There are four broad categories that encompass the issues that such groups focus on: ethics, evangelism, experience, and enrichment (Miller, 2007). The Faith at Work movement includes those who identify with a wide range of theologies, including Protestant and Catholic, as well as a wide range of faiths/backgrounds, including people identifying as Jewish, Buddhist, Confucian, and Islamic (Miller, 2003).

The third and current era of the Faith at Work movement is characterized by research on integration strategies (i.e., ways that people may align their faith and their work). Scholars have explored the integration of faith and work among employees and professionals from a variety of workplaces and professions, finding that many people desire opportunities to integrate their faith and their work, but perceive a lack of resources to assist in the integration process (Benefiel et al., 2014; Miller & Ewest, 2013). Recent research has also explored the experiences of adult workers who experience faith-work conflicts. For instance, Ecklund et al., (2020) observed that 20% of adult participants reported faith-work conflicts (e.g., expected to complete tasks for their work that contradict their religious belief system) occurring at least occasionally within one's job.

The Faith at Work scale was developed by Lynn et al. (2009) to quantitatively measure integration of religious beliefs and work. Characterized by the third and current era of the Faith at Work movement (Integration of Faith and Work), the scale aimed to measure faith and work integration within a "broad range of Judeo-Christian traditions, occupations, and demographics" (Lynn et al., 2009, p. 231). The Faith at Work scale measures faith and work integration within five dimensions: *giving* (e.g., "I view my work as part of God's plan to care for the needs of

people”), *meaning* (e.g., “I view my work as a mission from God”), *community* (e.g., “I sacrificially love the people I work with”), *holiness* (e.g., “When I am with others and alone, I practice purity in my work habits”), and *relationship* (e.g., “I view my work as a partnership with God;” Lynn et al., 2009). Research using the Faith at Work Scale found that work-faith integration was positively related to life satisfaction, faith maturity, and affective, normative, and continuance organizational commitment (i.e., the associated costs a person perceives related to leaving an organization; Lynn et al., 2009; Walker, 2013). Overall, the Faith at Work movement focuses on adult workers and does not address career development, particularly career development during undergraduate years, a time characterized by exploration and crystallization of beliefs and identity.

Workplace Spirituality

The management literature has included research on issues related to workplace spirituality (Geigle, 2012). Workplace spirituality has been defined as “a framework of organizational values evidenced in the culture that promote employees’ experience of organizational transcendence through the work process, facilitating their sense of being connected to others in a way that provides feelings of completeness and joy” (Giacalone & Jurkiewicz, 2003, p. 13). Of note, the definition of workplace spirituality and research on the topic are broad, investigating ultimate purpose in life, relationships with coworkers, and mindfulness (Houghton et al., 2016). Generally, research on workplace spirituality investigates associations between spirituality and organizational performance, including exploring the effects of integrating spirituality and work on workplace outcomes such as productivity and turnover (Benefiel et al., 2014). Research has explored correlates associated with workplace spirituality, including attitudinal (e.g., job satisfaction, organizational commitment, employee motivation),

behavioral (e.g., productivity at work, helping behaviors), individual outcomes such as personal fulfillment, employee psychological and social well-being, creativity, and trust, as well as collective-level outcomes (e.g., organizational performance; Dik et al., 2024; Houghton et al., 2016; Pawar, 2016; Utami et al., 2021).

The workplace spirituality movement and literature includes language related to religion and religious beliefs; however, the workplace spirituality movement is not consistently characterized by how people who identify as religious view religion in the context of work (Milliman et al., 2003). Specifically, the way that the field of workplace spirituality defines the construct may not align with how people who identify as religious may conceptualize their experiences of religion/spirituality and work (Dik et al., 2024; Milliman et al., 2003). Several challenges related to workplace spirituality research have been identified, including challenges with conceptualizing workplace spirituality constructs (e.g., spirituality, religion, and workplace spirituality), finding theoretical coherence and a dominant paradigm amidst theoretical diversity, the overwhelming focus on the individual level of analysis as compared to other relevant levels of analysis (e.g., team, organization, culture), and navigating the constructs of religion and spirituality within workplace practice (Dik et al., 2024). Several proposed recommendations to address these challenges include approaching workplace spirituality research using integrative multilevel methods and frameworks and incorporating a meaning systems approach as a theoretical framework (Dik et al., 2024). Workplace spirituality research focuses on adult workers' experience at work and organizational behavior and seldom addresses individual career development.

Work as a Calling

Work as a Calling research is a specific example of an area of vocational psychology research that overlaps with religion/spirituality (Dik et al., 2012; Marsh & Dik, 2021; Shimizu et al., 2019). Notably, transcendent summons (i.e., the idea that calling may come from a source external to an individual, e.g., God) is a key component of Dik and Duffy's (2009) definition of calling. Meaningful/purposeful work is another component, such that perceiving meaning from one's work is connected to one's overall meaning-making system, which can be related to one's religious beliefs. Duffy and Sedlacek (2010) found that 44% of first-year college students at a large public university reported having a calling to a career and 28% indicated that they are searching for a calling. White et al. (2021) found that, in a nationally representative sample, 43% of adult participants reported having a calling to a particular kind of work, suggesting that calling is a relevant construct for undergraduate students and working adults. Indeed, having a calling and living a calling are found to be positively related to several work-related criterion variables (i.e., decisiveness, career clarity; Duffy & Sedlacek, 2007) and negatively related to other career-related criterion variables (i.e., indecisiveness and lack of educational knowledge). Calling is also positively related to well-being criterion variables, including life satisfaction, psychological well-being, and life meaning (Duffy et al., 2011; Kim et al., 2017; Praskova et al., 2015).

The stability of work as a calling as a construct has been explored in several studies. Initial research indicated calling to be a stable state construct, with the emphasis on searching for a calling and finding the presence of a calling (Duffy & Sedlacek, 2007). Longitudinal research in samples of undergraduate students and medical students has observed small changes in calling over time (Duffy et al., 2011; Duffy et al., 2014). However, different changes have been observed, with some studies showing small increases in calling (Duffy et al., 2014), other studies

showing small decreases in calling (Duffy et al., 2011), and other studies suggesting calling remaining stable (Bott & Duffy, 2015).

Notably, using a cluster analysis approach, Vianello et al. (2020) investigated individual-level changes in calling across time and observed that individual differences varied widely, impacted by different factors. Notably, stability of calling was more likely to be found in older students and the prosocial orientation and transcendent summons dimensions of calling were found to be representative of higher levels of change, independent of other dimensions of calling (Vianello et al., 2020). Vianello et al., (2020) posited that living out a calling played a meaningful role in the stability of calling, such that change trajectories of calling were influenced by the extent that someone can live out a calling. The authors concluded that it remains unclear whether calling is a state construct or a trait construct (Vianello et al., 2020).

Several studies have investigated the relationship between religion and spirituality and viewing one's career as a calling. Duffy and Sedlacek (2010) found a weak relationship between presence of calling and religious beliefs. Bott and Duffy (2015) found a positive relationship between religious salience and calling, such that increased levels of religious salience were associated with an increased likelihood that an individual identified their work as a calling. Steger and colleagues (2010) found that calling could be conceptualized in ways relevant to the sacred views of religious individuals and also in ways relevant to secular views held by nonreligious individuals. Qualitative research has also found a relationship between presence of calling and religious and spiritual beliefs (Alayan, 2021; Hernandez et al., 2011).

Thus, prior research on The Faith at Work movement, Workplace Spirituality, and Work as a Calling have identified several major relationships. Key findings of these areas of literature highlight the positive relationships between work-faith integration, organizational commitment

and life satisfaction, correlates of workplace spirituality and attitudinal, behavioral, individual, and collective-level outcomes, as well as having a calling and living a calling being correlated with work-related and well-being criterion variables (Dik et al., 2024; Duffy & Sedlacek, 2007; Duffy et al., 2011; Lynn et al., 2009; Walker, 2013). Both quantitative and qualitative research have found relationships between presence of calling and religious beliefs (Alayan, 2021; Bott & Duffy, 2015). However, research in these three areas has mainly focused on adult workers and has encountered challenges with conceptualizing religion and spirituality constructs (Dik et al., 2024; Lynn et al., 2009). Research directly related to religion/spirituality and career development remains sparse, especially with populations of undergraduate students, who may be in a period of particularly relevant career and faith exploration and crystallization. Thus, there is a need for research that more directly examines the impact of differing approaches for how people of faith incorporate or integrate their religious worldviews in the ways that they view their career-related decision making and potential implications of different ways of approaching this.

Strategies Related to Integration

The third and current era of the faith at work movement is characterized by the Integration of Faith and Work (Benefiel et al., 2014). Research specifically focused on the integration of faith and work has almost exclusively focused on working adults. For instance, the Barna group (2018) found that the Integrator profile (i.e., those who view their work and faith as connected or those who integrate their faith and work) was positively associated with perceiving a calling towards one's work, job satisfaction, and higher levels of overall well-being. The Compartmentalizer profile (i.e., those who experience their faith and work as disconnected) was not associated with positive work and life variables. The Integration Profile Faith and Work Integration Scale (Miller et al., 2018) was developed to explore different types of faith

expressions utilized by working adults within a variety of workplace settings. This research posited that religious working adults use orientations of integration within four main profiles of faith-work integration: Ethics, Expression, Experience, and Enrichment (Miller et al., 2018).

The Ethics profile focuses on personal religious values that translate into ethical principles for the workplace. The Expression profile posits that people will experience better job satisfaction if the workplace affirms the religious identity of the individual through tolerant policies toward expressions of one's faith. The Experience profile highlights finding a deeper sense of purpose and meaning in work. The Enrichment profile highlights viewing faith as a resource in the workplace (Miller et al., 2018). Quantitative research exploring faith-work integration strategies has focused on working adults, without addressing the applicability of this work to undergraduate students and career development processes.

The profiles of the integration of faith and work may highlight ways that individuals seek to align their religious identities with their experiences at work, and integration strategies may be examples of meaning-making related to one's faith and one's work (Alayan, 2021). A meaning-making system approach can be used to think about how religious worldviews may influence day-to-day behavior, thinking, and decision making (Paloutzian & Park, 2013). Park (2012) proposed that religion and spirituality as meaning systems may influence one's career via four pathways, consisting of career choice and development, work-related well-being, and work-related stress and coping.

Alayan (2021) used a qualitative meaning-making system approach to explore faith-work integration strategies within a population of undergraduate students, reporting that students used multiple strategies to integrate their religion/spirituality with their career development process. One theme that consistently emerged from the responses was an integration strategy focused on

serving and helping others (Prosocial; Alayan, 2021), consistent with prior work showing that religious and spiritual values of helping and serving others can be expressed through a career (Good et al., 2011; Leak, 1992). Another theme that emerged from those data was Guidance and Influence on Ethics and Values. This theme is similar to the Ethics Profiles that emerged from the Miller and colleagues' (2018) study on integration profiles in working adults. The Lifestyle Impact theme found within the Alayan (2021) study included responses that highlighted the role of spiritual practices in one's life, including prayer, Scripture reading, and church attendance. A similar theme emerged in Lynn and colleagues' (2009) study, whereby participants attributed spiritual disciplines as salient influences of work-faith integration. One unique theme that emerged from the Alayan (2021) study was related to Support and Comfort, whereby participants noted finding support and comfort related for career development decisions from their religion or spirituality. The Path/Plan theme was characterized by participants emphasizing the belief that there is a plan or path for their lives.

Of note, many students' responses were characterized by more than one integration strategy (Alayan, 2021). Thus, although there is some overlap seen with Miller's (2018) typology profiles (i.e., Ethics and Experience Integration profiles), Miller's (2018) typology profiles may not fully represent the integration strategies used by undergraduate students. As highlighted by developmental stages, college students may be exploring and crystallizing their career and religious identities and using unique integration strategies and combinations of integration strategies in their career-decision making process (Alayan, 2021). Research on integration strategies provides a foundation for understanding various strategies and themes that people who identify as religious or spiritual may engage in when making career-related decisions.

Career Decision-Making Styles

The process by which people make career-related decisions is important to address as people have differing levels of skill and confidence related to career decision-making (Swanson & D'Achiardi, 2005). Swanson and D'Achiardi (2005) noted that decision-making styles have been characterized as rational, intuitive, or dependent. Of particular relevance for the proposed study, the dependent style is characterized by decisions that are made by the opinions of others instead of the individual themselves and the intuitive style is characterized by decisions made based on feelings. Research has found that the dependent decision-making style is consistently linked to the least adaptive outcomes (e.g., personal control and career indecision; Chartrand et al., 1993; Swanson & D'Achiardi, 2005).

Recent research has delineated career decision-making styles into three models: normative, descriptive, and prescriptive (Gati & Kulcsár, 2021). There are many difficulties related to the career decision-making process, including choice anxiety, conflict (internal or external), lack of information, and lack of readiness. Career indecision (i.e., uncertainty surrounding choices related to one's vocational future; Fabio et al., 2012) and career indecisiveness (i.e., a persistent inability to make decisions related to one's career; Fabio et al., 2012) are two obstacles related to career decision making (Gati & Kulcsár, 2021). Challenges and obstacles can negatively impact the career decision-making process at various stages, prior to and throughout the process. Gati and Kulcsár (2021) posit that a better process leads to better outcomes. They identify the importance of recognizing non-cognitive and unconscious processes underlying career decision-making, which can be related to intuition.

Puffer et al. (2023) observed that, within a population of religious undergraduate students at a faith-based institution, presence of a calling and existential well-being positively predicted

vocational identity and negatively predicted career indecision. Higher scores on several variables from the Multidimensional Quest Orientation Scale, such as existential motives (i.e., having existential concerns related to finding meaning motivating religious beliefs) and exploration (i.e., intentionally exploring one's religious beliefs) were associated with lower levels of career indecision. Other variables from the Quest Orientation Scale, such as change (i.e., critical examination of current religious beliefs and openness to changing beliefs) and religious angst (i.e., experiences of negative emotions associated with one's religious beliefs) were negative predictors of vocational identity (Puffer et al., 2023).

Many factors can play a positive role in career decision-making processes, including career values ("an individual's attitudes, beliefs, and feelings about work and a particular occupation, and...traits or qualities that people look for in their profession or occupation"; Wang et al., 2023, p. 8). Students who identify as spiritual or religious may look to their overarching religion/spirituality (R/S) belief system to guide their discernment of their career values. For instance, those who identify as religious or spiritual may view the career decision-making process as one that is made in collaboration with God or a higher being, entirely separate from God or a higher being, or made by God or a higher being with no input from the individual themselves. A passive discernment process may be characterized by a dependent or intuitive style of career decision-making. In addition, depending on the impact of a passive discernment style, an individual's career decision-making process may include career indecision or career indecisiveness. Undergraduate students may be in a unique place of developing career decision-making strategies due to the developmental characteristics of exploration of beliefs (Arnett, 2000; Fowler & Dell, 2006).

Religious Coping

In addition to considering discernment style, religious coping may influence career decisions. Religious coping research examines different styles and strategies that people use to interact with God to cope with and manage stressful events in life (Ano & Vasconcelles, 2004; Krägeloh et al., 2012; Pargament et al., 1998; Pargament et al., 2000).

Research has investigated the relationships between religious coping and locus of control (i.e., internal or external locus of control; Rotter, 1966), notably as it relates to well-being outcomes. Kopplin (1976) proposed one characterized locus of control belief as God control, integrating both internal locus of control and external locus of control. While internal locus of control has been associated with better health and well-being outcomes when compared to external locus of control, God control has been linked to lower levels of depression (Bjorck et al., 1997). Wong-McDonald and Gorsuch (2004) found that a God locus of control was positively correlated with several religious coping styles, including collaborative, deferring, and surrender. God locus of control was also positively linked to well-being in several dimensions, including religious, existential, and spiritual well-being (Wong-McDonald & Gorsuch, 2004).

There are several patterns of religious coping with major life stressors and there are both positive and negative religious coping strategies. Positive coping methods include seeking spiritual support, meditating, and reflecting on the character of God to help in times of stress. Positive religious coping methods have been linked to lower levels of anxiety and depression (Ano & Vasconcelles, 2004). Negative coping methods include blaming God for one's stress or viewing stress as a punishment from God, strategies associated with anxiety symptoms (Francis et al., 2019). However, several researchers have posited that a more nuanced understanding of

religious coping is needed, one that moves beyond characterizing coping strategies as positive or negative (Lehmann & Steele, 2020; Surzykiewicz et al., 2022).

One method of religious coping is known as Deferring Religious Coping, or passively waiting for God to control the situation. This method has been linked to mixed health outcomes (Pargament et al., 1998). Passive deferral coping has been associated with lower levels of anxiety (Gall, 2006) but also has been found to be positively associated with posttraumatic growth (Lehmann & Steele, 2020). Surzykiewicz et al. (2022) also reported that passive religious deferral approaches were negatively correlated to resilience. However, mediation analyses revealed that negative religious coping methods, including passive religious deferral, enhanced a positive relationship between resilience and mental well-being. These findings indicate that negative coping, such as passive approaches, can be part of a faith journey that enhances the connection between resilience and well-being (Surzykiewicz et al., 2022). Thus, passive approaches to coping may provide religious individuals mixed outcomes, especially when engaging in trauma recovery.

Notably, Lehmann and Steele (2020) found that one particularly beneficial religious coping strategy used by participants with posttraumatic stress was Active Surrender, whereby participants took responsibility for some actions, while also looking to God to control situations outside of their control. In their sample, this was the most prominent coping strategy found to be used by participants. Lehmann and Steele (2020) found the Active Surrender coping approach to be negatively associated with posttraumatic stress, whereas a Passive Deferral approach was positively associated with posttraumatic stress. This research illustrates a broadening conceptualization of religious coping strategies.

Much of the religious coping research focuses on medical patients and trauma recovery (Ano & Vasconcelles, 2004; Francis et al., 2019). However, career-related choices and the vocational discernment process can be viewed as a significant life stressor as well and religious people may use similar religious coping styles within their career-decision making. Of primary concern in the current work is the role of religion and vocational discernment in career development among undergraduates.

“Pray and Wait,” Passive Discernment and Active Discernment

Prayer has been mentioned as one way of engaging with the career development and career decision-making processes (Abkhezr et al., 2018). Some people may take a “pray and wait” approach to their career decision-making, a point which has received some speculation in prior work (Dik et al., 2009; Dik et al., 2012). A passive discernment approach has also been identified in qualitative research with religious participants. For example, when exploring different integration strategies related to career decision-making among undergraduate students, Alayan (2021) reported a Path/Plan theme, characterized by participants emphasizing the belief that there is a path or plan for their lives. This comports with other research suggesting that religious students report a belief in a divine will or plan for their lives and their careers (Rehm & Allison, 2009). Of note, many responses in this theme communicated an aspect of waiting for this plan to be revealed. Thus, an individual may be “praying-and-waiting” and not taking an active role in the discovery process of their career. Examples of these responses found in Alayan (2021) are included in Table 1.

Table 1

Examples of qualitative responses characterized by a “praying-and-waiting” approach to career found in Alayan (2021)

Example Responses
“I integrate my religion with my decision making by knowing that God has a plan for me and that unexpected things happen in life. All I can do right now is hope to get to the outcome that I am trying to get to.” “I pray and ask God to show me my calling.” “I also try not to worry too much about the future and leave many options open in hopes that God will reveal to me the right path when the time is right.” “I pray about a big decision before I make it and ask God to show me if this is the correct decision for my future. Although there have been experiences I did not like, I tried my best to trust that God is taking me down that road for a reason.” “I integrate my religion into my career development through the trust that I have in my spirituality to bring me to where I am supposed to be in life.”

Although it is common practice for people who identify as religious to pray and plead for direction and then wait until a clear response is received, theologians from Abrahamic traditions have argued that God has historically guided career paths indirectly through one’s utilization of resources aiding in self-reflection and career discernment (Hardy, 1990; Schuurman, 2004). Practical implication recommendations have been provided related to encouraging students and working adults who may identify as religious or spiritual to take active discernment approaches instead of passive discernment approaches within the career decision-making process (Marsh & Dik, 2020). For instance, Dik and colleagues (2009) encouraged active discernment by

implementing practices of self-reflection and encouraging students to pursue resources that aid career decision making. To meaningfully contribute to literature in this area and study these constructs quantitatively, the constructs of passive discernment and active discernment approaches to the career decision-making process need to be measured. The current project involves two studies designed to comprehensively explore and investigate the validity and reliability of the Vocational Discernment Through Faith Scale.

Development of the Vocational Discernment Through Faith Scale

The current studies build on earlier work to develop a scale that measures passive vocational discernment through “praying-and-waiting” (the Pray and Wait Scale).

Initial Development of the Pray and Wait Scale. The Pray and Wait Scale (PaWS) began with eleven items. No subject matter experts were consulted on the items and an initial study was conducted to develop the scale and explore its psychometric properties. Two hundred forty participants (66% women, 65% White, *Mage* = 19.21) were recruited from Colorado State University’s Research Participation pool, with participants only included if they indicated engaging in prayer at least once a month. At that point in the scale’s development, conceptualization of the construct was relatively narrow and largely focused on the act of prayer within the passive discernment process. Many of the items included the word “prayer” and the prayer aspect of “praying-and-waiting” was interpreted by the researcher to indicate a strategy of engaging in prayer and then waiting for a response.

An exploratory factor analysis (EFA) indicated that one factor was sufficient for the model. However, to achieve acceptable fit, several items were removed. Further inspection of the discrepancy matrix indicated several items that were causing misfit, with some items correlating too strongly with other items and not correlating enough with other items. Upon taking out one

item at a time, single-factor Confirmatory Factor Analyses (CFA) were run. The results of that CFA indicated a well-fitting model with four items comprising the initial Pray and Wait Scale (see Table 2).

Table 2

The final four items of the initial Pray and Wait Scale

Final Items of the Initial Pray and Wait Scale
I'm waiting for a higher power to send me a message for what career path I'm supposed to take.
As long as I keep praying, God will eventually show me what my calling is.
There is nothing that I can do to determine what kind of work I'm called toward besides pray and wait for God to give me a clear sign.
I am waiting for God to provide direct guidance before I can pursue a calling in regards to my career.

The initial Pray and Wait Scale provided evidence for measuring passive vocational discernment through praying and waiting. A CFA examining the one-factor model of the Pray and Wait Scale (PaWS) demonstrated acceptable fit indices: $\chi^2 (6) = 555.23, p < .01$, RMSEA = .09, SRMR = .02, and CFI = .99. The discrepancy matrix did not reveal any relationships among items indicative of misfit. Internal consistency was strong ($\alpha = .88$). As predicted, PaWS scores were positively related to religious commitment ($r = .55, p < .01$), faith at work ($r = .58, p < .01$), and search for calling ($r = .24, p < .01$). PaWS scores were negatively related to career decidedness ($r = -.18, p < .01$).

A second study using the initial Pray and Wait Scale was conducted to explore the intersection between religiousness and career development, and a link with well-being and health. The sample of undergraduate students was limited to those who indicated they engaged in prayer at least once a month, resulting in 259 participants (71% women; 71% White). When controlling for other religious variables, “praying-and-waiting” was found to be a negative predictor of career commitment, career confidence, living a calling, life satisfaction, and health. This study tested multiple linear regression models using the PaWS, religious commitment, intrinsic religiosity, and faith at work as predictors of work, health, and well-being criterion variables. PaWS scores negatively predicted career commitment ($\beta = -.36, p < .01$) and career confidence ($\beta = -.30, p < .01$); PaWS was the only significant predictor in both of those models. The PaWS was negatively related to living a calling ($\beta = -.17, p < .05$), while religious commitment was the only other significant predictor in this model ($\beta = .25, p < .05$). Likewise, the model predicting health revealed both the PaWS ($\beta = -.16, p < .05$) and religious commitment ($\beta = .25, p < .01$) as the only significant predictors. A similar pattern emerged in a model predicting life satisfaction; PaWS was the lone significant negative predictor ($\beta = -.27, p < .01$) and religious commitment was the only significant positive predictor ($\beta = .26, p < .05$).

These data demonstrated initial construct validity evidence and suggested that passive vocational discernment through “praying-and-waiting” has an important, and possibly unique, role in explaining how religious people experience their career development process, well-being, and physiological health. This initial research suggested that “praying-and-waiting” is linked to deleterious health and well-being experiences in ways that other religious variables are not.

Need for an Updated Scale. Following the initial research on the Pray and Wait Scale, a need for a broader instrument was identified. The Pray and Wait Scale explored only passive

vocational discernment, however religious individuals may take an active discernment approach to the vocational discernment process, an approach characterized by one looking to God for assistance in the career decision-making process, while also taking active steps in career exploration. In response, I re-engaged in the scale development process. Regarding item writing, I used a deductive approach starting with a broad idea and definition of constructs and used this to inform my decision regarding the anticipated number of factors, which was two (passive discernment and active discernment). Next, I wrote items intended to measure the hypothesized two-factor model (Burisch, 1984). I started with a goal to create items that would tap into passive vocational discernment and active vocational discernment related to one's religious/spiritual beliefs. I generated a list of main ideas and topics, which turned into items that I felt wholly represented the construct I was hoping to measure. I then created a sample list of items. As recommended by DeVellis (2017), I began with a large number of items, about 3 to 4 times the number that I hoped to end up with for the final scale. I focused on creating short items that avoided the use of double negatives or "double-barreled" statements (DeVellis, 2017). Once I had compiled this list of items, I sent this list to several subject matter experts. Ultimately, I had three subject matter experts review my list of initial items. Two of the subject matter experts were graduate students in a PhD Counseling Psychology program who have published on relevant topics, including calling, career development, and meaning/purpose. One of the subject matter experts was a professor of psychology who has published extensively on topics related to religion/spirituality, work as a calling, and career development.

Based on the feedback provided from the subject matter experts, I made appropriate revisions to the scale. These revisions included deleting items that were found to be unnecessary or not critically important for the definition of the construct, as well as rewording items to

improve their clarity. I retained items that the subject matter experts agreed were appropriate for measuring the construct. The final 34 items used in the scale can be found in Appendix A.

Upon the recommendation from two of my subject matter experts, I chose to exclude a neutral response option. The final response options were on a 5-point scale, 1=*Not at all true of me*, 2=*Mildly true of me*, 3=*Moderately true of me*, 4=*Mostly true of me*, and 5=*Totally true of me*. Dawis (2000) recommends not including a neutral response option to avoid a response bias toward neutral options. Based on the recommendation from one of my subject matter experts, a 0=*Does not apply to me* option was included. Along with the inclusion of this response option, an additional sentence was added to the instructions for the scale: “If you do not believe in God, 0 may be the most appropriate response.”

Purpose Of the Current Studies

Research has found that people with an active faith perspective may look to their relationship with God or a higher power for guidance during their vocational discernment process (Duffy & Lent, 2008). However, some religious people may rely on a passive vocational discernment strategy in which they pray for a divine revelation, then wait for a clear response before taking action (Dik & Duffy, 2015). Several authors have speculated about this possibility. For example, Dik and Duffy (2015) note:

...a potential vulnerability we have observed in clients who view their career decision making through this lens is what we have called the ‘pray-and-wait’ approach. This strategy consists of issuing a plea for a clear sense of direction and then passively waiting for its unveiling (p. 310).

For the purposes of this study, a passive discernment approach to the vocational discernment process may be characterized by an individual waiting for God to show them explicitly what they

are supposed to be doing, while not taking any initiative to pursue available resources or supports related to career decision-making. Essentially, this is represented by a religiously oriented passive waiting approach to one's vocational discernment process. Alternatively, religious people who take an active discernment approach to the vocational discernment process may be characterized by an individual looking to God for assistance related to career decision-making and also taking responsibility and active steps towards discerning their vocational choices.

To date, there has not been any quantitative research exploring this construct. The purpose of the current studies was to continue the process of developing a scale to measure this construct and establish evidence of validity and reliability of scale scores. The Vocational Discernment Through Faith Scale will operationalize a construct for purposes of empirical investigation and practical implementation. This scale will benefit the field by exploring aspects of passive and active discernment related to faith that may represent college students' approaches to career-decision making processes. To accomplish this purpose, the current project assessed a range of career-related and well-being variables in a sample of undergraduate students to evaluate the psychometric properties of the Vocational Discernment Through Faith Scale.

STUDY ONE

Hypotheses

The purpose of Study One was to further develop the Vocational Discernment through Faith Scale and assess its psychometric properties. An additional goal of Study One was to condense the scale to minimize participant fatigue. Study One used the 34-item pool, refined through the consultation process with subject matter experts explained previously, to test the initial psychometric properties and factor structure of the Vocational Discernment through Faith Scale. Through these data, a reduced version of the scale was also determined. The Vocational Discernment through Faith Scale was designed to reflect two factors, representing Passive Discernment and Active Discernment. Study One also investigated the relationships between scores on the two proposed dimensions of the Vocational Discernment through Faith Scale and related measures, including career, well-being, and religious variables. After developing and refining items for the proposed scale and evaluating the scale's factor structure, several hypotheses were tested in Study One.

Hypothesis 1: Items developed for the Vocational Development through Faith Scale will load onto two factors: passive discernment and active discernment.

Lehmann and Steele (2020) found that positive religious coping and negative religious coping were moderately positively correlated ($r = .36$). Passive religious deferral and active surrender coping styles were likewise positively correlated ($r = .54$; Lehmann & Steele, 2020). Wong-McDonald and Gorsuch (2004) found that surrender religious coping was moderately positively correlated with collaborative coping ($r = .35, p < .01$) and deferring coping ($r = .39, p < .01$).

These results inform Hypothesis 2.

Hypothesis 2: The active discernment factor and the passive discernment factors of the Vocational Discernment through Faith Scale will be weakly to moderately positively correlated. Deferring religious coping and passive discernment has not been quantitatively measured in relation to many career-related variables, including search for and presence of calling, vocational identity, and career engagement. Wong-McDonald and Gorsuch (2004) found that the deferring religious coping style was weakly positively correlated with religious well-being ($r = .25, p < .01$) and weakly negatively correlated with existential well-being ($r = -.19, p < .01$). This suggests some potential positive and negative aspects of relationships between deferring religious coping and aspects of well-being (Pargament et al., 1998). These results inform Hypothesis 3. The convergent and discriminant hypotheses for the passive discernment factor are tentative, as this area of theory is still developing.

Hypothesis 3: The passive discernment factor of the Vocational Discernment through Faith Scale will display convergent and discriminant relationships among other variables. Study Two will further explore the nomological net, convergent, and discriminant relationships among other variables.

Hypothesis 3a: The passive discernment factor is measuring similar constructs and will display some overlap with search for calling. Positive correlations of the passive discernment factor and search for calling will be considered support of convergent validity.

Hypothesis 3b: The passive discernment factor will have positive correlations with religious commitment, and search for meaning in life.

Hypothesis 3c: The passive discernment factor will have negative correlations with career engagement, vocational identity, presence of meaning in life, and presence of calling.

Hypothesis 3d: It was hypothesized that the passive discernment factor would demonstrate discriminant validity through having a weaker correlation with satisfaction with life, compared to the correlations of the passive discernment factor with other variables.

Research has not quantitatively explored active religious coping and active discernment as it relates to career variables, including search for and presence of calling, vocational identity, and career engagement. Lehmann and Steele (2020) found the Active Surrender coping approach to be negatively associated with posttraumatic stress. Positive coping methods, including taking more active approaches to seeking spiritual support through major life stressors, has been linked to well-being, as well as lower levels of anxiety and depression (Ano & Vasconcelles, 2004). These results inform the following hypotheses. To establish construct validity, the hypothesized patterns for the active discernment factor differ from the hypothesized patterns for the passive discernment factor. The convergent hypotheses for the active discernment factor are tentative, as this area of theory is still developing.

Hypothesis 4: The active discernment factor of the Vocational Discernment through Faith Scale will display convergent relationships among other variables.

Hypothesis 4a: Active discernment will be positively correlated with presence of calling, career engagement, and vocational identity. The active discernment factor may represent an overall engagement with the vocational discernment process and engagement in search for calling, and may be positively correlated with search for calling and search for meaning in life.

Hypothesis 4b: The active discernment factor will have positive correlations with religious commitment, satisfaction with life and presence of meaning in life.

Method

Item Generation

Study One used the 34-item pool, created via DeVellis' (2017) and Dawis' (2000) best practice recommendations for scale development and consultation with subject matter experts.

Participants and Procedure

Participants in this study were undergraduate students at Colorado State University, a large Western (U.S.) public university, recruited from the population of students enrolled in introductory psychology courses. After the proposed procedures and measures were submitted to and received approval by the Institutional Review Board of Colorado State University, participants were recruited from the research pool for undergraduate psychology students. Informed consent was obtained prior to participation in the study. Participants then completed a demographic survey followed by the survey/questionnaire which included measures of career development, sense of calling, measures of well-being and aspects of religion/spirituality (religious commitment, etc.) as well as the vocational discernment through faith scale. The cross-sectional survey containing Study One's measures was administered to participants via Qualtrics electronic survey software.

A total of 795 participants began the survey. Following Parent's (2013) recommendation, participants who completed at least 80% of the Vocational Discernment through Faith Scale (VDFS) were retained in the Study One analyses, resulting in a sample of 356 participants. Sixty-seven of the 795 participants who began the survey did not complete any items from the Vocational Discernment through Faith Scale. Participants who had more than 20% of the VDFS item responses missing or more than 20% of the VDFS item responses marked with the 0=Does Not Apply to Me response option were not included in the Study One analyses. There were a

total of 439 participants who were not included in the Study One analyses. Results looking at differences between the participants included in the scale analyses and the participants excluded from the scale analyses are described below in the Results section. Information related to the number of participants with VDFS item responses missing or marked with the 0=Does Not Apply to Me response option is included in Table 3 below.

Table 3

Vocational Discernment Through Faith Scale Participant Information

Number of Items Missing or Marked with the 0=Does Not Apply to Me Option	Number of Participants	Included or Excluded from Study One Analyses
34	298	Excluded
33	44	Excluded
32	18	Excluded
31	9	Excluded
30	8	Excluded
29	4	Excluded
28	5	Excluded
27	4	Excluded
26	6	Excluded
25	3	Excluded
24	0	N/A
23	1	Excluded
22	2	Excluded
21	1	Excluded

20	4	Excluded
19	3	Excluded
18	4	Excluded
17	2	Excluded
16	2	Excluded
15	3	Excluded
14	0	N/A
13	2	Excluded
12	1	Excluded
11	0	N/A
10	4	Excluded
9	3	Excluded
8	3	Excluded
7	5	Excluded
6	6	Included
5	3	Included
4	10	Included
3	6	Included
2	23	Included
1	32	Included
0	276	Included

Demographic data were measured via self-report questions. Participants were asked to report their gender, race/ethnicity, year in school, age, grade point average, household of origin income, and religious identification broadly, as well as specific information if participants identified as Christian (Christian affiliation identification, evangelical Christian identification). The demographic information for both the group of participants included in the analyses and the group of participants excluded from the analyses is presented in Table 4.

Table 4

Demographic Information

	Included in Analyses		Excluded from Analyses	
	<i>n</i>	%	<i>n</i>	%
Gender				
Female	234	65.7	258	58.8
Male	108	30.3	107	24.4
Non-binary	0	0	1	.2
Missing Data	14	3.9	73	16.6
Race/Ethnicity ¹				
African-American or African	16	4.5	11	2.5
American Indian or Alaskan Native	9	2.5	6	1.4
Asian or Pacific Islander	21	5.9	18	4.1
White or European	256	71.9	322	73.3
Hispanic or Central/South American	71	19.9	43	9.8
Other	6	1.7	8	1.8
Missing	2	.5	6	1.4
Year in School				
Freshman	222	62.3	219	49.9
Sophomore	84	23.6	80	18.2
Junior	25	7.0	47	10.7
Senior	13	3.6	12	2.7
Other (e.g., fifth-year Seniors)	2	.5	4	.9
Missing Data	10	2.8	77	17.5
Household of Origin Income				
\$19,999 or less	14	3.9	14	3.2

¹ The total percentages for race/ethnicity equal more than 100% since participants could indicate more than one racial/ethnic identity.

\$20,000-\$34,999	20	5.6	21	4.8
\$35,000-\$49,999	31	8.7	31	7.1
\$50,000-\$64,999	44	12.3	51	11.6
\$65,000-\$79,999	59	16.6	56	12.8
\$80,000-\$99,999	45	12.6	40	9.1
\$100,000 or above	122	34.3	143	32.6
Missing Data	21	5.9	83	18.9
Religious Identification				
Christian	236	66.3	71	16.2
Muslim	4	1.1	2	.5
Buddhist	1	.3	6	1.4
Jewish	2	.6	13	3.0
Mormon	2	.6	0	0
Atheist	6	1.7	37	8.4
Agnostic	13	3.6	45	10.2
Non-religious	41	11.5	171	38.9
Other	36	10.1	21	4.8
Missing Data	15	4.2	73	16.7
Christian Identification				
Lutheran	28	7.9	12	2.7
Episcopalian/Anglican	9	2.5	3	.7
Baptist	29	8.1	6	1.4
Pentecostal	4	1.1	0	0
Methodist	14	3.9	5	1.1
Presbyterian	14	3.9	3	.7
Congregational	12	3.4	2	.4
Other	144	40.4	50	11.4
Evangelical Christian Identification				
Yes	56	15.7	11	2.5
No	211	59.3	76	17.3

The participants ages ranged from 18 to 27. The average age of the participants included in the Study One analyses was 18.82 years old ($SD = 1.36$). The average age of the participants excluded from the Study One analyses was 19.29 years old ($SD = 2.38$). Participants' self-reported GPA ranged from 1.7 to 4.0. The average GPA of the participants included in the Study One analyses was 3.22 ($SD = .54$). The average GPA of the participants excluded from the Study One analyses was 3.49 ($SD = 2.89$).

Measures

Demographics. Participants provided demographic information using self-report items of gender, race/ethnicity, year in school, age, grade point average, household of origin income, and religious identification broadly, as well as specific information if participants identified as Christian (Christian affiliation identification, evangelical Christian identification).

Career Engagement. Proactive career behaviors were assessed using the 8-item Career Engagement Scale (Hirschi et al., 2014). Items included “I am actively engaged in shaping my future career.” The items on this scale are scored on a 5-point rating scale from 1 (almost never) to 5 (very often). Internal consistency reliability coefficient scores range from .88 to .89 (Hirschi et al., 2014). Analyses conducted by Hirschi et al. revealed support for both convergent validity and discriminant validity. Scores on this scale have correlated positively with job satisfaction, career self-efficacy, and vocational identity clarity, and were originally validated on an undergraduate student population (Hirschi et al., 2014). In the present study, internal consistency reliability was acceptable for the Career Engagement Scale ($\alpha = .90$).

Vocational Identity Scale. Vocational identity was measured using an 18-item instrument (Holland et al., 1993). Respondents rate each item as true or false. This scale includes statements such as: “I need reassurance that I have made the right choice of occupation.” Holland et al. (1993) demonstrated evidence for both convergent and discriminant validity for the Vocational Identity Scale. Scores on the Vocational Identity Scale have correlated negatively with intolerance for ambiguity and the Dependent Career Decision-Making Style. Scores on the scale have correlated positively with the Rational Career Decision-Making Style. Analyses conducted by Holland et al. (1993) indicated adequate internal consistency reliability and test-

retest reliability. The present study found acceptable internal consistency reliability for the Vocational Identity Scale ($\alpha = .92$).

Satisfaction with Life Scale. A 5-item instrument was used to assess life satisfaction (Diener et al., 1985). The items on the scale use a 7-point scale (1= “absolutely untrue,” 7= “absolutely true”). Items include: “I am satisfied with my life.” Internal consistency reliability coefficient scores range from .75 to .81 (Diener et al., 1985). Scores on the Satisfaction with Life Scale have demonstrated evidence of discriminant validity and convergent validity. Scores on the Satisfaction with Life Scale are negatively correlated with measures of distress, including the Beck Depression Inventory (Pavot & Diener, 1993). In the present study, internal consistency reliability was acceptable for the Satisfaction with Life Scale ($\alpha = .90$).

Religious Commitment. The Religious Commitment Inventory-10 (Worthington et al., 2003) is a 10-item instrument. Example items are “I spend time trying to grow in understanding of my faith” and “Religion is especially important to me because it answers many questions about the meaning of life.” Items use a 5-point response scale (1 = not at all true of me to 5 = totally true of me). Scores on the Religious Commitment Inventory-10 scale have demonstrated internal consistency reliability coefficients ranging from .87 to .93 (Worthington et al., 2003). Analyses conducted by Worthington et al. (2003) revealed support for both construct validity and discriminant validity. Scores on the Religious Commitment Inventory-10 have been shown to correlate in predicted directions with morality, spirituality, and frequency of attendance of religious activities. Evidence of validity for scores on the Religious Commitment Inventory-10 scale was initially established using an undergraduate student population (Worthington et al., 2003). The present study found acceptable internal consistency reliability for the Religious Commitment Inventory-10 ($\alpha = .96$).

Meaning in life. The Meaning in Life Questionnaire (MLQ; Steger et al., 2006) consists of 10 items that measure presence of and search for meaning in life. Scale items include the following: “I have discovered a satisfying life purpose” and “I am always searching for something that makes my life feel significant.” A 7-point scale of agreement is used (1 = “absolutely untrue” to 7 = “absolutely true”). Scores on the MLQ have been found to have high internal consistency reliability coefficients ranging from .86 to .87 (Steger et al., 2006). In addition, MLQ scores correlate in predicted directions with life satisfaction, positive affect, personality (extraversion and agreeableness), intrinsic religiosity, social desirability, values, and extrinsic religiosity. The MLQ was originally validated on an undergraduate student population (Steger et al., 2006). The search for meaning in life and presence of meaning in life subscales both showed acceptable internal consistency reliability in the current study (α 's = .90 and .82, respectively).

Presence of and Search for Calling. Presence of and Search for calling were assessed using the Calling and Vocation Questionnaire (CVQ; Dik et al., 2012). The CVQ is a 24-item instrument. Examples of items are “I believe that I have been called to my current line of work” and “my career is an important part of my life’s meaning.” Respondents rated their level of agreement with each statement using a 4-point rating scale (1= not at all true of me and 4 = absolutely true of me). The CVQ includes six subscales that form CVQ-Presence and CVQ-Search scores: Transcendent Summons- Presence, Transcendent Summons- Search, Purposeful Work- Presence, Purposeful Work- Search, Prosocial Orientation- Presence, and Prosocial Orientation- Search. The Search for a Transcendent Summons subscale is comprised of four items, including: “I’m trying to identify the area of work I was meant to pursue.” The Presence of a Transcendent Summons subscale is comprised of four items, including: “I was drawn by

something beyond myself to pursue my current line of work.” Scores on the CVQ subscales demonstrate internal consistency reliability coefficients ranging from .85 to .93 (Dik et al., 2012). Analyses conducted by Dik and colleagues (2012) revealed support for both convergent validity and discriminant validity in an undergraduate student population using both self-report and informant-report data. Scores on the CVQ have been shown to correlate in predicted directions with intrinsic work motivation, life satisfaction, extrinsic work motivation, work hope, and prosocial work motivation. The present study found acceptable internal consistency reliability scores for the CVQ-Search subscale ($\alpha = .89$) and the CVQ-Presence subscale ($\alpha = .86$).

Analysis Plan

The focus of Study One was to examine the factor structure of the scale and conduct construct validity exploration analyses. As explained in the Participants section, 356 participants were included in Study One analyses, with 439 participants excluded from the Study One analyses. To examine potential significant differences in demographic characteristics and to compare the two groups (included participants and excluded participants), chi-square analyses were conducted comparing the included participants and excluded participants on demographic characteristics. To examine potential significant differences on variables (e.g., religious commitment, calling, meaning in life), *t*-tests were conducted to compare scores on variables for the included participants and the excluded participants. These *t*-tests were used to determine if there were significant differences on variables across the groups (included participants and excluded participants), potentially providing insight into the randomness or systematic nature of the responses among the two groups. The effect sizes for the *t*-test analyses will be reported

using Cohen's *d* and interpreted using guidelines of an effect size of .2 as small, .5 as medium, and .8 or greater as large.

The factor analysis in Study One focused on running exploratory factor analysis (EFA) on the included participants within the sample. The goals of the factor analysis process in Study One were to identify the number of factors found within the scale items, identify items that performed well and those that performed poorly, identify a smaller number of items that measure the constructs well through condensing the 34-item scale, and explore the meaning of each factor as aligned with proposed theory (DeVellis, 2017). EFA is typically used to conduct analyses without indicating a predetermined number of factors or which items will load onto which factor (DeVellis, 2017; Raykov & Marcoulides, 2011). While it was hypothesized that the items in the VDFS scale would load onto two factors: passive discernment and active discernment, EFA was conducted first because of the exploratory nature of the proposed factors, and little being known about quantitative exploration of career discernment as it relates to religion/spirituality.

Fabrigar et al. (1999) recommended conducting EFA in an initial study and specifying a CFA model in a subsequent study, or, if the sample size is sufficiently large, the sample can be split in half randomly, with EFA conducted on one half and CFA on the other half. Goretzko et al. (2021) recommend splitting the data sample and evaluating the two subsamples separately. However, the sample size is an important consideration. If using the ratio of participants to items as a guideline, Nunnally (1978) recommended ten participants per item. Clark and Watson (1995) recommended using sample sizes of at least 300 participants in scale development analyses. Guadagnoli and Velicer (1988) recommended a minimum sample size of 300-450 participants and Comrey and Lee (1992) posited sample size quality descriptions, including poor (100), fair (200), good (300), very good (500), and excellent (1000 or more).

Although there is no consensus related to specific sample size requirements, a larger sample size may be associated with less sampling error and indicative of higher stability in factor loadings, as well as factors that are better able to be replicated and more generalizable results (Boateng et al., 2018). Therefore, due to the important sample size implications related to data and analyses qualities, the 356 participant sample was retained for EFA analysis. Since utilizing two separate samples for EFA and CFA is recommended, the EFA was run on the Study One and CFA was run in an independent sample in Study Two to avoid capitalizing on chance based on conducting the analyses within the same sample.

The EFA analysis plan addresses the four misconceptions in exploratory factor analysis posited by Bandalos and Boehm-Kaufman (2009). Bandalos and Boehm-Kaufman (2009) recommend reporting the specific factor analysis used (e.g., component, common). Component factor analysis is focused on reducing the number of variables per factor. Alternatively, common factor analysis focuses on improving understanding of the underlying constructs of variables. For the exploratory purposes of Study One, principal axis factoring, a method of common factor analysis, was used to examine the model (Steger, 2006).

When conducting EFA, it is important to use the correct rotation. Since there are several possible factor solutions that can be found using EFA, it is critical to choose the rotation that is appropriate for the data. Orthogonal rotation is used when factors are uncorrelated and oblique rotation is used when factors are correlated (Bandalos & Boehm-Kaufman, 2009; DeVellis, 2017). When developing a scale, meaningful correlations among items will be present and orthogonal rotation would be used when groups of items are not correlated substantially across groups. It is recommended to begin with an oblique rotation, which estimates factor correlations. If the factor correlations are zero, the oblique rotation will reveal zero correlations, and an

orthogonal rotation could then be used (Bandalos & Boehm-Kaufman, 2008; DeVellis, 2017).

Due to the hypothesis that the two proposed factors would be correlated, an oblique rotation was used. Results related to the appropriate number of factors that are sufficient for the model are reported.

We can use EFA to extract factors, specifically looking at eigenvalues that represent explanation of variance. It is presumed that the variance of a single item is equal to 1.0, so any eigenvalue that has a value greater than 1.0 would explain more variance than any single item (Bandalos & Boehm-Kaufman, 2009; DeVellis, 2017; Raykov & Marcoulides, 2011). A rule has developed called the Kaiser/Eigenvalue>1 rule, which proposes that any value greater than one is representative of a factor. For example, if there were three eigenvalues that had values greater than 1, then this would presume that there were three factors present. However, the eigenvalues>1 rule tends to extract too many factors, often more than are meaningful (DeVellis, 2017; Raykov & Marcoulides, 2011). To address this, Bandalos and Boehm-Kaufman (2009) recommend using the parallel analysis scree plot in conjunction with other results when deciding on number of factors. Parallel analysis can be used to initially determine a best-fitting number of factors. However, it is recommended that the estimated number of factors is not taken as certain, and other factors are considered as potential additional meaningful factors, notably those within + or – 1 of the “traditional” cutoff, while supplementing those decisions with the underlying theory of the construct (Lim & Jahng, 2019). Steger (2006) posited that parallel analysis is underutilized despite the usefulness of the analysis method. The parallel analysis scree plot is also reported and was explored related to number of factors. The eigenvalues of the factors are reported in the Results section below.

It is recommended to conduct an EFA followed by a CFA in assessing an instrument (Worthington & Whittaker, 2006). To provide further confirmation and validation of the EFA factor structure, CFA was run in Study Two. CFA provides opportunities to compare models and use modification indices to improve models (Floyd & Widaman, 1995). The specific CFA analysis plan is described in the Study Two Methods section.

Alpha and omega coefficients were calculated to evaluate internal consistency reliability of the VDFS scale. Cronbach's (1951) alpha coefficient is a widely-used measure of reliability throughout the field of psychology and can be an appropriate measure of internal consistency reliability. However, it can also be misused, and is highly sensitive to non-reliability related characteristics of a scale, including number of items (Cortina, 1993). To provide a more robust report of reliability, omega, which offers a more direct estimate of reliability based on factor loadings, was also calculated (DeVellis, 2017; Raykov & Marcoulides, 2011). As the VDFS scale is hypothesized to have two factors, leading to potential subscales, alpha and omega coefficients were calculated for both factors. Regarding the specific guidelines for alpha and omega used in the analyses, a value of alpha above .7 is considered acceptable, with a preference and recommendation for a value of alpha above .8 (Cortina, 1993). A value of omega over .8 is deemed acceptable (Raykov & Marcoulides, 2011).

Descriptive statistics (e.g., means, standard deviations) and correlations with confidence intervals were calculated for each factor of the scale. Relationships among measures were investigated to explore construct validity and to examine similarities and differences between constructs. Convergent validity is evidence of similarity between measures of constructs that are theoretically similar. Discriminant validity provides evidence that the observed relationships between measures of constructs that are not conceptually related are weaker than relationships

with theoretically related measures (DeVellis, 2017). For Study One, Hypotheses 3 and 4 included examinations of convergent and discriminant validity, and these hypotheses were assessed through correlations between the dimensions of the VDFS and other constructs.

Results

Statistical analyses were conducted using R Studio statistical software.

Data Comparisons

Chi-square analyses revealed no significant differences among several demographic measures between the included and excluded participants (gender: $\chi^2 (2, N = 708) = 1.36, p = .51$, year in school: $\chi^2 (4, N = 708) = 6.74, p = .15$, household of origin income: $\chi^2 (6, N = 691) = 1.95, p = .92$, age: $\chi^2 (17, N = 706) = 19.63, p = .30$, or grade point average: $\chi^2 (72, N = 665) = 75.18, p = .38$).

Chi-square analyses revealed a few non-significant differences and a few significant differences among racial/ethnicity identifications between the included participants and the excluded participants. The following analyses are distinct per specific racial/ethnic identity response option. Several chi-square analyses did not reveal significant differences in racial/ethnic identifications between the included participants and the excluded participants: African American or African: $\chi^2 (1, N = 27) = .93, p = .34$, American Indian or Alaskan Native: $\chi^2 (1, N = 15) = .60, p = .44$, Asian or Pacific Islander: $\chi^2 (1, N = 39) = .23, p = .63$, and Other: $\chi^2 (1, N = 14) = .29, p = .56$.

Chi-square analyses revealed significant differences in White or European identification between the two groups, included participants and excluded participants: $\chi^2 (1, N = 578) = 7.54, p < .01$, as well as significant differences among Hispanic or Central/South American identification between the two groups: $\chi^2 (1, N = 114) = 6.88, p < .01$. 71.9% of the participants

in the included participant group identified as White or European, and 73.3% of the participants in the excluded participant group identified as White or European. Notably, 19.9% of the participants in the included participant group identified as Hispanic or Central/South American and 9.8% of the participants in the excluded participant group identified as Hispanic or Central/South American.

Chi-square analyses revealed significant differences in religious identification between the two groups, included participants and excluded participants: $\chi^2(8, N = 707) = 226.05, p < .01$, but no significant differences related to Christian affiliation identification between the included participants and the excluded participants: $\chi^2(7, N = 335) = 4.42, p = .73$ or related to evangelical Christian identification: $\chi^2(1, N = 354) = 2.45, p = .12$. Chi-square analyses are omnibus tests that do not make paired comparisons between individual groups, but differences can be observed from the data. The religious identification significant differences may be related to 66.3% of the participants in the included group identifying as Christian, and 16.2% of the participants in the excluded group identifying as Christian. The differences in the religious identity in the participant groups is likely related to the context and content of the scale. 11.5% of the participants in the included group identified as non-religious, and 38.9% of the participants in the excluded group identified as non-religious, again possibly relating to the content of the scale being more relevant to individuals who identify as religious.

Independent-samples *t*-tests were run to examine if there were potential significant differences between two groups, included participants and excluded participants, on various variables. The *t*-test comparing satisfaction with life scores across groups was not significant, $t(735) = -.88, p = .38$. The effect size ($d = .06$) was indicative of a small effect size. There were no significant differences across groups on career engagement, $t(706) = -.85, p = .40$. The effect

size ($d = .06$) was indicative of a small effect size. The t -test comparing vocational identity scores across groups was not significant, but was approaching significance, $t(691) = -1.92, p = .06$. There was a small effect size for this analysis ($d = .14$). There were no significant differences across groups on search for meaning in life, $t(693) = -1.31, p = .19$. The effect size ($d = .10$) was indicative of a small effect size. The t -test comparing search for calling scores across groups was not significant, $t(714) = .25, p = .80$. For this t -test, there was a small effect size ($d = .02$).

The t -test comparing scores on religious commitment across groups was significant, $t(558) = -20.60, p < .01$. The mean score on the religious commitment scale for the excluded participant group was 12.48 and the mean score on religious commitment for the included participants group was 26.57, indicating higher levels of religious commitment for participants in the included group than in the excluded group. The effect size associated with religious commitment was large ($d = 1.55$).

The t -test comparing scores on presence of meaning in life across groups was significant, $t(671) = -2.86, p < .05$. For the participants included in the analyses, the mean score on presence of meaning in life was 23.70 and for participants excluded from the analyses the mean score on presence of meaning in life was 22.40. However, for this t -test comparing scores on presence of meaning in life, the effect size was small ($d = .22$). The comparison of presence of calling across groups was significant, $t(707) = -3.22, p < .01$. The participants included in the analyses had a mean score of 33.78 on presence of calling and the participants excluded in the analyses had a mean score of 31.98 on presence of calling. Thus, there were higher levels of presence of calling for participants in the included group compared to the excluded group. However, the effect size associated with presence of calling was small ($d = .24$). The sample of included participants have

higher levels of presence of meaning in life and presence of calling, which may be related to the religious content and context of the Vocational Discernment through Faith Scale, and the characteristics of those who would be self-selected as included in the analyses based on the content of the VDFS.

Exploratory Factor Analysis

Parallel analyses and Exploratory Factor Analysis (EFA) were conducted using the psych and GPArotation packages in R statistical software to explore the factor structure of the Vocational Discernment through Faith Scale. The initial parallel analysis with the 34-item scale with the included participant group ($N = 356$) suggested two factors. The Parallel Analysis Scree Plot conducted on the 34 initial scale can be found in Figure 1. The values of the eigenvalues indicate that the first factor has a value of 12.07, with the eigenvalue of the second factor having a value of 10.90. This indicates that the first two factors are representative of a large amount of the variance. These two factors explained 68% of the variance. Upon review of the specific items across the two factors, all of the items on the first factor corresponded to the Active Discernment items and all of the items on the second factor corresponded to the Passive Discernment items.

For the initial two-factor structure with the full 34 items, the EFA fit index RMSEA was .08 (90% Confidence Interval: .077 to .086) and fit index TLI was .89. These scores were approaching the suggested cutoff point of $< .08$ (.05 preferred; Raykov & Marcoulides, 2011) for RMSEA and $> .90$ (.95 preferred; Raykov & Marcoulides, 2011) for TLI, but were not yet meeting those criteria. The factor loadings for this initial two-factor 34-item scale are reported in Table 5.

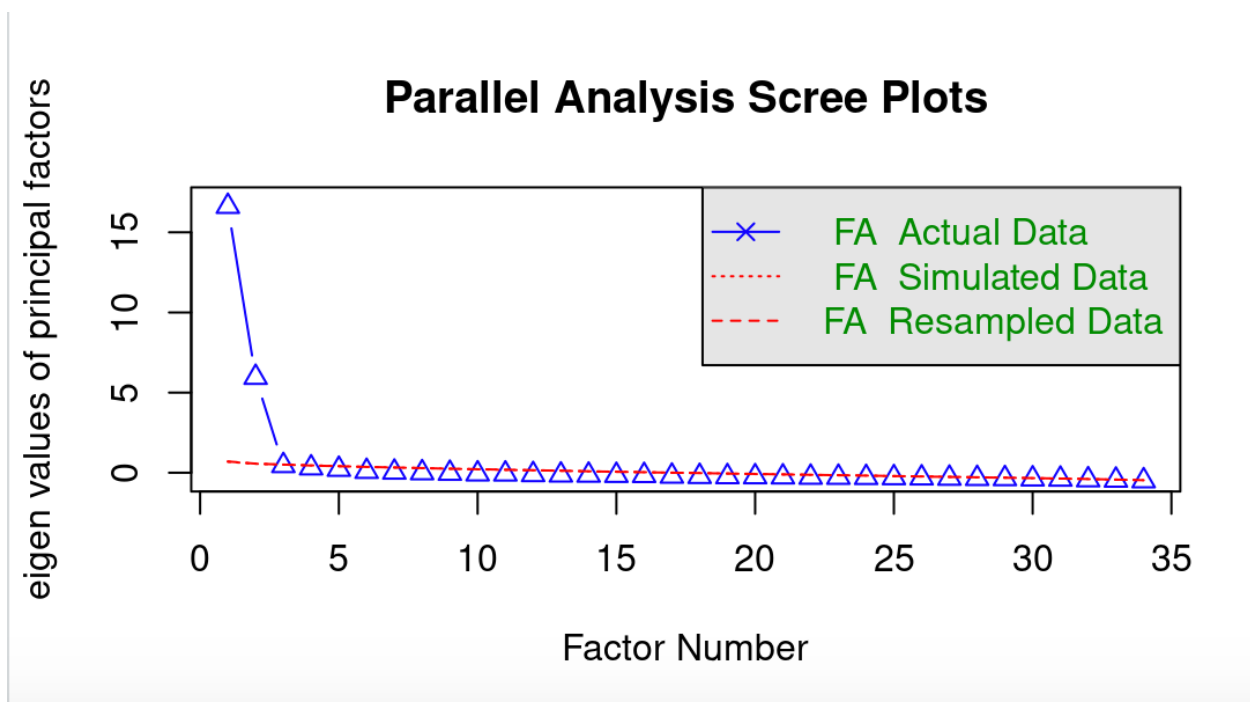


Figure 1: Study One Parallel Analysis Model 1 on 34-item Vocational Discernment through Faith Scale

Table 5

EFA Factor Loadings for the 34-Item Scale

Item	Factor #1	Factor #2	Communality
#32: I believe God is going to use my gifts in whatever career I choose to pursue.	.91	.09	.77
#30: God may reveal my calling through my taking actions to find a career that is right for me.	.90	.03	.79
#33: I am responsible for engaging with God and taking practical steps for my career development.	.90	.04	.78
#26: It is my job to take steps toward figuring out my calling, in addition to seeking guidance from God.	.89	.11	.74
#23: Being proactive and listening to God are both ways to understand my calling.	.89	.01	.81
#29: In order to discern my calling, I pray and also take concrete steps	.87	.01	.75

toward learning more about myself and my options.			
#27: To find out what kind of work I am meant to do, I must engage with my faith and be proactive in figuring out a fitting career path.	.87	.02	.77
#28: Although God has a plan for my future, it is also important for me to put forth effort in making career decisions.	.87	.14	.67
#25: I pray and take active steps to discern my calling.	.86	.03	.77
#31: I pray while also seeking guidance from others regarding discerning my calling.	.86	.01	.74
#24: Discovering my calling requires that I make career decisions while relying on God for help.	.81	.11	.73
#22: I am collaborating with God to discern the best career path for me.	.78	.14	.71
#21: Praying is just one of the many things I do to find my calling as it applies to my career.	.77	.12	.68
#34: I pray and also consult leaders in my community, people who have a faith I respect, when making career decisions.	.75	.09	.62
#20: Prayer alone might not reveal my calling; I simultaneously have to work toward figuring it out myself.	.71	.03	.52
#19: I work with God to determine the career I am meant to have.	.67	.31	.71
#9: Until God provides me with direct guidance about what my calling is, I am refraining from pursuing a particular line of work.	.09	.90	.75
#8: I am delaying making any decisions about my career until I am directed by God.	.09	.89	.74
#4: I will not take steps toward a particular career path until God answers my prayers about the steps I am meant to take.	.06	.86	.70
#18: I will not pursue any career until God reveals to me that His plan for me includes that particular career.	.11	.84	.65

#17: I have refrained from taking steps toward figuring out my calling because I know God will reveal my calling to me in due time.	.04	.83	.66
#13: It does not really matter what I think/what I want to do, my preferences are not important in making this decision.	.14	.82	.61
#12: It would be wrong for me to move forward in my career path without God's approval or direction.	.02	.81	.67
#3: Because God has a plan for my future, there is no need for me to put effort toward deciding what kind of work I want to do.	.17	.80	.56
#7: I am waiting for direct communication from God regarding what career I should pursue.	.06	.80	.67
#11: I am waiting for revelation from God to figure out what my calling is.	.08	.78	.66
#2: Since I have already prayed for God to show me what my calling is, I have done all I can.	.08	.72	.57
#5: When it comes to deciding on a career path, I pray and let God take care of everything else.	.14	.70	.58
#10: All I need to do is pray, and God will show me what I am called to do for my career.	.23	.68	.63
#16: I am praying and waiting for God to show me which career he wants me to choose.	.28	.66	.67
#14: I have faith that God will reveal my calling if I just pray and wait for Him to do so.	.32	.64	.67
#15: I have been praying and waiting for God to reveal to me, in His time, what career I should pursue.	.31	.61	.62
#6: It is not me who is responsible for determining what my calling is, it is God.	.27	.61	.57
#1: I do not have a role in figuring out what career path I am supposed to take, as it is entirely up to God.	.17	.57	.43

Note: Factor 1 = Active Discernment, Factor 2 = Passive Discernment

Upon examination of the specific loadings of the items, the items written for the Active Discernment factor did indeed demonstrate loading onto the Active Discernment factor, and the items written for the Passive Discernment factor demonstrated loading onto the Passive Discernment Factor. Recommendations related to specific cross-loadings vary, with some indicating that cross-loadings are represented by those that have loadings above .32 on the factor they are not intended to load onto, and others indicating cross-loadings represented by items that load above .30 on the alternative factor (Howard, 2016). The results from the EFA indicated two items in the Passive Discernment factor that were characterized by cross-loading (#14 and #15), and one item in the Active Discernment factor with cross-loading (#19). Those three items were removed from the scale. Item #16 was approaching the cross-loading cutoff (.28), and based on that as well as its only moderate loading on the intended scale (.66), the item was removed from the scale.

When making decisions related to item retention, cutoff values can be used to identify poor-quality or poorly fitting items. There is no consensus surrounding specific cutoff values to be used. However, following Watson et al.'s (1988) recommendation, initially, items with factor loadings less than .60 on their intended factor were removed from the scale. This led to the removal of item #1 from the Passive Discernment factor. Upon additional review, item #6 was also approaching the cross-loading cutoff (.27), and with its factor loading of .61 was also nearing the .60 cutoff recommendation. Item #6 was also removed from the scale. With these six items removed (i.e., #14, #15, #19, #16, #1, #6), this led to a 28-item scale.

A second EFA was run with the 28-item scale. Results from this EFA suggested two factors. The Parallel Analysis Scree Plot conducted on the twenty-eight item scale can be found in Figure 2. The values of the eigenvalues indicate that the first factor has a value of 10.99, with

the eigenvalue of the second factor having a value of 8.39. This indicates that the first two factors are representative of a large amount of the variance. These two factors explained 69% of the variance. Upon review of the specific items across the two factors, all of the items on the first factor corresponded to the Active Discernment items and all of the items on the second factor corresponded to the Passive Discernment items.

For the second two-factor structure with 28 items, the EFA fit index RMSEA was .08 (90% Confidence Interval: .074 to .085) and fit index TLI was .92. These scores did approach meeting the suggested cutoff point of $<.08$ for RMSEA, and did not approach the .05 preferred cutoff point (Raykov & Marcoulides, 2011). The TLI score met the suggested cutoff of $>.90$, but not the preferred .95 cutoff (Raykov & Marcoulides, 2011). The factor loadings for the twenty-eight item scale are located in Table 6.

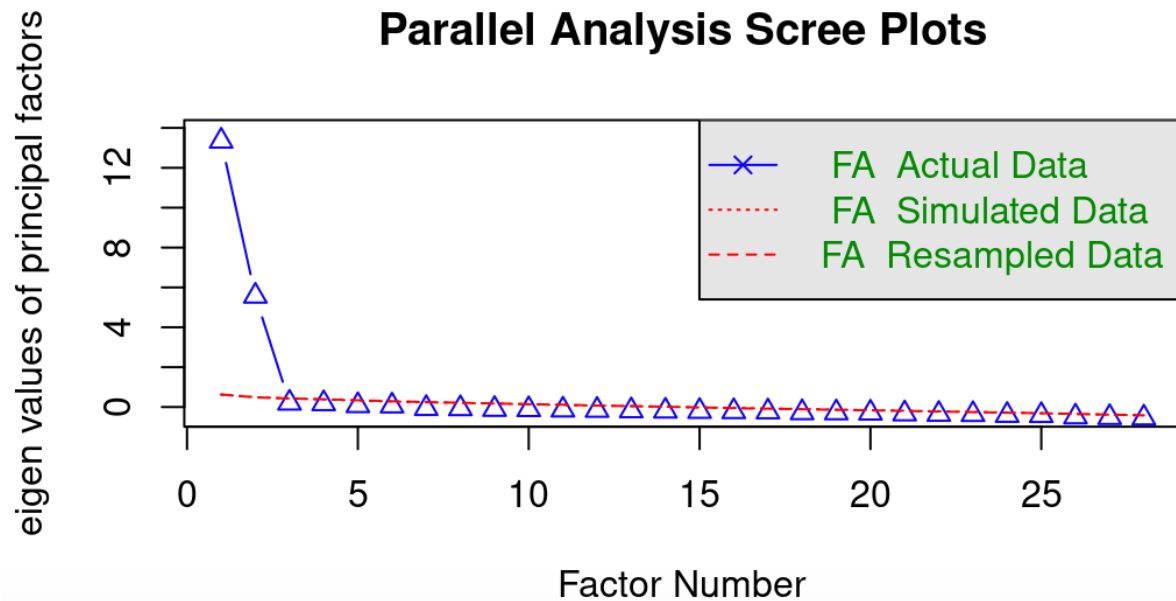


Figure 2: Study One Parallel Analysis Model 2 on 28-item Vocational Discernment through Faith Scale

Table 6

EFA Factor Loadings for the 28-Item Scale

Item	Factor #1	Factor #2	Communality	Item Information	Uniqueness
#32: I believe God is going to use my gifts in whatever career I choose to pursue.	.90	.08	.77	1.05	.23
#33: I am responsible for engaging with God and taking practical steps for my career development.	.90	.03	.79	1.05	.21
#30: God may reveal my calling through my taking actions to find a	.90	.02	.79	.35	.21

career that is right for me.					
#23: Being proactive and listening to God are both ways to understand my calling.	.89	.02	.80	1.55	.20
#26: It is my job to take steps toward figuring out my calling, in addition to seeking guidance from God.	.89	.10	.74	.75	.26
#27: To find out what kind of work I am meant to do, I must engage with my faith and be proactive in figuring out a fitting career path.	.87	.02	.77	1.05	.23
#29: In order to discern my calling, I pray and also take concrete steps toward learning more about myself and my options.	.87	.01	.75	.55	.25
#25: I pray and take active steps to discern my calling.	.86	.04	.77	1.25	.23
#31: I pray while also seeking guidance from others regarding discerning my calling.	.86	.00	.74	1.25	.26
#28: Although God has a plan for my future, it is also important for me to put forth effort in making career decisions.	.86	.13	.68	.35	.32

#24: Discovering my calling requires that I make career decisions while relying on God for help.	.81	.11	.73	.85	.27
#22: I am collaborating with God to discern the best career path for me.	.78	.15	.70	.65	.30
#21: Praying is just one of the many things I do to find my calling as it applies to my career.	.77	.13	.68	.35	.32
#34: I pray and also consult leaders in my community, people who have a faith I respect, when making career decisions.	.75	.10	.62	.45	.38
#20: Prayer alone might not reveal my calling; I simultaneously have to work toward figuring it out myself.	.71	.05	.52	.15	.48
#9: Until God provides me with direct guidance about what my calling is, I am refraining from pursuing a particular line of work.	.06	.90	.77	1.35	.23
#8: I am delaying making any decisions about my career until I am directed by God.	.05	.88	.74	1.25	.26

#18: I will not pursue any career until God reveals to me that His plan for me includes that particular career.	.07	.85	.69	1.25	.31
#4: I will not take steps toward a particular career path until God answers my prayers about the steps I am meant to take.	.02	.84	.70	1.25	.30
#17: I have refrained from taking steps toward figuring out my calling because I know God will reveal my calling to me in due time.	.00	.83	.68	1.45	.32
#13: It does not really matter what I think/what I want to do, my preferences are not important in making this decision.	.09	.82	.63	1.35	.37
#12: It would be wrong for me to move forward in my career path without God's approval or direction.	.07	.81	.69	1.35	.31
#3: Because God has a plan for my future, there is no need for me to put effort toward deciding what kind	.13	.80	.58	.95	.42

of work I want to do.					
#7: I am waiting for direct communication from God regarding what career I should pursue.	.10	.77	.66	1.15	.34
#11: I am waiting for revelation from God to figure out what my calling is.	.12	.76	.65	1.35	.35
#2: Since I have already prayed for God to show me what my calling is, I have done all I can.	.12	.69	.54	.75	.46
#10: All I need to do is pray, and God will show me what I am called to do for my career.	.26	.66	.62	.85	.38
#5: When it comes to deciding on a career path, I pray and let God take care of everything else.	.18	.66	.54	.65	.46

Note: Factor 1 = Active Discernment, Factor 2 = Passive Discernment

Examination of the 28-item scale revealed no problematic cross-loadings, and no factor loadings less than .60 on their intended factor. Brevity of the scale was a goal of the study, and further reduction of the item pool was appropriate. Item information scores, a measure of item quality from classical test theory, were consulted when making item reduction decisions at this stage, looking at items with low information scores in consultation with factor loadings to further examine item quality (McDonald, 1999). Item information scores were calculated by obtaining information index for each item. Item information scores ranged from .15 to 1.55, with higher

scores indicating better items, and all item information scores are presented in Table 6. Upon review of information scores in conjunction with item clarity and redundancy, several items were removed. Upon review of specific items, it was evident that several items were redundant with other items in measuring the main aspects of the theoretical proposed active discernment and passive discernment dimensions.

In the active discernment dimension, item #28 (Although God has a plan for my future, it is also important for me to put forth effort in making career decisions) displayed conceptual redundancy with other items in this factor. Item #20 (Prayer alone might not reveal my calling; I simultaneously have to work toward figuring it out myself) showed redundancy with other items in the active discernment dimension capturing proposed aspects of the dimension surrounding taking active steps in discernment of one's career. Also, the phrasing of "work towards figuring it out myself" may encompass ideas that students do not need to look to their faith throughout this process, which doesn't adequately capture the proposed active discernment dimension. Item #30 (God may reveal my calling through my taking actions to find a career that is right for me) incorporates the aspect of God's role in one's discernment process while emphasizing the importance of being proactive in one's own vocational discernment process, which are all important considerations related to active discernment. However, this item displays redundancy with other items in the active discernment subscale. Item #26 (It is my job to take steps toward figuring out my calling, in addition to seeking guidance from God) was removed. Since item #26 included the word "job" in reference to one's effort and not one's career or calling, that may have caused confusion in interpretation of the item when responding. Item #32 (I believe God is going to use my gifts in whatever career I choose to pursue) was removed due to the item not referencing active steps one may be taking in the active discernment of one's career path. Item

#32 demonstrated good loading onto the first factor, but it was removed due to the focus on alignment of items with the theoretical foundation of the scale and factors. Item #34 (I pray and also consult leaders in my community, people who have a faith I respect, when making career decisions) demonstrates redundancy with item #31 (I pray while also seeking guidance from others regarding discerning my calling), which encompasses the important active discernment consideration of seeking guidance from others related to one's faith. Item #31 includes this information in a more succinct way.

In the passive discernment dimension, item #5 (When it comes to deciding on a career path, I pray and let God take care of everything else) demonstrated redundancy with other items in the main aspects of the proposed passive discernment dimension. The use of the phrasing "everything else" is not very clear and could lead to different interpretations of what that might mean for different students, and could potentially encompass other aspects of career development or life not as relevant to the passive discernment dimension of the scale. Notably, item #5 has the lowest information score for the passive discernment factor. Item #2 (Since I have already prayed for God to show me what my calling is, I have done all I can) also demonstrated redundancy with other items, and the wording of "I have done all I can" may not be the most clear for students in interpretation of the item and meaning of the item. It also has one of the lowest information scores for the passive discernment dimension. Also, within the passive discernment factor, item #13 (It does not really matter what I think/what I want to do, my preferences are not important in making this decision) was removed due to it not including specifics about one's career or calling, and also not including information about God or prayer or faith as part of passive discernment. Item #12 (It would be wrong for me to move forward in my career path without God's approval or direction) was removed because this item adds a potential

judgment component. This item could be measuring other considerations of one's faith journey and what one's definitions of what is "wrong" related to faith and one's religious experiences and relationship with God, and may not be measuring the main aspects of the theoretical passive discernment dimension. In addition, the item was removed due to redundancy with other items including aspects of the proposed theoretical passive discernment dimension, such as waiting for God to explicitly communicate with them related to their career path.

Within the passive discernment factor, Item #10 was approaching a problematic cross-loading, with a loading score of .26 on the alternative factor. Upon review of item #10 (All I need to do is pray, and God will show me what I am called to do for my career), it was found to demonstrate redundancy with other items in the scale also incorporating aspects of prayer and waiting through the proposed passive discernment dimension of the scale. Item #3 (Because God has a plan for my future, there is no need for me to put effort toward deciding what kind of work I want to do) was also removed due to redundancy.

This item removal process led to the removal of items #5, #13, #12, #10, and #3 from the passive discernment dimension, and items #28, #20, #30, #26, #32, and #34 from the active discernment dimension. To obtain an accurate sense of the next stages of the scale, the EFA was run again prior to additional item removal. This item removal process led to a 17-item scale.

A third EFA was run with the 17-item scale. The results suggested two factors. The Parallel Analysis Scree Plot conducted on the seventeen-item scale can be found in Figure 3. The values of the eigenvalues indicate that the first factor (Active Discernment) has a value of 6.82, with the eigenvalue of the second factor (Passive Discernment) having a value of 5.40. This indicates that the first two factors are representative of a large amount of the variance. These two factors explained 72% of the variance. Upon review of the specific items across the two factors,

all of the items on the first factor corresponded to the Active Discernment items and all of the items on the second factor corresponded to the Passive Discernment items.

For the third two-factor structure with 17 items, the EFA fit index RMSEA was .08 (90% Confidence Interval: .072 to .091) and fit index TLI was .94. These scores did approach meeting the suggested cutoff point of $<.08$ for RMSEA, but did not yet approach the .05 preferred cutoff point (Raykov & Marcoulides, 2011). The TLI score met the suggested cutoff of $>.90$, and approached preferred .95 cutoff (Raykov & Marcoulides, 2011). The factor loadings for the seventeen-item scale are located in Table 7.

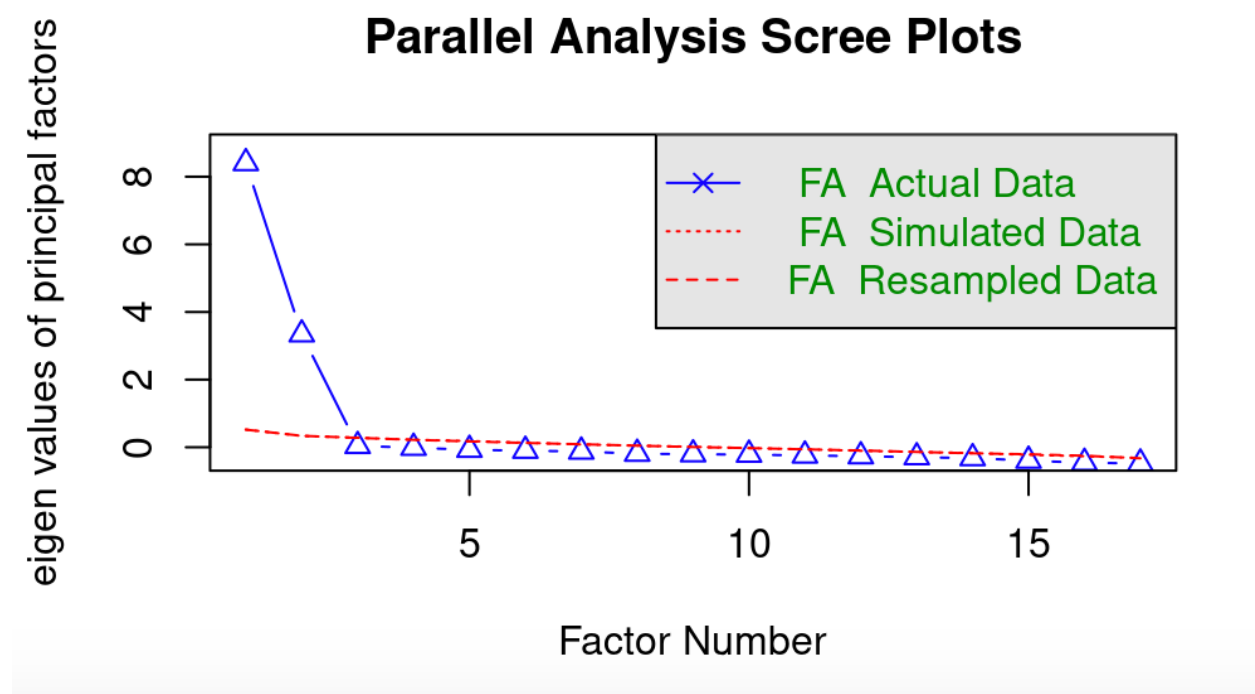


Figure 3: Study One Parallel Analysis Model 3 on 17-item Vocational Discernment through Faith Scale

Table 7

EFA Factor Loadings for the 17-Item Scale

Item	Factor #1	Factor #2	Communality	Item Information	Uniqueness
#23: Being proactive and listening to God are both ways to understand my calling.	.91	.03	.81	1.75	.19
#33: I am responsible for engaging with God and taking practical steps for my career development.	.89	.06	.76	1.15	.24
#25: I pray and take active steps to discern my calling.	.90	.01	.80	1.45	.20
#29: In order to discern my calling, I pray and also take concrete steps toward learning more about myself and my options.	.89	.06	.76	1.05	.24
#31: I pray while also seeking guidance from others regarding discerning my calling.	.86	.02	.73	1.25	.27
#27: To find out what kind of work I am meant to do, I must engage with my faith and be proactive in figuring out a fitting career path.	.88	.01	.76	1.05	.24
#24: Discovering my calling requires that I make career decisions while relying on God for help.	.84	.07	.75	1.05	.25
#22: I am collaborating with God to discern the best career path for me.	.81	.10	.72	.75	.28
#21: Praying is just one of the many things I do	.79	.08	.67	.35	.33

to find my calling as it applies to my career.					
#9: Until God provides me with direct guidance about what my calling is, I am refraining from pursuing a particular line of work.	.06	.91	.79	1.55	.21
#8: I am delaying making any decisions about my career until I am directed by God.	.05	.91	.79	1.55	.21
#18: I will not pursue any career until God reveals to me that His plan for me includes that particular career.	.06	.84	.67	1.25	.33
#4: I will not take steps toward a particular career path until God answers my prayers about the steps I am meant to take.	.01	.83	.69	1.65	.31
#17: I have refrained from taking steps toward figuring out my calling because I know God will reveal my calling to me in due time.	.01	.83	.69	1.45	.31
#7: I am waiting for direct communication from God regarding what career I should pursue.	.12	.76	.66	1.15	.34
#11: I am waiting for revelation from God to figure out what my calling is.	.12	.76	.66	1.35	.34
#2: Since I have already prayed for God to show me what my calling is, I have done all I can.	.14	.65	.51	.65	.49

Note: Factor 1 = Active Discernment, Factor 2 = Passive Discernment

Examination of the 17-item scale revealed no problematic cross-loadings and no factor loadings less than .60 on their intended factor. Brevity of the scale was a continued goal of the study and further reduction of the item pool was appropriate. Item elimination decisions were based on several factors, including redundancy of items, clarity of items, alignment of items with the theoretical foundation of the scale and factors, and item information scores.

In the passive discernment dimension, three items were removed: item #2, item #11, and item #18. Item #11 (I am waiting for revelation from God to figure out what my calling is) was removed due to redundancy with other items focused on the waiting component of the passive discernment factor. Notably, item #7 (I am waiting for direct communication from God regarding what career I should pursue) may address the waiting component in a bit more direct way, with less potential confusion based on what “revelation” in item #11 might be referring to. Item #2 (Since I have already prayed for God to show me what my calling is, I have done all I can) was removed due to redundancy with other items, and potential lack of clarity surrounding the item and what “I have done all I can” might be referring to or being interpreted as for students. Item #18 (I will not pursue any career until God reveals to me that His plan for me includes that particular career) was removed based on redundancy with other items. With the removal of these items, 5 items for the passive discernment dimension of the scale were left.

Within the active discernment factor, four items were removed: item #21, item #22, item #29, and item #24. Item #21 (Praying is just one of the many things I do to find my calling as it applies to my career) was removed due to redundancy with other items incorporating information about prayer and taking other steps within one’s discernment process. Also, based on interpretation of this item, students may respond to this item in a way that is more characteristic of passive discernment (e.g., interpreting prayer as one “thing” that they can do to find their

calling, with maybe listening to God or other aspects aligned with the passive discernment dimension as other “things” they can do to find their calling). In item #21, “thing” may not be the best word to capture the information desired to learn about students’ discernment processes. Item #29 (In order to discern my calling, I pray and also take concrete steps toward learning more about myself and my options) was removed due to redundancy. The item information score for item #29 was one of the lowest information scores for the active discernment scale. Item #22 (I am collaborating with God to discern the best career path for me) does include important considerations of the proposed active discernment dimension, however, the item might lead to confusion surrounding how the word “collaborating” is interpreted within the context of taking an active role and partnership with God in making career discernment decisions. Item #24 (Discovering my calling requires that I make career decisions while relying on God for help) includes information related to the active considerations of being proactive in one’s career discernment process, however, “relying on God for help” may not be clear, and while the item demonstrates redundancy with other items, it may not be as clearly indicating the active component as well as other items. With the removal of these items in the active discernment factor, 5 items in the active discernment dimension remained. Therefore, this iteration of the Vocational Discernment through Faith Scale had 10 items total.

A fourth EFA was run with the 10-item scale. The results suggested two factors. The Parallel Analysis Scree Plot conducted on the ten-item scale can be found in Figure 4. The values of the eigenvalues indicate that the first factor has a value of 3.88, with the eigenvalue of the second factor having a value of 3.56. This indicates that the first two factors are representative of a large amount of the variance. These two factors explained 74% of the variance, the highest variance score of all four EFA’s ran in this stage of the analysis. Upon review of the specific

items across the two factors, all of the items on the first factor corresponded to the Active Discernment items and all of the items on the second factor corresponded to the Passive Discernment items.

For the fourth two-factor structure with 10 items, the EFA fit index RMSEA was .06 (90% Confidence Interval: .036 to .078) and fit index TLI was .98. These scores did meet the suggested cutoff point of $<.08$ for RMSEA, and approached the .05 preferred cutoff point (Raykov & Marcoulides, 2011). The TLI score met the suggested cutoff of $>.90$, and also met the preferred .95 cutoff (Raykov & Marcoulides, 2011). The factor loadings for the ten-item scale are located in Table 8.

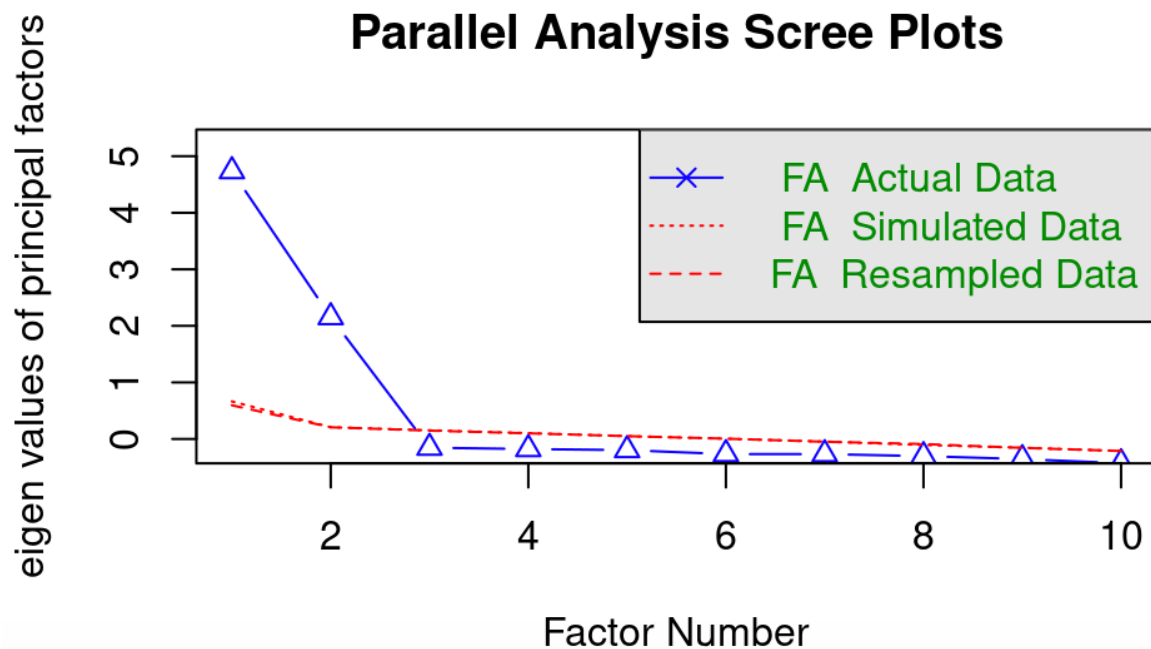


Figure 4: Study One Parallel Analysis Model 4 on 10-item Vocational Discernment through Faith Scale

Table 8

EFA Factor Loadings for the 10-Item Scale

Item	Factor #1	Factor #2	Communality
#23: Being proactive and listening to God are both ways to understand my calling.	.88	.04	.79
#27: To find out what kind of work I am meant to do, I must engage with my faith and be proactive in figuring out a fitting career path.	.86	.02	.75
#33: I am responsible for engaging with God and taking practical steps for my career development.	.91	.04	.81
#31: I pray while also seeking guidance from others regarding discerning my calling.	.85	.01	.73
#25: I pray and take active steps to discern my calling.	.88	.02	.79
#9: Until God provides me with direct guidance about what my calling is, I am refraining from pursuing a particular line of work.	.05	.91	.80
#8: I am delaying making any decisions about my career until I am directed by God.	.04	.90	.78
#4: I will not take steps toward a particular career path until God answers my prayers about the steps I am meant to take.	.00	.84	.71
#17: I have refrained from taking steps toward figuring out my calling because I know God will reveal my calling to me in due time.	.03	.80	.65
#7: I am waiting for direct communication from God regarding what career I should pursue.	.13	.74	.64

Note: Factor 1 = Active Discernment, Factor 2 = Passive Discernment

Examination of the 10-item scale revealed no problematic cross-loadings, and no factor loadings less than .60 on their intended factor.

Five items were retained for the passive discernment dimension of the scale. Item #9 (Until God provides me with direct guidance about what my calling is, I am refraining from pursuing a particular kind of work) was retained, and this item mentions the waiting aspect of passive discernment, while also mentioning both calling and work explicitly. Item #8 (I am delaying making any decisions about my career until I am directed from God) includes key components from the proposed passive discernment dimension, including the reliance on direction from God, and one waiting for that direction before taking any action related to their career. Item #17 (I have refrained from taking steps toward figuring out my calling because I know God will reveal my calling to me in due time) includes an element that may be focused on one's view of passive discernment in the past, and ways that this passive discernment may have already impacted one's vocational decision making. Item #4 (I will not take steps toward a particular career path until God answers my prayers about the steps I am meant to take) explicitly mentions the prayer component that may be an important component of the proposed passive discernment dimension, while also having a future focus, thinking about potential future steps. Item #7 (I am waiting for direct communication from God regarding what career I should pursue) addresses several important aspects of the proposed theoretical passive discernment dimension, in which students may pray for a divine revelation, then wait for a clear response before taking action. Eighteen items for the passive discernment dimension were included in the full administration of the scale for the study. This reduces the items to one-third of the original items included for this dimension, aligning with the originally stated purpose of the study.

The five items from the active discernment dimension included the following items. Item #27 (To find out what kind of work I am meant to do, I must engage with my faith and be proactive in figuring out a fitting career path) incorporates important aspects of the proposed

active dimension factor, while mentioning one's faith which may extend beyond prayer. Item #33 (I am responsible for engaging with God and taking practical steps for my career development) incorporates important components of the proposed active discernment dimension, notably working with God and being proactive in one's vocational discernment process. Item #23 (Being proactive and listening to God are both ways to understand my calling) encompasses important considerations related to the theoretical considerations of the active discernment dimension, taking proactive steps and being active in one's career path, while also capturing the idea of looking to God for assistance related to one's career. Item #31 (I pray while also seeking guidance from others regarding discerning my calling) encompasses the important consideration of seeking guidance from others related to one's faith, that may be related to the process of active discernment within one's career journey. Item #25 (I pray and take active steps to discern my calling) succinctly and clearly addresses the main theoretical considerations of the active discernment dimension. These five items included reduce the original 16-items of the active discernment dimension to about one-third of those items, aligning with the stated purpose of the study.

The ten-items included in the fourth model of the EFA and those then carried forth for evaluation through CFA in Study Two are included in Table 9.

Table 9

The Ten items from the fourth model of the EFA carried to the CFA in Study Two

Ten items of the Vocational Discernment through Faith Scale	Dimension
Being proactive and listening to God are both ways to understand my calling.	Active Discernment
To find out what kind of work I am meant to do, I must engage with my faith and be proactive in figuring out a fitting career path.	Active Discernment
I am responsible for engaging with God and taking practical steps for my career development.	Active Discernment
I pray and take active steps to discern my calling.	Active Discernment
I pray while also seeking guidance from others regarding discerning my calling.	Active Discernment
Until God provides me with direct guidance about what my calling is, I am refraining from pursuing a particular kind of work.	Passive Discernment
I am delaying making any decisions about my career until I am directed from God.	Passive Discernment
I have refrained from taking steps toward figuring out my calling because I know God will reveal my calling to me in due time.	Passive Discernment
I will not take steps toward a particular career path until God answers my prayers about the steps I am meant to take.	Passive Discernment
I am waiting for direct communication from God regarding what career I should pursue.	Passive Discernment

Overall, results from the Exploratory Factor Analysis process support Hypothesis 1, that the items would load onto two factors: passive discernment and active discernment.

Internal Consistency Reliability

Internal consistency reliability of the two dimensions of the Vocational Discernment through Faith Scale (Passive Discernment and Active Discernment) were explored through alpha and omega reliability analyses. For the Active Discernment subscale, measures of internal

consistency reliability were strong ($\alpha = .94$, $\omega = .95$). For the Passive Discernment subscale, measures of internal consistency reliability were also strong ($\alpha = .92$, $\omega = .94$).

Descriptive Statistics and Correlations Between Dimensions

Descriptive statistics (means and standard deviations) for the two scale dimensions were calculated as were correlations. The item-level mean of the active discernment scale was 2.76 ($SD = 1.37$). The item-level mean of the passive discernment scale was 1.88 ($SD = 1.11$). The active discernment subscale and passive discernment subscale were positively correlated ($r = .32$, 95% confidence interval: .23 to .42, $p < .01$). These results support Hypothesis 2, that the active discernment factor and the passive discernment factor of the Vocational Discernment through Faith Scale would be weakly to moderately positively correlated, with a significant positive correlation found through the data.

Examining Construct Validity

Construct validity was explored through comparing correlations between the two subscales (passive discernment, active discernment) of the Vocational Discernment through Faith Scale and other variables and measures to investigate convergent and discriminant validity, as described in Hypotheses 3 and 4 of Study One. Correlations were calculated and are reported in Table 10.

Table 10

Descriptive Statistics and Correlations for Study Variables

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10
1. Active Discernment	2.76	1.37	—									
2. Passive Discernment	1.88	1.11	.32**	—								
3. Search for Calling	2.57	.93	.22**	-.02	—							
4. Presence of Calling	2.58	.94	.31**	.02	.68**	—						
5. Search for Meaning in Life	4.67	1.41	.19**	.01	.43**	.25**	—					
6. Presence of Meaning in Life	4.73	1.38	.24**	-.18**	.19**	.39**	.19**	—				
7. Religious Commitment	2.29	1.29	.70**	.49**	.10	.23**	.06	.14*	—			
8. Career Engagement	3.50	1.00	.21**	.17**	.29**	.41**	.22**	.36**	.19**	—		
9. Vocational Identity	1.37	.48	.03	-.25**	.03	.24**	-.12*	.34**	-.03	.23*	—	
10. Satisfaction with Life	5.24	1.41	.11*	.03	.15**	.32**	.07	.41**	.06	.37**	.17**	—

* $p < .05$. ** $p < .01$. *Note:* The Means and Standard Deviation scores in the table are representative of item-level means and SD scores. Vocational identity is scored on a 2-point rating scale. Presence of calling and search for calling are scored on a 4-point rating scale. Career engagement, religious commitment, active discernment, and passive discernment are scored on a 5-point rating scale. Satisfaction with Life, search for meaning in life, and presence of meaning in life are scored on a 7-point scale.

Hypothesis 3 included anticipated relationships between the passive discernment factor of the Vocational Discernment through Faith Scale and other variables. It was hypothesized that the passive discernment dimension would be positively correlated with search for calling. This hypothesis was not supported, as the relationship between the passive discernment dimension and search for calling demonstrated a weak negative correlation ($r = -.02, p = .75$). It was also hypothesized that the passive discernment factor would positively correlate with religious commitment. This hypothesis was supported, as passive discernment and religious commitment were found to display a moderate-to-large positive relationship ($r = .49, p < .01$). An additional hypothesis posited that the passive discernment factor would positively correlate with search for meaning in life. This hypothesis was not supported, as it was found that the passive discernment factor showed a weak to non-existent relationship with search for meaning in life ($r = .01, p = .89$).

Additional hypotheses suggested that the passive discernment factor might display negative correlations with career engagement, vocational identity, presence of meaning in life, and presence of calling. Two of those stated hypotheses were supported by Study One data, with passive discernment showing a weak-to-moderate negative correlation with vocational identity ($r = -.25, p < .01$), as well as passive discernment and presence of meaning in life displaying a weak negative relationship ($r = -.18, p < .01$). Contrary to the stated hypotheses, passive discernment weakly positively related to career engagement ($r = .17, p < .01$) and showed no relationship with presence of calling ($r = .02, p = .68$). Another hypothesis posited that the passive discernment factor would relate nonsignificantly or weakly with satisfaction with life. That hypothesis was supported as there was no significant relationship found in the relationship between passive discernment and satisfaction with life ($r = .03, p = .63$).

The active discernment factor was hypothesized to relate positively with religious commitment, career engagement, vocational identity, satisfaction with life, and search for meaning in life, presence of calling, presence of meaning in life, and search for calling. Most of those relationships were supported, as a large positive relationship was found between active discernment and religious commitment ($r = .70, p < .01$), and weak to moderate positive relationships were found between active discernment and career engagement ($r = .21, p < .01$), satisfaction with life ($r = .11, p < .05$), presence of meaning in life ($r = .24, p < .01$), presence of calling ($r = .31, p < .01$), and search for calling ($r = .22, p < .01$). It was demonstrated that there was no meaningful relationship between active discernment and vocational identity ($r = .03, p = .56$). An additional relationship found was a weak positive relationship between active discernment and search for meaning in life ($r = .19, p < .01$).

Discussion

The purpose of Study One was to further develop the Vocational Discernment through Faith Scale and assess its psychometric properties. An additional goal of Study One was to condense the 34-item scale for the sake of brevity and practical use of the scale in surveys while minimizing participant fatigue. The process of item creation and hypothesized two factors were informed by theoretical concepts considering career decision-making styles, religious coping styles, and previous qualitative exploration and speculation of the passive discernment coping style as related to career development within discussion sections of literature (Alayan, 2021; Dik et al., 2009; Dik et al., 2012). Prior to Study One, the item development process included receiving feedback from subject matter experts on the initial item pool and making suggested edits, changes, and additions to the item pool.

Study One involved administering the 34-item scale to participants, examining the factor structure of the scale through Exploratory Factor Analysis, engaging in a refinement process of the scale, focusing on condensing the scale while adequately covering the proposed theoretical constructs of the two dimensions: passive discernment and active discernment. Study One also included examining the scale's internal consistency reliability and exploring construct validity through hypothesized relationships with other variables. Study One condensed the 34-item scale to a 10-item scale, and showed good fit for the two factors (passive discernment and active discernment). Strong internal consistency reliability was found for the two dimensions (passive discernment and active discernment) of the scale.

The pattern of results from the Exploratory Factor Analysis process generally aligned with the proposed two-factor structure, with significant theoretical implications. The passive discernment dimension aligns with Dik and Duffy's (2015) suggestion that some religious people may use a passive vocational discernment strategy characterized by praying and waiting for a clear response before taking steps. In qualitative research, including Alayan's (2021) study, qualitative responses of students who identify as religious communicated a theme of waiting for a divine will or plan for their careers to be revealed. The passive discernment dimension aligns with research suggesting use of deferring religious coping, or passive deferral approaches to coping, characterized by passively waiting for God to control the situation (Lehmann & Steele, 2020; Pargament et al., 1998). The active discernment dimension also aligns with research highlighting the active surrender coping style, characterized by looking to God but also taking responsibility for some actions (Lehmann & Steele, 2020). The research in the current study is exploratory due to no research previously exploring passive discernment and active discernment styles related to vocational discernment, career decision-making styles, and career development.

Although exploratory, the results from this study suggest initial promising evidence for passive and active discernment styles being used by students within career development. This highlights the potential to be able to measure vocational discernment as it relates to faith, religion and spirituality, and also see relationships between that and other constructs.

Item Quality and Item Performance

The item development process indicated significant redundancy of items. When working to condense the scale, several considerations were emphasized, including the factor loadings of items, item information scores, and also review of item content to reduce redundancy and emphasize clarity of items. A combination of factors were considered when reducing items in order to not over-emphasize loading scores or item content exclusively. DeVellis (2017) highlights the importance of redundancy when developing a scale, recommending the use of different items and wording to capture aspects of the construct. Upon review of several items in the scale, it appeared that choice of words used in items were of note to consider when evaluating items to drop in the scale. It was apparent that some items, while including information relevant to the hypothesized construct, through the use of words such as “wrong” or “thing” might be measuring or highlighting aspects or considerations irrelevant to the overall theoretical constructs.

Several initially developed items were found to be poorly loaded onto their respective factors, or representative of cross-loading. Notably, items that demonstrated significant cross-loading, leading to their removal from the scale, included: “I have faith that God will reveal my calling if I just pray and wait for Him to do so,” “I have been praying and waiting for God to reveal to me, in His time, what career I should pursue,” “I am praying and waiting for God to show me which career He wants me to choose,” “It is not me who is responsible for determining

what my calling is, it is God,” and “All I need to do is pray, and God will show me what I am called to do for my career.” These items demonstrated loading onto the passive discernment scale, the factor they were originally written to load onto. However, they also demonstrated cross-loading onto the active discernment factor. This cross-loading could be indicative that components of the passive discernment subscale, notably the prayer component, might be subsumed under the active discernment process for some students. This also may be indicative that students may be engaging in both active and passive discernment simultaneously in their career development process. It could be that the intended emphasis on only praying and waiting, and not taking active steps within one’s career development process was not emphasized enough in these items or was not clear enough.

Cross-loadings from the active discernment factor included: “I work with God to determine the career I am meant to have.” It is possible that participants’ interpretation of working with God could be relevant to the passive discernment factor and theoretical considerations. Students’ view of their level of work may vary, and some may be interpreting that prayer or waiting for God is the way that they are working with God. Without clarity from the participants themselves, this is of course speculation, and leads to potential future research ideas.

The Exploratory Factor Analysis process revealed that, overall, items hypothesized to load onto the active discernment factor did indeed load on that factor, and loaded onto that factor with adequate factor loadings. In the passive discernment factor, there was one item that demonstrated poor loading, “I do not have a role in figuring out what career path I am supposed to take, as it is entirely up to God” and another item that was removed due to cross-loading and also the loading score approaching the .60 cutoff: “It is not me who is responsible for

determining what my calling is, it is God.” Both of these items capture ideas related to one’s role and responsibility in the vocational discernment process. It is possible that these items did not adequately capture the theoretical construct related to the passive discernment process, or participants’ interpretation of the passive discernment process.

Upon review of the item quality and item performance for both the passive discernment dimension and the active discernment dimension, it appears that although cross-loadings and poorly loading items were not numerous, items from the active discernment factor may have “performed” better than items from the passive discernment factor, when solely comparing on cross-loadings and loading quality. The active discernment dimension items demonstrated less cross-loading and overall better factor loading scores than the passive discernment items. This may relate to the overall quality of items written for the passive discernment factor, and potentially suggests the importance of additional information to continue to learn about the construct of passive discernment, and applicability of the different factors to participants.

Study Two will further explore item quality. Although the scale is brief, Study Two will continue to address the goals of brevity of the scale. The scale demonstrated that it was indicative of moderately good fit. Study Two will continue to explore the fit of the scale through Confirmatory Factor Analysis in an independent sample.

Relationship between Dimensions

Passive discernment and active discernment were found to be positively correlated ($r = .32$), in support of Hypothesis 2. This aligns with research that has found that religious coping styles have been weakly to moderately positively correlated, positive religious coping and negative religious coping ($r = .36$, Lehmann & Steele, 2020), passive religious deferral and active surrender coping styles ($r = .54$, Lehmann & Steele, 2020), surrender religious coping and

collaborative coping ($r = .35$, Wong-McDonald & Gorsuch, 2004), and surrender religious coping and deferring coping ($r = .39$, Wong-McDonald & Gorsuch, 2004). This suggests that participants may be simultaneously using different coping styles, or aspects from different coping styles. Within this study specifically, this might be indicative that students may be incorporating aspects of passive discernment in conjunction with active discernment.

Construct Validity

There were several hypotheses posited related to how both the passive discernment dimension and the active discernment dimension would relate to other constructs. It was hypothesized that the passive discernment dimension would show positive relationships with search for calling, religious commitment, and search for meaning in life, negative relationships with career engagement, vocational identity, presence of meaning in life, and presence of calling and a nonsignificant or weak relationship with satisfaction with life. It was further hypothesized that the active discernment dimension would show positive relationships with search for calling, presence of calling, career engagement, vocational identity, religious commitment, satisfaction with life, and search for meaning in life, presence of meaning in life. With all of these hypotheses, there were a total of 15 hypothesized relationships.

Passive Discernment Construct Validity. Within the 8 hypothesized relationships between passive discernment and other constructs, 4 of the 8 hypothesized relationships were supported by the data (the positive relationship between the passive discernment dimension and religious commitment; the negative relationships between the passive discernment dimension and vocational identity and presence of meaning in life; and no significant relationship between the passive discernment dimension and satisfaction with life). As hypothesized in hypothesis 3b, the passive discernment dimension was found to be positively related to religious commitment.

This may be related to Wong-McDonald and Gorsuch (2004) finding a positive relationship between religious well-being and the deferring religious coping style. This relationship may point to the possible connection between one's religious views, commitment, and discernment style.

In alignment with the hypothesized relationship in hypothesis 3c, the passive discernment dimension was found to relate negatively to vocational identity. There is a paucity of empirical work exploring the relationship between passive coping or passive discernment and career-related variables, including vocational identity. However, vocational identity scores have been found to be negatively correlated with the dependent career decision-making scale (Holland et al., 1993), aligning with results from the current study. The negative relationship between vocational identity and passive discernment may be suggestive that a passive discernment style of vocational discernment might be linked to challenges with career outcomes or decidedness. However, contrary to hypothesized relationships in hypothesis 3c, the passive discernment dimension was found to be weakly positively related to career engagement.

It is possible that students who are aligning with the passive discernment dimension might be engaged in making career-related decisions, but do not experience vocational identity clarity. It is also possible that there are differing perspectives of what students interpret as engagement with their career and may view praying to God and waiting for a response as sufficient engagement in their career decision-making process. In addition, the passive discernment dimension displayed no meaningful relationships with both search for calling and presence of calling. Past research on calling has found mixed results for relationships between calling and religious beliefs, with Duffy and Sedlacek (2010) finding a weak relationship between presence of calling and religious beliefs, and Bott and Duffy (2015) finding a positive

relationship between religious salience and calling. White et al., (2021) found no difference in presence of calling, search for calling, or living a calling across religious affiliation, but did find differences across level of importance attributed to spirituality and God. Specifically, White et al. (2021) found that the greater the importance, the higher the scores on calling measures. This suggests that the relationship with calling depends on what aspect or function or type of expression of religion/spirituality is focused on. Future research can explore aspects of expression of religion/spirituality as it relates to vocational discernment of career decision-making. Qualitative research has also found a relationship between presence of calling and religious and spiritual beliefs (Alayan, 2021; Hernandez et al., 2011). Further research is needed to explore the relationship between passive discernment and search for and presence of calling. Overall, these results suggest that there may be mixed career-related outcomes related to passive discernment.

In support of the hypothesized relationship in hypothesis 3d, the passive discernment dimension demonstrated no relationship with satisfaction with life. Contrary to stated hypotheses in hypothesis 3b, the passive discernment dimension was not meaningfully related to search for meaning in life. These results may be related to research that has highlighted mixed outcomes related to deferring religious coping (Pargament et al., 1998). Another finding that was supportive of hypothesis 3c was that passive discernment was negatively related to presence of meaning in life. This might be related to research that had found passive deferral coping to be negatively correlated to resilience, and positively associated with posttraumatic stress (Lehmann & Steele, 2020; Surzykiewicz et al., 2022). Research has shown negative connections between the deferring religious coping style and existential well-being (Wong-McDonald & Gorsuch, 2004), which may be related to overall meaning in life.

These findings demonstrate some preliminary evidence for the construct validity of the passive discernment dimension. Most of the hypotheses for the construct validity of the passive discernment dimension were of an exploratory nature due to the lack of research in this area. This highlights the importance of continuing to explore construct validity of the passive discernment dimension in Study Two.

Active Discernment Construct Validity. Within the 8 hypothesized relationships between active discernment and other constructs, 7 were supported by the Study One data (the positive relationships between the active discernment dimension and religious commitment, career engagement, presence of calling, search for calling, satisfaction with life, search for meaning in life, and presence of meaning in life). The active discernment dimension was found to positively relate to religious commitment. This aligns with past research on active religious coping styles and positive relationships found between active religious coping and religious well-being (Wong-McDonald & Gorsuch, 2004). Notably, when comparing the positive relationship between active discernment and religious commitment to the positive relationship between passive discernment and religious commitment, the relationship between active discernment and religious commitment showed a stronger relationship ($r = .70$) than the relationship between passive discernment and religious commitment ($r = .49$). This may be indicative of higher levels of positive relationships between religious commitment and active discernment than in passive discernment, which may have implications for one's religious well-being and faith journey. Notably, the strong correlation between active discernment and religious commitment is important to consider in future research to discern if active discernment and religious commitment are distinct constructs.

In support of stated hypotheses in hypothesis 4a, active discernment was positively related to career variables, including career engagement, presence of calling, and search for calling. Contrary to the stated hypothesis in hypothesis 4a, active discernment was found to have no meaningful relationship with vocational identity. No empirical work has directly explored active discernment related to faith within one's career development process, but research has recommended the use of active discernment approaches within the career decision-making process (Dik et al., 2009; Marsh & Dik, 2020). This research provides additional support for the encouragement of active discernment and its relationship to career variables. However, due to the null relationship between active discernment and vocational identity, additional research is warranted exploring the potential reasoning related to that non-significant relationship.

Active discernment was also found to positively relate to well-being variables, including satisfaction with life, search for meaning in life, and presence of meaning in life. This furthers research related to positive coping methods being linked to lower levels of anxiety and depression (Ano & Vasconcelles, 2004). Overall, there was more evidence of construct validity aligned with the proposed hypotheses for the active discernment dimension than the passive discernment dimension. These results provide initial support for construct validity and provide a foundation for additional construct validity to be explored though Study Two.

Participant Information

It is important to consider the participants included in the study. Out of 795 participants who started the survey, based on cutoff parameters for relevance of the scale, 356 participants were included in analyses. Thus, 44.8% of participants found some relevance in the scale, perhaps related to the July 2023 Gallup survey identifying that 47% of Americans identify as religious (Gallup, 2023).

When potential differences between the included participants and the excluded participants were analyzed, a few significant differences emerged. Chi-square analyses revealed significant, but very small, differences in White or European identification between the two groups, as well as significant differences in Hispanic or Central/South American identification between the two groups, where 19.9% of the participants in the included participant group identified as Hispanic or Central/South American and 9.8% of the participants in the excluded participant group identified as Hispanic or Central/South American. Research has highlighted several cultural considerations related to Hispanic and Central American values, including the importance of religion, high levels of religious affiliation, religious participation, and commitment amongst Latino/a populations (Espinosa, 2014). These results may be indicative of important cultural considerations, as well as the importance of evaluating multiple constructs of diversity and intersectionality of identities within practice implications, research, and conceptualization, while also highlighting the importance of diverse identities and beliefs within each identity.

Chi-square analyses did reveal significant differences among religious identification between the two groups, included participants and excluded participants. In particular, most participants included identified as Christian (66.3%) whereas 16.2% of the participants in the excluded group identified as Christian. The differences in religious identity in the participant groups is likely related to the context and content of the scale being more relevant to those who identify as religious. 11.5% of the participants in the included group identified as non-religious, and 38.9% of the participants in the excluded group identified as non-religious, again possibly relating to the content of the scale being more relevant to individuals who identify as religious.

Significantly higher levels of religious commitment were found for included participants compared to excluded participants. The significant differences on religious commitment for included participants compared to excluded participants may be indicative of the VDFS scale being more relevant to individuals who identify as religious. Significantly higher levels of meaning in life were found for the included participants compared to the excluded participants. The significant differences among participant groups on presence of meaning in life may be connected to potential relationships between religiosity, well-being, and meaning in life (Wong-McDonald & Gorsuch, 2004). Significant differences were also found related to presence of calling, with higher levels of presence of calling amongst included participants than excluded participants. The significant differences on presence of calling for included participants may be indicative of relationships between presence of calling and religious identity and religious commitment (Bott & Duffy, 2015; Hernandez et al., 2011). The differences between the included participants and excluded participants relate to the potential factors that may be at play related to interpretation of the factors and data from the study, noting the different influences in the group of included participants (e.g., calling, religious commitment).

Limitations and Directions for Future Research

DeVellis (2017) warns of construct-irrelevant similarities in items (e.g., wording patterns) that may demonstrate inflated reliability. That is a possibility within this scale, due to several items including very similar words and wording patterns. When choosing items to retain in the scale, I tried to include items that measured important theoretical concepts of the dimensions in different wording variety. Study Two will continue to explore reliability of the scale and wording of the items. Limitations and Directions for Future Research are further explored in the General Discussion section.

Overall, Study One provides a foundation of support for the Vocational Discernment through Faith Scale to be used as an instrument to measure both passive discernment and active discernment. Initial evidence points to strong internal consistency reliability and good construct validity. Study Two will provide additional exploration of the scale, explore test-retest reliability, and expand the nomological net for construct validity.

STUDY TWO

Study Two focused on providing additional validity and reliability evidence for the Vocational Discernment through Faith Scale. Specifically, Study Two further investigated the factor structure found through Study One to examine the same structure through Confirmatory Factor Analysis in a separate sample. Study Two also further investigated construct validity (convergent and discriminant validity) of the Vocational Discernment through Faith Scale through examining relationships with other variables. Study Two conducted test-retest reliability analyses to measure the stability of passive discernment and active discernment constructs over time. Study Two also included a qualitative question to assist in providing additional qualitative content related to passive discernment and active discernment.

Hypotheses

Study One found adequate fit statistics for a two-factor structure of the Vocational Discernment through Faith Scale: passive discernment and active discernment. Study Two further tested the fit of the two-factor model.

Hypothesis 1: The two-factor structure (passive discernment and active discernment) found in Study One will replicate in Study Two.

Research has found that religious coping styles have been positively correlated (e.g., positive religious coping and negative religious coping; $r = .36$; Lehmann & Steele, 2020). Study One found that the passive discernment and active discernment dimensions were positively correlated ($r = .32$). These results inform Hypothesis 2.

Hypothesis 2: The active discernment factor and the passive discernment factors of the Vocational Discernment through Faith Scale will be weakly to moderately positively correlated.

There is a paucity of research quantitatively exploring deferring religious coping and passive discernment styles and many variables, including career-related variables. Study One found the passive discernment factor to be negatively related to vocational identity and positively related to career engagement. The passive discernment factor was also not significantly related to search for calling and presence of calling. Related to religious variables, Wong-McDonald and Gorsuch (2004) found that the deferring religious coping style was positively correlated with religious well-being. Study One found passive discernment to be significantly positively related to religious commitment. Study One also found no relationship between passive discernment and satisfaction with life or search for meaning in life. Passive discernment was negatively related to presence of meaning in life. Study Two further explored the construct validity of the passive discernment dimension of the Vocational Discernment through Faith Scale. To broaden the nomological net and establish additional evidence of construct validity, Study Two included additional variables not previously explored (e.g., religious variables, career variables, well-being and mental health variables).

Hypothesis 3: The passive discernment factor of the Vocational Discernment through Faith Scale will display convergent and discriminant relationships among other variables.

Hypothesis 3a: Passive discernment will be positively related to several religious variables, including intrinsic religiosity, extrinsic religiosity, and faith at work. This will be evidence of convergent validity.

Hypothesis 3b: Passive discernment will be negatively related to several career variables, including career adaptability, career engagement, and career self-efficacy.

Hypothesis 3c: Passive discernment will be negatively related to optimism and positively related to anxiety.

Hypothesis 3d: Replicated from Study One, passive discernment will be negatively related to presence of meaning in life and will display no relationship to search for meaning in life. Passive discernment will not be significantly related to search for calling or presence of calling. Passive discernment will display no relationship to satisfaction with life, representative of discriminant validity.

Positive coping methods, including taking more active approaches to seeking spiritual support through major life stressors, has been linked to well-being, as well as lower levels of anxiety and depression (Ano & Vasconcelles, 2004). Study One found the active discernment factor to be positively correlated to several career-related variables (e.g., career engagement, presence of calling, search for calling), religious commitment, and well-being variables (e.g., satisfaction with life, search for meaning in life, and presence of meaning in life). Study One also found the active discernment factor to have no significant relationship with vocational identity.

Hypothesis 4: The active discernment factor of the Vocational Discernment through Faith Scale will display convergent and discriminant relationships among other variables.

Hypothesis 4a: Active discernment will be positively related to several religious variables, including intrinsic religiosity, extrinsic religiosity, and faith at work. This will be evidence of convergent validity.

Hypothesis 4b: Active discernment will be positively related to several career variables, including career adaptability, career engagement, and career self-efficacy.

Hypothesis 4c: Active discernment will be positively related to optimism and negatively related to anxiety.

Hypothesis 4d: Replicated from Study One, active discernment will be positively related to presence of meaning in life and search for meaning in life. Active discernment will be

positively related to both presence of calling and search for calling. Active discernment will also be positively related to satisfaction with life.

To test for reliability, the study will use test-retest measures. Test-retest reliability is important to measure the consistency of scores across time (Boateng et al., 2018). Test-retest reliability will be evaluated through participants responding to the Vocational Discernment through Faith Scale at two times: one initial response to the scale and an additional response to the scale four weeks later. The level of stability for the active discernment and passive discernment factors will be explored. It is hypothesized that the active discernment dimension will display more stability than the passive discernment dimension, however, there are several possible factors that could impact test-retest reliability of the scale based on the construct itself. For example, participants can demonstrate changes to their career decision making styles over time, potentially implementing differing levels of active discernment or passive discernment because of changes in their faith development (Fowler & Dell, 2006). It is possible that the active discernment factor may be related to increased crystallization of one's faith development and career maturity, which may be associated with more stability of the construct over time as compared to passive discernment. Due to the lack of quantitative research on this construct, it is uncertain as to the stability of the measurement of the construct in one's life over a four-week interval and this hypothesis is exploratory. The level of test-retest reliability of the passive discernment and active discernment factors was investigated in Study Two.

Hypothesis 5: The active discernment dimension will display more stability than the passive discernment dimension in test-retest correlations.

In addition to the formal hypotheses, there were qualitative research questions posed to provide additional opportunity to further explore the passive discernment and active discernment approaches to vocational discernment. The question posed to students in the survey was:

What do you see as your role and what is God's role related to career decision-making? If you do not believe in God or do not hold religious/spiritual beliefs that would make this question relevant to your life, feel free to respond with: Does not apply to me.

This question provided the chance to learn more about the relationships between vocational discernment and religion/spirituality in ways that can offer further insight beyond that provided quantitatively through the Vocational Discernment through Faith Scale.

Method

Participants and Procedure

Participants in this study were undergraduate students at Colorado State University, a large Western (U.S.) public university. Participants were recruited from the population of students enrolled in introductory psychology courses. Participants enrolled in the study using the Psychology Department's Research Participation Pool, the same research participation pool as was used in Study One, which provides students with the opportunity to participate in research studies in exchange for course credit. In the participation pool, one credit is associated with participation in a one-hour time-commitment. Participants received one credit for their participation in the initial survey and one-half credit for their participation in the follow-up survey, with a maximum allotment of one and a half credits if they completed both the initial survey and the follow-up survey. Students were provided with alternative assignments if they wanted to forgo participation in the study.

After the proposed procedures and measures were submitted to and received approval by the Institutional Review Board of Colorado State University, participants were recruited using the Psychology Department's Research Participation Pool. Informed consent was obtained prior to participation in the study. No identifiable information was collected from participants in any way that was linked to their responses to the surveys. After electronically signing the consent form, which described the nature of the study as well as risks and benefits associated with participation, and filling out a demographic survey, participants completed the initial survey/questionnaire which included measures of career development, sense of calling, measures of mental health, well-being and aspects of religion/spirituality (religious commitment, etc.) as well as the Vocational Discernment through Faith Scale. Four weeks following their completion of the initial survey, students were invited to complete the follow-up survey/questionnaire which included several of the same measures from the initial survey, including the Vocational Discernment through Faith Scale. The specific measures that were included in the follow-up survey are identified in the Measures section below. Both the initial survey and the follow-up survey were administered to participants via Qualtrics electronic survey software.

A total of 359 participants began the initial survey. Similar to the process used in Study One, following Parent's (2013) recommendation, a cutoff point of minimum percentage of items answered on the Vocational Discernment through Faith Scale items was used, and participants who completed at least 80% of the Vocational Discernment through Faith Scale (VDFS) as relevant to them were retained in the Study Two analyses. This resulted in a sample of 107 participants. 77 of the 359 participants who began the initial survey did not complete any items from the Vocational Discernment through Faith Scale (VDFS). Participants who had more than 20% of the VDFS item responses missing or more than 20% of the VDFS item responses marked

with the 0=Does Not Apply to Me response option were not included in the Study Two analyses. There were a total of 252 participants who started the initial survey who were not included in the Study Two analyses. Similar to Study One, results looking at differences between the participants included in the scale analyses and the participants excluded from the scale analyses are described in the Results section below. Information related to the number of participants with VDFS responses missing or marked with the 0=Does Not Apply to Me response option for the initial survey are included in Table 11 below.

Table 11

Study Two Initial Survey Vocational Discernment through Faith Scale Participant Response Information

Number of Items Missing or Marked with the 0=Does Not Apply to Me Option	Number of Participants	Included or Excluded from Study Two Analyses
34	186	Excluded
33	13	Excluded
32	6	Excluded
31	8	Excluded
30	4	Excluded
29	2	Excluded
28	2	Excluded
27	4	Excluded
26	1	Excluded
25	1	Excluded
24	0	N/A
23	4	Excluded

22	1	Excluded
21	2	Excluded
20	2	Excluded
19	1	Excluded
18	3	Excluded
17	0	N/A
16	2	Excluded
15	1	Excluded
14	0	N/A
13	0	N/A
12	0	N/A
11	1	Excluded
10	1	Excluded
9	1	Excluded
8	1	Excluded
7	4	Excluded
6	1	Included
5	3	Included
4	4	Included
3	4	Included
2	9	Included
1	13	Included
0	73	Included

On the initial survey, demographic data were measured via self-report questions. Participants were asked to report their gender identity, race/ethnicity, year in school, age, proposed graduation date, grade point average, household of origin income, and religious identification broadly, frequency of attendance at religious services, as well as specific information if participants identified as Christian (Christian affiliation identification, evangelical Christian identification). The demographic information for both the group of participants included in the analyses from the initial survey and the group of participants excluded from the analyses from the initial survey is presented in Table 12.

Table 12

Demographic Information

	Included in Analyses		Excluded from Analyses	
	<i>n</i>	%	<i>n</i>	%
Gender Identity				
Female	79	73.8	145	57.5
Male	26	24.3	51	20.2
Transgender Female	0	0	0	0
Transgender Male	0	0	1	.4
Gender Non-Conforming	2	1.9	3	1.2
Not Listed (e.g., transmasculine)	0	0	4	1.6
Prefer Not to Answer	0	0	1	.4
Missing Data	0	0	47	18.7
Race/Ethnicity ²				
African-American or African	4	3.7	7	2.8
American Indian or Alaskan Native	3	2.8	3	1.2
Asian or Pacific Islander	8	7.5	18	7.1
White or European	93	86.9	173	68.6
Hispanic or Central/South American	11	10.3	27	10.7
Other	0	0	2	.8
Year in School				
Freshman	71	66.4	127	50.4

² The total percentages for race/ethnicity equal more than 100% since participants could indicate more than one racial/ethnic identity.

Sophomore	20	18.7	36	14.3
Junior	11	10.3	29	11.5
Senior	4	3.7	8	3.2
Other (e.g., fifth-year Seniors)	0	0	4	1.6
Missing Data	1	.9	48	19.0
Household of Origin Income				
\$19,999 or less	3	2.8	14	5.6
\$20,000-\$34,999	11	10.3	14	5.6
\$35,000-\$49,999	8	7.5	14	5.6
\$50,000-\$64,999	7	6.5	26	10.3
\$65,000-\$79,999	21	19.6	23	9.1
\$80,000-\$99,999	13	12.1	35	13.9
\$100,000 or above	42	39.2	75	29.8
Missing Data	2	1.9	51	20.2
Religious Identification				
Christian	78	72.9	43	17.1
Muslim	0	0	1	.4
Buddhist	0	0	0	0
Jewish	2	1.9	7	2.8
Mormon	1	.9	0	0
Atheist	3	2.8	30	11.9
Agnostic	7	6.5	31	12.3
Non-religious	4	3.7	74	29.4
Other	11	10.3	17	6.7
Missing Data	1	.9	49	19.4
Christian Identification				
Lutheran	21	19.6	6	2.4
Episcopalian/Anglican	2	1.9	1	.4
Baptist	9	8.4	4	1.6
Pentecostal	2	1.9	0	0
Methodist	7	6.5	3	1.2
Presbyterian	2	1.9	3	1.2
Congregational	3	2.8	5	2.0
Other (e.g., Catholic, Non-Denominational, Protestant)	28	26.2	16	6.3
Frequency of Religious Service				
Attendance				
At least once a week	25	23.4	8	3.2
1-3 times a month	17	15.9	7	2.8
7-11 times a year	14	13.1	5	2.0
2-6 times a year	10	9.3	10	4.0
1-2 times a year	25	23.4	42	16.7
Never	16	14.9	132	52.4
Evangelical Christian Identification				
Yes	25	23.4	8	3.2
No	52	48.6	30	11.9

The participants' ages ranged from 18 to 32. The average age of the participants included in the Study Two analyses was 18.99 years old ($SD = 2.05$). The average age of the participants excluded from the Study Two analyses was 19.20 years old ($SD = 1.90$). Participants' self-reported GPA ranged from 1.6 to 4.0. The average GPA of the participants included in the Study Two analyses was 3.37 ($SD = .53$). The average GPA of the participants excluded from the Study Two analyses was 3.27 ($SD = .75$).

The data for Study Two were collected during the Fall 2022 semester. The item asking participants to report their proposed graduation date allowed them to write in their response. Of the total 359 participants, 5 reported that they would be graduating in December 2022, 15 participants indicated that they would be graduating in 2023, 43 participants reported that they would be graduating in 2024, 47 participants stated that they would be graduating in 2025, 193 participants noted that they would be graduating in 2026, and 1 participant reported that they would be graduating in 2027. 3 participants stated that they were uncertain of their graduation date.

The demographic information was only collected on the initial survey. None of the demographic information was assessed on the follow-up survey, due to the intended purpose of being able to link the participant responses from the initial survey to the follow-up survey without collecting identifiable information.

A total of 258 participants began the follow-up survey. Of those 258 participants, 7 who began the follow-up survey did not complete any items from the Vocational Discernment through Faith Scale (VDFS). This may have been due to the VDFS being the first scale in the survey, where it was placed at the end of the survey for Study One and the initial survey in Study

Two. This is an important consideration for future research. Similar to the process used in Study One and the initial survey for Study Two, following Parent's (2013) recommendation, a cutoff point of minimum percentage of items answered on the Vocational Discernment through Faith Scale items was used, and participants who completed at least 80% of the Vocational Discernment through Faith Scale (VDFS) as relevant to them were retained in the Study Two analyses. This resulted in a sample of 116 participants. Participants who had more than 20% of the VDFS item responses missing or more than 20% of the VDFS item responses marked with the 0=Does Not Apply to Me response option were not included in the Study Two analyses. There were a total of 144 participants who started the initial survey who were not included in the Study Two analyses. Information related to the number of participants with VDFS responses missing or marked with the 0=Does Not Apply to Me response option for the follow-up survey are included in Table 13 below.

Table 13

Study Two Follow-Up Survey Vocational Discernment through Faith Scale Participant Response Information

Number of Items Missing or Marked with the 0=Does Not Apply to Me Option	Number of Participants	Included or Excluded from Study Two Analyses
34	90	Excluded
33	20	Excluded
32	5	Excluded
31	6	Excluded
30	1	Excluded
29	4	Excluded
28	2	Excluded

27	1	Excluded
26	1	Excluded
25	0	N/A
24	0	N/A
23	0	N/A
22	0	N/A
21	0	N/A
20	0	N/A
19	0	N/A
18	1	Excluded
17	1	Excluded
16	0	N/A
15	1	Excluded
14	3	Excluded
13	0	N/A
12	1	Excluded
11	0	N/A
10	0	N/A
9	1	Excluded
8	2	Excluded
7	3	Excluded
6	4	Included
5	0	N/A

4	3	Included
3	2	Included
2	8	Included
1	11	Included
0	88	Included

To connect the participant responses from the initial survey to the follow-up survey four weeks later without collecting any identifiable information, on the initial survey, participants were asked to create a unique User ID. The instructions were as follows:

Below you will create an ID that is unique to you. **This ID is very important as it will be used to link your responses across the two surveys.** To create your ID, take the 2 digits of the day of your **birth date**, the last 2 digits of your **phone number**, and the last 2 digits of your **CSU ID number**, which will create a 6 digit ID number. For example, if your birthday was March 7 (03/07), your phone number is 555-5555, and your CSU ID was 222333444, your ID number would be 075544.

On the initial survey, students entered and re-entered their unique ID and were instructed to remember that number so that they can complete the second survey in a few weeks. They were also told that they would be reminded of the instructions they used to create their unique ID on the follow-up survey. On the follow-up survey, participants were asked to input their unique ID at the start of the survey. They were reminded of the instructions that they used to create the ID in the initial survey. When merging the data from the initial survey to the follow-up survey, only 52 participants were able to be matched from their unique ID's matching from the initial survey to the follow-up survey. It appeared that some participants inputted their Colorado State

University ID number on both the initial survey and the follow-up survey as their user ID, indicative that participants were not paying attention to the instructions for creating the user ID.

Measures

Demographics. Participants provided demographic information using self-report items of gender, race/ethnicity, year in school, how close they were to graduation, age, grade point average, household of origin income, and religious identification broadly, how frequently they attend religious services, as well as specific information if participants identified as Christian (Christian affiliation identification, evangelical Christian identification).

Intrinsic and Extrinsic Religiosity. The Intrinsic-Extrinsic Religiosity (I/E-R) Scale was used to assess Intrinsic and Extrinsic Religiosity (Gorsuch & McPherson, 1989). The I/E-R Scale consists of 14 items, including: “It is important to me to spend time in private thought and prayer” and “Although I believe in my religion, many other things are more important in life.” A 5-point scale is used (1= “I strongly disagree” and 5= “I strongly agree”). Internal consistency reliability coefficients for the scale have ranged from .57 to .83 (Gorsuch & McPherson, 1989). Support for the use of the Intrinsic-Extrinsic Religiosity (I/E-R) scale with an undergraduate student population has been found (Gorsuch & McPherson, 1989). The Intrinsic-Extrinsic Religiosity (I/E-R) Scale was administered in both the initial survey and the follow-up survey. In the present study, internal consistency reliability was acceptable for the Intrinsic Religiosity subscale in both the initial survey and the follow-up survey ($\alpha = .82$ and $\alpha = .78$, respectively). Internal consistency reliability was also acceptable for the Extrinsic Religiosity subscale in both the initial survey and the follow-up survey ($\alpha = .77$ and $\alpha = .79$, respectively).

Career Adaptability. Career adaptability was measured using the 24-item Career Adapt-Abilities Scale (Savickas & Porfeli, 2012). The scale includes items such as “thinking about what

my future will be like” and “looking for opportunities to grow as a person.” Respondents rate their level of strength surrounding development of abilities using a 5-point response scale (1 = “Not strong” to 5 = “Strongest”). Scores on the Career Adapt-Abilities Scale have demonstrated an acceptable internal consistency reliability coefficient ($\alpha = .82$; Savickas & Porfeli, 2012). Analyses conducted by Savickas and Porfeli (2012) revealed support for construct validity. Scores on this scale correlate positively with occupational self-efficacy and job satisfaction. Evidence for validity of scores on the Career Adapt-Abilities Scale was established using both a working adult population and a young adult population (Maggiori et al., 2017). The Career Adapt-Abilities Scale was administered in both the initial survey and the follow-up survey. The present study found acceptable internal consistency reliability for the Career Adapt-Abilities Scale for both the initial survey ($\alpha = .92$) and the follow-up survey ($\alpha = .92$).

Career self-efficacy. Career self-efficacy was measured using the Career Decision-Making Self-Efficacy Scale—Short Form (Betz et al., 1996). This 25-item assessment measures self-efficacy behaviors related to gathering occupational information, making plans for the future, problem solving, accurate self-appraisal, and goal selection. Participants respond to each item using a 10-point response scale (1= “no confidence at all” and 10= “complete confidence”). Scores on the Career Decision-Making Self-Efficacy Scale—Short Form have been found to correlate in predicted directions with career variables. Scores on the Career Decision-Making Self-Efficacy Scale—Short Form have demonstrated good internal consistency ($\alpha = .80$; Betz et al., 1996). The Career Decision-Making Self-Efficacy Scale was administered in the initial survey. In the present study, internal consistency reliability was acceptable for the Career Decision-Making Self-Efficacy Scale ($\alpha = .86$).

Faith at Work. The Faith at Work Scale (Lynn et al., 2009) is a 15-item instrument that measures faith-work integration. Sample items include: “I view my work as part of God’s plan to care for the needs of people” and “I sense that God empowers me to do good things at work.” Respondents rate their level of agreement with each statement using a 7-point response scale (1 = “never or infrequently” to 7 = “always or frequently”). Scores on the Faith at Work Scale demonstrate an internal consistency reliability coefficient of .77 (Lynn et al., 2009). Scores on the Faith at Work Scale have been shown to correlate in predicted directions with faith maturity. Analyses conducted by Lynn et al. (2009) revealed support for both convergent validity and discriminant validity. Initial psychometric support for scores on the Faith at Work Scale was derived using a working adult population (Lynn et al., 2009). For the purposes of this study and the participant pool consisting of undergraduate students, the instructions of this scale were adapted so that students are thinking of their career as a whole rather than their current job. An example of the way that instruction was adapted is:

Please respond with your career as a whole in mind. For example, if you are currently working part time in a job that you don’t consider part of your career, focus on your career as a whole and not your current job.

The Faith at Work Scale was administered as part of the initial survey. The present study found acceptable internal consistency reliability for the Faith at Work Scale ($\alpha = .96$).

Optimism. Optimism was measured using the Optimism Scale (Pedrosa et al., 2015). This 9-item instrument includes items such as “When I think about the future, I am positive.” Participants respond to each item on a 5-point scale (1 = “strongly disagree” to 5 = “strongly agree”). Scores on the Optimism Scale have been found to correlate in predicted directions with Big-5 personality traits. Scores on the Optimism Scale have demonstrated good internal

consistency ($\alpha = .81$; Pedrosa et al., 2015). The Optimism Scale was administered in the initial survey. In the present study, internal consistency reliability was acceptable for the Optimism Scale ($\alpha = .85$).

Anxiety. Anxiety was measured using the State-Trait Anxiety Inventory—Short Form (Marteau & Bekker, 1992). This six-item assessment was developed from the Spielberger State-Trait Anxiety Inventory (Spielberger, 1983). Example items include: “I feel at ease” and “I am a steady person.” Respondents respond to each item with a 4-point scale (1= “Almost Never” and 4= “Almost Always”). The State—Trait Anxiety Inventory—Short Form measures both state anxiety and trait anxiety. The State-Trait Anxiety Inventory—Short Form was administered in both the initial survey and the follow-up survey. The present study found acceptable internal consistency reliability for the State subscale of the State—Trait Anxiety Inventory—Short Form for both the initial survey ($\alpha = .71$) and the follow-up survey ($\alpha = .76$). The present study found acceptable internal consistency reliability for the Trait subscale of the State—Trait Anxiety Inventory—Short Form in the initial survey ($\alpha = .70$) and the follow-up survey ($\alpha = .77$).

Similarly to Study One, data on calling (Calling and Vocation Questionnaire; Dik et al., 2012) meaning in life (Meaning in Life Questionnaire; Steger et al., 2006), satisfaction with life (Satisfaction with Life Scale; Diener et al., 1985), and career engagement (Career Engagement Scale; Hirschi et al., 2014) were collected. The Calling and Vocation Questionnaire was administered in the initial survey, and the present study found acceptable internal consistency reliability scores for the CVQ-Search subscale ($\alpha = .88$) and the CVQ-Presence subscale ($\alpha = .88$). The Career Engagement Scale was also only administered in the initial survey. In the present study, internal consistency reliability was acceptable for the Career Engagement Scale ($\alpha = .90$). The Satisfaction with Life Scale was administered in the initial survey, and internal

consistency reliability was acceptable ($\alpha = .85$). The Meaning in Life Questionnaire was administered in both the initial survey and the follow-up survey, and both the search for meaning in life and presence of meaning in life subscales showed acceptable internal consistency reliability in the initial survey and the follow-up survey (α 's = .91 and .80, respectively, initial survey) and (α 's = .89 and .82, respectively, follow-up survey).

Vocational Discernment through Faith Scale (VDFS). To measure passive discernment and active discernment as it relates to religion/spirituality and career development, the created scale, the Vocational Discernment through Faith Scale (VDFS) was administered to participants. The full 34-item scale was administered in Study Two because the EFA's had not been analyzed from Study One prior to the administration of Study Two. The Study Two analyses only selected the ten-items chosen from Study One and the data from the remaining 24 items were not analyzed.

Open-Ended Question. One open-ended question was included in the survey. Responses were typed, with no limit on length or time. The question was as follows:

What do you see as your role and what is God's role related to career decision-making? If you do not believe in God or do not hold religious/spiritual beliefs that would make this question relevant to your life, feel free to respond with: Does not apply to me.

The measures included in the initial survey were: the Intrinsic-Extrinsic Religiosity (I/E-R) Scale, the Career Decision-Making Self-Efficacy Scale—Short Form, the Career Adapt-Abilities Scale, the Faith at Work Scale, the Optimism Scale, the State--Trait Anxiety Inventory—Short Form, the Career Engagement Scale, the Calling and Vocation Questionnaire, the Meaning in Life Questionnaire, the Satisfaction with Life Scale, the Vocation Discernment through Faith Scale, and the qualitative question.

The measures included in the follow-up survey were: the Intrinsic-Extrinsic Religiosity (I/E-R) Scale, the Vocation Discernment through Faith Scale, the qualitative question, the State-Trait Anxiety Inventory—Short Form, the Meaning in Life Questionnaire, and the 24-item Career Adapt-Abilities Scale. Fewer items were included in the follow-up survey because participants were only given one-half credit for the follow-up survey, so the survey needed to be at most 30 minutes for students to complete, compared to the up to 1 hour for the one credit that students received for participation in the initial survey.

Analysis Plan

The focus of Study Two was to further examine the psychometric properties of the Vocational Discernment through Faith Scale (VDFS) and refine the scale for sake of brevity. In addition, the validity and reliability of the scale were further explored, specifically through construct validity and test-retest analyses. Study Two also involved analyzing qualitative content from one item related to passive discernment and active discernment, to provide additional qualitative context on the constructs.

Similar to the analyses in Study One, potential differences on demographic characteristics and measures of scores on different variables between the participants included in the analyses and those excluded from the analyses were measured using chi-square analyses and *t*-tests. These analyses were run to determine if there were significant differences on characteristics or variable scores across the two groups. For the *t*-test analyses, effect sizes were also calculated and reported using Cohen's *d* and again interpreted using guidelines of an effect size up to .2 as small, .5 as medium, and .8 or greater as large.

Hypothesis 1 for Study Two posited that the two-factor structure (passive discernment and active discernment) found in Study One will replicate in Study Two. To test this hypothesis,

a Confirmatory Factor Analysis (CFA) was run on the sample of included participants from the initial survey, using the ten-item scale that was refined from the Exploratory Factor Analyses (EFA) in Study One. CFA was conducted to test how well the hypothesized two-factor model fits the data. The recommendations for a good-fitting CFA include having a Comparative Fit Index (CFI) and Tucker-Lewis Index (TLI) that are above .90 (.95 preferred; Raykov & Marcoulides, 2011). Also, the Root Mean Squared Error of Approximation (RMSEA) is recommended to be below .08 (.05 preferred; Raykov & Marcoulides, 2011). The CFI, TLI, and RMSEA values from the CFA conducted are reported in the Results section. To continue exploring the fit of the model, the factor loadings were examined. Factor loadings indicate the relationship of each item (the correlations) to the common factor, and it is recommended that factor loadings be above .30 (DeVellis, 2017). CFA analyses were conducted using the lavaan package within R statistical software. Within CFA, maximum likelihood estimation was used.

The standardized discrepancies represent the relationship between the observed correlations and the predicted correlations. Discrepancies that are large, indicated by a value that is above .10 or below -.10 are indicative of pairs that are leading to the misfit in the model (McDonald, 1999). Discrepancies indicate pairs that are more or less correlated than they should be, with a value above .10 indicative of pairs that are more correlated than they should be and a value below -.10 indicative of pairs that are less correlated than they should be. The discrepancy values for the scale are reported in the Results section.

Appropriate revisions were made to achieve acceptable fit, including dropping items. Items that were causing misfit in the data were reviewed, and decisions were made regarding dropping items through exploring those values quantitatively while conceptually reviewing the

item content. This process is reported in the Results section, including the final items included in the scale, and a comparison of the factor loadings from the initial model to the final model.

For CFA analyses, sample size is an important consideration. Even though 359 participants began the initial survey for Study Two, only 107 were included in the CFA. With a small sample size ($N < 100-150$), concerns with improper fit are a possibility (Kyriazos, 2018). Recommendations for factor analysis sample sizes vary, but some suggest a minimum of 200 participants, and others view a sample of 100 as poor and 200 as fair. If considering number of participants per item, Devellis (2017) recommends 5 to 10 participants per item as a minimum, however, this may depend on number of participants in the sample size as a whole. Overall, the number of participants in Study Two do not meet the recommended factor analysis sample size, and the results will be interpreted with that important caveat. Although the sample size does not meet recommendations, due to the CFA only being conducted on ten items, the sample size of 107 does meet the recommendation of 5 to 10 participants per item.

Similar to Study One, to provide a robust report of reliability, alpha and omega coefficients were calculated to evaluate internal consistency reliability of the VDFS. The recommendations of an alpha value above .7 considered acceptable, with a preference and recommendation for a value of alpha above .8, as well as a value of omega over .8 being deemed acceptable were the guidelines used when reporting internal consistency reliability in Study Two (Cortina, 1993; Raykov & Marcoulides, 2011).

Descriptive statistics (e.g., means, standard deviations) and correlations with confidence intervals were calculated for both factors of the scale. Relationships among measures were investigated to explore construct validity and to examine similarities and differences between constructs. Convergent validity is evidence of similarity between measures of constructs that are

theoretically similar. Discriminant validity is the evidence of no relationship between measures of constructs that are not theoretically related (DeVellis, 2017). For Study Two, Hypotheses 3 and 4 included examinations of convergent and discriminant validity, and these hypotheses were assessed through correlations between the dimensions of the VDFS and other constructs. One of the purposes of Study Two was to expand the understanding related to the nomological net related to the VDFS, and so additional measures were included in Study Two to further understand the construct validity of the VDFS.

To measure the stability of passive discernment and active discernment constructs over time, test-retest reliability analyses were conducted. Specifically, participants' scores on the VDFS on the initial survey were correlated with their scores on the VDFS on the follow-up survey. The follow-up survey was administered to participants four weeks following the initial survey. Four weeks provides enough time where participants will hopefully not remember the exact questions and their answers from the initial survey in an attempt to match their answers consistently (DeVellis, 2017; Polit, 2014). DeVellis (2017) posits that using a Pearson correlation for measuring test-retest reliability is appropriate for most test-retest analyses. Following Polit's (2014) recommendations, test-retest correlations are presented from the passive discernment and active discernment dimensions, but also item-level test-retest correlations are presented as well, to analyze stability of each item and enhance the retest reliability analyses.

The participants' User ID's that they created using the directions described in the Participants and Procedure section above were used to merge the data from the initial survey to the follow up survey. Even though 258 participants began the follow-up survey, only responses from 52 participants were able to be matched due to the user ID's matching between surveys.

Other methods of matching the data were considered to increase sample size for test-retest reliability measures. One option was to match participant responses based on IP address. However, when looking at the IP addresses from the initial survey, it was discovered that from the 359 participants who started the initial survey, 280 of them had IP addresses that were duplicate either twice or anywhere from 3 to 12 times. This could have been due to participants using the computer labs at Colorado State University to complete the surveys, or IP considerations for dorms at Colorado State University, where participants may have been completing the surveys. Therefore, it was determined that matching the data using IP address would not provide valid matchings. Another proposed option was to create a way of looking at the created user ID's and trying to match participants who had two of the three digit combinations identical. However, there were concerns raised due to inability to confirm that the responses would be representative of the same individual. Therefore, the 52 matched responses through identical user ID's on the initial survey and the follow-up survey were used for the test-retest reliability analyses.

One of the initial ideas raised during the proposal was to conduct longitudinal invariance testing. Due to the small number of participants with matched data ($n = 52$), and recommendations related to sample size for Structural Equation Modeling (SEM) analyses, longitudinal invariance testing was not conducted. Following Liu et al.'s (2017) recommendation, SEM analyses usually require fairly large sample sizes (> 200) to estimate adequate measurements that are representative of the data. Due to only 52 participants having matched data, this was not an adequate sample size to attempt to explain the data through longitudinal invariance.

To analyze the qualitative responses, thematic analysis was used. Thematic analysis is “a method for identifying, analyzing, and reporting patterns (themes) within data” (Braun & Clarke, 2006, p. 79). For Study Two, an inductive qualitative thematic analysis, one where themes arose from the data themselves, was implemented (Braun et al., 2018). This author implemented an abbreviated version of Braun and Clarke’s (2006) six-phase process to thematic analysis. For the purposes of this study, this author familiarized herself with the responses to the qualitative responses through reading responses, taking notes, and identifying themes from the data. These themes are presented in the Results section. Future research focused on the qualitative analysis processes could involve a team of researchers coding the data, identifying themes, and naming themes.

Results

Statistical analyses were conducted using R Studio statistical software.

Data Comparisons

Chi-square analyses revealed no significant differences among several demographic measures between the included and excluded participants, including gender identity: $X^2 (5, N = 312) = 3.31, p = .65$, year in school: $X^2 (4, N = 310) = 3.18, p = .53$, household of origin income: $X^2 (6, N = 306) = 10.45, p = .11$, age: $X^2 (12, N = 294) = 9.05, p = .70$, or grade point average: $X^2 (55, N = 244) = 53.98, p = .51$.

Chi-square analyses revealed a few non-significant differences and a few significant differences among racial/ethnicity identifications between the included participants and the excluded participants. Several chi-square analyses did not reveal significant differences in racial/ethnic identifications between the included participants and the excluded participants: African American or African: $X^2 (1, N = 11) = .82, p = .37$, American Indian or Alaskan Native:

$\chi^2 (1, N = 6) = 0, p = 1.0$ (both included and excluded participant groups had 3 participants with this racial/ethnic identity), and Other: $\chi^2 (1, N = 2) = 2, p = .16$. Chi-square analyses comparing differences in Asian or Pacific Islander identification between the two groups were approaching significance: $\chi^2 (1, N = 26) = 3.85, p = .05$.

Chi-square analyses revealed significant differences in White or European identification between the two groups, included participants and excluded participants: $\chi^2 (1, N = 266) = 24.06, p < .01$, as well as significant differences in Hispanic or Central/South American identification between the two groups: $\chi^2 (1, N = 38) = 6.74, p < .01$. 86.9% of the participants in the included participant group identified as White or European, and 68.6% of the participants in the excluded participant group identified as White or European. This represents a large difference of the proportion of participants who identify as White or European in the included participant group compared to those who identify as White or European in the excluded participant group. In addition, 10.3% of the participants in the included participant group identified as Hispanic or Central/South American ($N = 11$) and 10.7% ($N = 27$) of the participants in the excluded participant group identified as Hispanic or Central/South American. Although statistically significant, this comparison represents fairly similar percentages of the identity within the respective group (included participants or excluded participants). This statistical significance result could be related to sample size considerations.

Chi-square analyses revealed significant differences in religious identification between the two groups, included participants and excluded participants: $\chi^2 (7, N = 309) = 95.19, p < .01$, but no significant differences related to Christian affiliation identification between the included participants and the excluded participants: $\chi^2 (7, N = 112) = 7.35, p = .40$ or related to evangelical Christian identification: $\chi^2 (1, N = 115) = 1.11, p = .29$. Chi-square analyses also

revealed significant differences related to frequency of attendance at religious services between the two groups, included participants and excluded participants: $\chi^2(5, N = 311) = 91.02, p < .01$. Chi-square analyses are omnibus tests that do not make paired comparisons between individual groups, but differences can be observed from the data. The religious identification significant differences may be related to 72.9% of the participants in the included group identifying as Christian, and 17.1% of the participants in the excluded group identifying as Christian. The differences in the religious identity in the participant groups is likely related to the context and content of the scale. 3.7% of the participants in the included group identified as non-religious, and 29.4% of the participants in the excluded group identified as non-religious, again possibly relating to the content of the scale being more relevant to individuals who identify as religious. The frequency of religious service attendance significant differences may be related to 23.4% of the participants in the included group indicating attendance at religious services at least once a week, and 3.2% of the participants in the excluded group indicating attendance at religious services at least once a week. 14.9% of the participants in the included group indicated never attending religious services, and 52.4% of the participants in the excluded group indicated never attending religious services. The differences in frequency of attendance at religious services is also possibly related to the religious content of the VDFS scale.

Independent-samples *t*-tests were run to examine if there were potential significant differences between two groups, included participants and excluded participants, on various variables. The *t*-test comparing satisfaction with life scores across groups was not significant, $t(234) = -1.03, p = .30$. The effect size ($d = .12$) was indicative of a small effect size. There were no significant differences across groups on career engagement, $t(228) = -.22, p = .83$. The effect size ($d = .03$) was indicative of a small effect size.

The *t*-test comparing vocational self-efficacy scores across groups was significant, $t(204) = 2.27, p = .03$. There was a medium effect size for this analysis ($d = .28$). There were no significant differences across groups on presence of meaning in life, $t(238) = -1.74, p = .08$. The effect size ($d = .20$) was indicative of a small effect size. There were no significant differences across groups on search for meaning in life, $t(206) = -.18, p = .85$. The effect size ($d = .02$) was indicative of a small effect size. The *t*-test comparing search for calling scores across groups was not significant, $t(239) = -1.36, p = .17$. For this *t*-test, there was a small effect size ($d = .16$).

The comparison of presence of calling across groups was significant, $t(246) = -3.94, p < .01$. The participants included in the analyses had a mean score of 33.67 on presence of calling and the participants excluded from the analyses had a mean score of 30.06 on presence of calling. Thus, there were higher levels of presence of calling for participants in the included group compared to the excluded group. The effect size associated with presence of calling was medium ($d = .47$). The comparison of intrinsic religiosity across groups was also significant, $t(171) = -8.24, p < .01$. The participants included in the analyses had a mean score of 24.37 on intrinsic religiosity and the participants excluded from the analyses had a mean score of 18.51 on intrinsic religiosity. Thus, there were higher levels of intrinsic religiosity for participants in the included group compared to the excluded group, which may be due to the context and content of the scale. The effect size associated with intrinsic religiosity was large ($d = 1.09$).

The *t*-test comparing scores on extrinsic religiosity was also significant, $t(234) = -10.75, p < .01$. The mean score on extrinsic religiosity for the included participant group was 17.99 and the mean score on extrinsic religiosity for excluded participant group was 11.92, indicating higher levels of extrinsic religiosity for participants in the included group than in the excluded group. The effect size associated with extrinsic religiosity was large ($d = 1.27$). The comparison

of faith at work across groups was significant, $t(176) = -11.87, p < .01$. The participants included in the analyses had a mean score of 42.45 on faith at work and the participants excluded from the analyses had a mean score of 22.37 on faith at work. Thus, there were higher levels of faith at work for participants in the included group compared to the excluded group. The effect size associated with presence of calling was large ($d = 1.56$).

There were no significant differences across groups on Career Adapt-Abilities, $t(212) = .38, p = .71$. The effect size ($d = .05$) was indicative of a small effect size. The t -test comparing scores on optimism across groups was not significant, $t(234) = -1.19, p = .23$. The effect size was small ($d = .14$). The t -test comparing state anxiety scores across groups was not significant, $t(223) = 1.52, p = .13$. For this t -test, there was a small effect size ($d = .18$). The t -test comparing trait anxiety scores across groups was not significant, $t(233) = .46, p = .65$. For this t -test, there was a small effect size ($d = .05$).

Confirmatory Factor Analysis

A two-factor confirmatory factor analysis using maximum likelihood estimation was conducted on the ten items selected from the multiple-model EFA process in Study One. The CFA was run with the five items that had loaded on the Active Discernment factor in the EFA process on one factor, and the other five items that had loaded on the Passive Discernment factor in the EFA process on a second factor. Table 14 reports factor loadings associated with these factors in the CFA model.

Table 14

CFA Factor Loadings for the Ten-Item Scale

Item	Factor	Factor Loading
#23: Being proactive and listening to God are both ways to understand my calling.	Active Discernment	.50
#27: To find out what kind of work I am meant to do, I must engage with my faith and be proactive in figuring out a fitting career path.	Active Discernment	.57
#33: I am responsible for engaging with God and taking practical steps for my career development.	Active Discernment	.48
#31: I pray while also seeking guidance from others regarding discerning my calling.	Active Discernment	.85
#25: I pray and take active steps to discern my calling.	Active Discernment	.48
#9: Until God provides me with direct guidance about what my calling is, I am refraining from pursuing a particular line of work.	Passive Discernment	.26
#8: I am delaying making any decisions about my career until I am directed by God.	Passive Discernment	.19
#4: I will not take steps toward a particular career path until God answers my prayers about the steps I am meant to take.	Passive Discernment	.26
#17: I have refrained from taking steps toward figuring out my calling because I know God will reveal my calling to me in due time.	Passive Discernment	.35
#7: I am waiting for direct communication from God regarding what career I should pursue.	Passive Discernment	.32

The initial CFA two-factor model demonstrated poor RMSEA fit: RMSEA = .11 (90% Confidence Interval: .07 to .14), and adequate to good fit across other indices: CFI = .96, TLI = .94, SRMR = .05. Standardized factor loadings for items loading onto the active discernment

factor demonstrated good factor loadings, ranging from .48 to .85. Standardized factor loadings for items loading onto the passive discernment factor were not indicative of ideal fit of the items to the factor, with loadings ranging from .19 to .48. Review of the discrepancy matrix revealed no specific items causing misfit, with no discrepancy values greater than .10 or less than -.10. Following DeVellis' (2017) recommendation that factor loadings be above .30, item #8 (I am delaying making any decisions about my career until I am directed by God) was removed from the CFA model due to its factor loading being the lowest (.19). Item #8 was also indicative of redundancy with other items. While item #8 (I am delaying making any decisions about my career until I am directed by God), captures some of the main theoretical underpinnings of the passive discernment scale, the item may be indicative of redundancy with other items also capturing those underpinnings (e.g., item #7: I am waiting for direct communication from God regarding what career I should pursue). Although two other items (item #4 and item #9) demonstrated factor loadings below .30, the item with the lowest factor loading was removed first.

Upon further review of the active discernment dimension items, although all of the items demonstrated good factor loadings, it was evident that item #33 (I am responsible for engaging with God and taking practical steps for my career development) was redundant with other items on the active discernment scale, including item #25 (I pray and take active steps to discern my calling), which captures the same concepts of the theoretical dimension in a more succinct manner. Therefore, one item from the passive discernment dimension was removed (item #8) and one of the items from the active discernment dimension was removed (item #33) at this stage. This led to an 8-item scale, with 4 items loading on the active discernment dimension and 4 items loading on the passive discernment dimension.

Upon the removal of item #8 and item #33, a second two-factor CFA was run to analyze fit. Table 15 reports factor loadings associated with the proposed two factors in the CFA model.

Table 15

CFA Factor Loadings for the Eight-Item Scale

Item	Factor	Factor Loading
#23: Being proactive and listening to God are both ways to understand my calling.	Active Discernment	.55
#27: To find out what kind of work I am meant to do, I must engage with my faith and be proactive in figuring out a fitting career path.	Active Discernment	.58
#31: I pray while also seeking guidance from others regarding discerning my calling.	Active Discernment	.95
#25: I pray and take active steps to discern my calling.	Active Discernment	.38
#9: Until God provides me with direct guidance about what my calling is, I am refraining from pursuing a particular line of work.	Passive Discernment	.34
#4: I will not take steps toward a particular career path until God answers my prayers about the steps I am meant to take.	Passive Discernment	.22
#17: I have refrained from taking steps toward figuring out my calling because I know God will reveal my calling to me in due time.	Passive Discernment	.32
#7: I am waiting for direct communication from God regarding what career I should pursue.	Passive Discernment	.31

The second CFA model demonstrated adequate RMSEA fit: RMSEA = .07 (90% Confidence Interval: .00 to .12), and adequate to good fit across other indices: CFI = .98, TLI = .97, SRMR = .04. Standardized factor loadings for items loading onto the active discernment factor demonstrated good factor loadings, ranging from .38 to .95. Standardized factor loadings

for items loading onto the passive discernment factor were not indicative of ideal fit of the items to the factor, with loadings ranging from .22 to .38. Review of the discrepancy matrix revealed a discrepancy value of .109 between item #4 and item #31 causing misfit, indicative that items #4 and #31 were correlated too strongly. Upon review of that misfit in conjunction with DeVellis' (2017) recommendation that factor loadings be above .30, item #4 (I will not take steps toward a particular career path until God answers my prayers about the steps I am meant to take) was removed. Upon further review, item #4 is indicative of item redundancy. While item #4 captures key aspects of the theoretical components of the passive discernment dimension, items like item #9 (Until God provides me with direct guidance about what my calling is, I am refraining from pursuing a particular line of work) capture those same theoretical components of the dimension. Therefore, one item from the passive discernment dimension was removed (item #4) at this stage. This led to a 7-item scale, with 4 items loading on the active discernment dimension and 3 items loading on the passive discernment dimension.

Upon the removal of item #4, a third two-factor CFA was run to analyze fit. Table 16 reports factor loadings associated with the proposed two factors in the CFA model.

Table 16

CFA Factor Loadings for the Seven-Item Scale

Item	Factor	Factor Loading
#23: Being proactive and listening to God are both ways to understand my calling.	Active Discernment	.55
#27: To find out what kind of work I am meant to do, I must engage with my faith and be proactive in figuring out a fitting career path.	Active Discernment	.58
#31: I pray while also seeking guidance from others regarding discerning my calling.	Active Discernment	.95
#25: I pray and take active steps to discern my calling.	Active Discernment	.37
#9: Until God provides me with direct guidance about what my calling is, I am refraining from pursuing a particular line of work.	Passive Discernment	.40
#17: I have refrained from taking steps toward figuring out my calling because I know God will reveal my calling to me in due time.	Passive Discernment	.31
#7: I am waiting for direct communication from God regarding what career I should pursue.	Passive Discernment	.31

The third CFA model demonstrated adequate to good fit across all indices: RMSEA = .04 (90% Confidence Interval: .00 to .11), CFI = .99, TLI = .99, SRMR = .03. All standardized factor loadings are above .30. Review of the discrepancy matrix reveal no items causing misfit, with no discrepancy values greater than .10 or less than -.10. Overall, results from the Confirmatory Factor Analysis processes support Hypothesis 1 for Study Two, that the items would load onto two factors: passive discernment and active discernment. The Confirmatory Factor Analysis process led to a seven-item Vocational Discernment through Faith Scale, with four items loading onto the active discernment dimension and three items loading onto the

passive discernment dimension. The final seven items of the Vocational Discernment through Faith Scale are in Table 17.

Table 17

The Seven-Item Vocational Discernment through Faith Scale

Item	Factor
#23: Being proactive and listening to God are both ways to understand my calling.	Active Discernment
#27: To find out what kind of work I am meant to do, I must engage with my faith and be proactive in figuring out a fitting career path.	Active Discernment
#31: I pray while also seeking guidance from others regarding discerning my calling.	Active Discernment
#25: I pray and take active steps to discern my calling.	Active Discernment
#9: Until God provides me with direct guidance about what my calling is, I am refraining from pursuing a particular line of work.	Passive Discernment
#17: I have refrained from taking steps toward figuring out my calling because I know God will reveal my calling to me in due time.	Passive Discernment
#7: I am waiting for direct communication from God regarding what career I should pursue.	Passive Discernment

Internal Consistency Reliability

Internal consistency reliability of the two dimensions of the Vocational Discernment through Faith Scale (Passive Discernment and Active Discernment) were explored through alpha and omega reliability analyses. In the initial survey, for the Active Discernment subscale, measures of internal consistency reliability were strong ($\alpha = .89$, $\omega = .90$). For the Passive

Discernment subscale, measures of internal consistency reliability were also strong ($\alpha = .91$, $\omega = .91$).

Internal consistency reliability of the seven-item Vocational Discernment through Faith Scale was also measured for the scores on the scale on the follow-up survey. Measures of internal consistency reliability for the Active Discernment subscale on the follow-up survey were strong ($\alpha = .95$, $\omega = .96$). For the Passive Discernment subscale on the follow-up survey, measures of internal consistency reliability were still strong, but not as strong as the Active Discernment subscale ($\alpha = .84$, $\omega = .86$).

Descriptive Statistics and Correlations Between Dimensions in the Initial Survey

Descriptive statistics (means and standard deviations) for the two scale dimensions were calculated, as were correlations. The item-level mean of the active discernment scale was 2.72 ($SD = 1.39$). The item-level mean of the passive discernment scale was 1.51 ($SD = 1.11$). The active discernment subscale and passive discernment subscale were weakly positively correlated ($r = .38$, 95% confidence interval: .20 to .53, $p < .01$). These results support Hypothesis 2, that the active discernment factor and the passive discernment factors of the Vocational Discernment through Faith Scale would be weakly to moderately positively correlated, with a weak-to-moderate positive correlation found through the data.

Examining Construct Validity in the Initial Survey

Construct validity was examined through correlations between the two dimensions of the Vocational Discernment through Faith Scale (passive discernment and active discernment) with other variables to explore convergent and discriminant validity. Correlations were calculated and reported in Tables 18 and 19.

Table 18

Descriptive Statistics and Correlations for the First Half of Study Two Variables

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10
1. Active Discernment	2.72	1.39	—									
2. Passive Discernment	1.51	1.11	.38**	—								
3. Search for Calling	2.41	.99	.37**	.14	—							
4. Presence of Calling	2.55	.88	.38**	.10	.74**	—						
5. Search for Meaning in Life	4.73	1.40	-.04	.14	.39**	.21*	—					
6. Presence of Meaning in Life	4.23	1.20	.42**	.20	.15	.45**	-.22*	—				
7. Satisfaction with Life	5.24	1.22	.13	.16	.16	.25*	-.06	.46**	—			
8. Optimism	4.08	.72	.21*	.13	.23*	.42**	-.04	.63**	.48**	—		
9. State Anxiety	2.14	.79	-.13	-.04	.09	-.05	.24*	-.38**	-.49**	-.42**	—	
10. Trait Anxiety	2.60	.97	-.18	-.08	.05	-.05	.25*	-.39**	-.44**	-.44**	.61**	—

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

Note: The Means and Standard Deviation scores in the table are representative of item-level means and SD scores. Presence of calling, search for calling, state anxiety, and trait anxiety are scored on a 4-point rating scale. Optimism, active discernment, and passive discernment are scored on a 5-point rating scale. Satisfaction with Life, search for meaning in life, and presence of meaning in life are scored on a 7-point scale.

Table 19

Descriptive Statistics and Correlations for the Second Half of Study Two Variables

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8
1. Active Discernment	2.72	1.39	—							
2. Passive Discernment	1.51	1.11	.38**	—						
3. Intrinsic Religiosity	3.41	1.15	.62**	.19	—					
4. Extrinsic Religiosity	2.52	1.17	.35**	.21*	.41**	—				
5. Faith at Work	2.81	1.09	.72**	.44**	.72**	.52**	—			
6. Career Engagement	3.37	1.11	.13	.34**	.02	.18	.31**	—		
7. Vocational Self-Efficacy	4.60	.98	.05	.13	-.07	.13	.04	.45**	—	
8. Career Adaptability	3.57	1.06	.05	.25*	.06	.15	.25*	.65**	.57**	—

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

Note: The Means and Standard Deviation scores in the table are representative of item-level means and SD scores. Career engagement, career adaptability, intrinsic religiosity, extrinsic religiosity, active discernment, and passive discernment are scored on a 5-point rating scale. Faith at work is scored on a 7-point scale. Vocational self-efficacy is scored on a 10-point rating scale.

It was hypothesized that the passive discernment dimension of the VDFS scale would demonstrate positive relationships with religious variables, including intrinsic religiosity, extrinsic religiosity, and faith at work. This hypothesis was partially supported, as passive discernment had a positive (although weak) relationship with extrinsic religiosity ($r = .21, p < .05$) and a positive, moderate relationship with faith at work ($r = .44, p < .01$). Passive discernment had a weak, positive relationship with intrinsic religiosity as well ($r = .19, p = .06$).

Hypothesis 3b posited that passive discernment would be negatively related to career variables, including career adaptability, career self-efficacy, and career engagement. This hypothesis was not supported. Contrary to the hypothesis, passive discernment had a weak positive relationship with career adaptability ($r = .25, p < .05$) and a weak-to-moderate positive relationship with career engagement ($r = .34, p < .01$). Passive discernment also demonstrated a weak positive relationship with vocational self-efficacy ($r = .13, p = .17$).

It was hypothesized that passive discernment would be negatively related to optimism and positively related to anxiety. These hypotheses were not supported. Passive discernment had a weak positive relationship to optimism ($r = .13, p = .19$). Passive discernment demonstrated weak negative relationships to both state anxiety ($r = -.04, p = .71$) and trait anxiety ($r = -.08, p = .43$).

Hypothesis 3d posited that passive discernment would be negatively related to presence of meaning in life, and would demonstrate no relationships with several variables (search for meaning in life, search for calling, presence of calling, and satisfaction with life). This hypothesis was mostly supported, with passive discernment demonstrating weak relationships with several variables, including search for meaning in life ($r = .14, p = .16$), search for calling ($r = .14, p = .14$), presence of calling ($r = .10, p = .29$), and satisfaction with life ($r = .16, p = .11$). Passive discernment demonstrated a weak positive relationship with presence of meaning in life ($r = .20, p = .97$). Overall, passive discernment was positively related to several religious variables (extrinsic religiosity, intrinsic religiosity, and faith at work), and several career variables (career adaptability, career engagement, and vocational self-efficacy).

It was hypothesized that the active discernment dimension of the VDFS scale would demonstrate positive relationships with religious variables, including intrinsic religiosity,

extrinsic religiosity, and faith at work. This hypothesis was fully supported, and active discernment had a large positive relationship with intrinsic religiosity ($r = .62, p < .01$), a moderate positive relationship with extrinsic religiosity ($r = .35, p < .01$), and a large positive relationship with faith at work ($r = .72, p < .01$).

Hypothesis 4b posited that active discernment would be positively related to several career variables, including career adaptability, career self-efficacy, and career engagement. This hypothesis was not supported, as active discernment demonstrated no meaningful relationships with any of these career variables. Active discernment was weakly positively related to career engagement ($r = .13, p = .18$), vocational self-efficacy ($r = .05, p = .64$), and career adaptability ($r = .05, p = .64$).

It was hypothesized that active discernment would be positively related to optimism and negatively related to anxiety. This hypothesis was partially supported. Active discernment did indeed demonstrate a weak positive relationship with optimism ($r = .21, p < .05$). However, contrary to stated hypotheses, active discernment demonstrated no significant relationships with anxiety. Active discernment had a weak negative relationship with both state anxiety ($r = -.13, p = .21$) and trait anxiety ($r = -.18, p = .43$).

Hypothesis 4d posited that active discernment would be positively related to presence of meaning in life, search for meaning in life, presence of calling, search for calling, and satisfaction with life. This hypothesis was partly supported, with active discernment demonstrating moderate positive relationships with presence of meaning in life ($r = .42, p < .01$), presence of calling ($r = .38, p < .01$), and search for calling ($r = .37, p < .01$). Contrary to the stated hypothesis, active discernment demonstrated weak relationships with search for meaning in life ($r = -.04, p = .68$) and satisfaction with life ($r = .13, p = .19$). Overall, active discernment

was positively related to several religious variables (extrinsic religiosity, intrinsic religiosity, and faith at work), and optimism. The active discernment factor was not significantly related to any career variables (career adaptability, career engagement, and vocational self-efficacy).

Test-Retest Reliability

The VDFS was administered during both the initial survey and the follow-up survey. Reliability of the VDFS scores was assessed by correlating scores across the four-week interval between the initial survey and the follow-up survey. Scores were compared on the active discernment dimension, passive discernment dimension, and on individual items within the scale. The test-retest coefficient for the active discernment dimension was $r = .59, p < .01$. For the passive discernment dimension, the test-retest coefficient was $r = .44, p < .01$. These results provide support for the hypothesis that the active discernment dimension of the scale will display more stability than the passive discernment dimension in test-retest correlations. These results also suggest that passive discernment may be more susceptible to day-to-day changes than active discernment, which may be related to faith and career developmental considerations (Fowler & Dell, 2006). The test-retest coefficients for the individual items of the VDFS scale are available in Table 20.

Table 20

Test-Retest Coefficients for the Seven-Item Scale

Item	Factor	Test-Retest Coefficients
#23: Being proactive and listening to God are both ways to understand my calling.	Active Discernment	$r = .66, p < .01$
#27: To find out what kind of work I am meant to do, I must engage with my faith and be proactive in figuring out a fitting career path.	Active Discernment	$r = .46, p < .01$
#31: I pray while also seeking guidance from others regarding discerning my calling.	Active Discernment	$r = .54, p < .01$
#25: I pray and take active steps to discern my calling.	Active Discernment	$r = .57, p < .01$
#9: Until God provides me with direct guidance about what my calling is, I am refraining from pursuing a particular line of work.	Passive Discernment	$r = .52, p < .01$
#17: I have refrained from taking steps toward figuring out my calling because I know God will reveal my calling to me in due time.	Passive Discernment	$r = .42, p < .01$
#7: I am waiting for direct communication from God regarding what career I should pursue.	Passive Discernment	$r = .38, p < .01$

Upon review of the test-retest coefficients, the individual item coefficients range from .38 to .66. These results may be indicative of level of stability of participant scores on individual items, with potential lower level of stability over time with item #7 (I am waiting for direct communication from God regarding what career I should pursue) as compared to other items, and higher level of stability over time with item #23 (Being proactive and listening to God are both ways to understand my calling) as compared to other items.

Descriptive Statistics and Correlations Between Dimensions in the Follow-Up Survey

Descriptive statistics (means and standard deviations) for the two scale dimensions were calculated, as were correlations for the items on the scale in the follow-up survey. The item-level mean of the active discernment scale was 2.41 ($SD = 1.47$). The item-level mean of the passive discernment scale was 1.29 ($SD = .81$). The active discernment subscale and passive discernment subscale were weakly positively correlated ($r = .33$, 95% confidence interval: .15 to .48, $p < .01$). These results provide additional support for Hypothesis 2, that the active discernment factor and the passive discernment factors of the Vocational Discernment through Faith Scale would be weakly to moderately positively correlated, with a weak positive correlation found through the follow-up survey data.

Examining Construct Validity in the Follow-up Survey

Construct validity in the follow-up survey was examined through correlations between the two dimensions of the Vocational Discernment through Faith Scale (passive discernment and active discernment) with other variables to explore convergent and discriminant validity. Correlations were calculated and reported in Table 21.

Table 21

Descriptive Statistics and Correlations for the Follow-Up Study Two Variables

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9
1. Active Discernment	2.41	1.47	—								
2. Passive Discernment	1.29	.81	.33**	—							
3. Intrinsic Religiosity	3.32	1.17	.68**	.33**	—						
4. Extrinsic Religiosity	2.50	1.18	.48**	.35**	.49**	—					
5. Search for Meaning in Life	4.75	1.25	.08	.07	.05	.16**	—				
6. Presence of Meaning in Life	4.54	1.20	.37**	-.04	.28**	.09	-.08	—			
7. State Anxiety	2.18	.84	-.15	.18	-.15	-.07	.28**	-.46**	—		
8. Trait Anxiety	2.43	.86	.01	.09	-.02	.07	.28**	-.38**	.68**	—	
9. Career Adaptability	3.53	.98	.28**	.09	.14	.17	.02	.47**	-.25**	-.19*	—

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

Note: The Means and Standard Deviation scores in the table are representative of item-level means and SD scores. State anxiety and trait anxiety are scored on a 4-point rating scale. Career adaptability, intrinsic religiosity, extrinsic religiosity, active discernment, and passive discernment are scored on a 5-point rating scale. Search for meaning in life and presence of meaning in life are scored on a 7-point scale.

Construct validity from the correlations on the follow-up survey were compared to the hypotheses. It was hypothesized that the passive discernment dimension of the VDFS scale would demonstrate positive relationships with religious variables, including intrinsic religiosity and extrinsic religiosity. In the follow-up survey, this hypothesis was fully supported, as passive

discernment had a moderate positive relationship with extrinsic religiosity ($r = .35, p < .05$) and a moderate positive relationship with intrinsic religiosity ($r = .33, p < .01$).

Hypothesis 3b posited that passive discernment would be negatively related to career variables, including career adaptability. In the follow-up survey, this hypothesis was not supported. Contrary to the hypothesis, passive discernment had a weak positive relationship with career adaptability ($r = .09, p = .37$). It was also hypothesized that passive discernment would be positively related to anxiety. In the follow-up survey data, this hypothesis was not supported. Passive discernment demonstrated nonsignificant relationships to both state anxiety ($r = .18, p = .85$) and trait anxiety ($r = .09, p = .09$).

Hypothesis 3d posited that passive discernment would be negatively related to presence of meaning in life, and would demonstrate no relationship with search for meaning in life. Within the follow-up data, this hypothesis was partially supported, with passive discernment demonstrating no meaningful relationship with search for meaning in life ($r = .07, p = .45$). However, contrary to proposed hypotheses, passive discernment demonstrated a null relationship with presence of meaning in life ($r = -.04, p = .70$).

It was hypothesized that the active discernment dimension of the VDFS scale would demonstrate positive relationships with religious variables, including intrinsic religiosity and extrinsic religiosity. In the follow-up survey, this hypothesis was fully supported, and active discernment had a large positive relationship with intrinsic religiosity ($r = .68, p < .01$), and a moderate-to-large positive relationship with extrinsic religiosity ($r = .48, p < .01$).

Hypothesis 4b posited that active discernment would be positively related to several career variables, including career adaptability. In the follow-up data, this hypothesis was

supported, as active discernment demonstrated a weak-to-moderate positive relationship with career adaptability ($r = .28, p < .01$).

It was hypothesized that active discernment would be negatively related to anxiety. This hypothesis was not supported in the follow-up survey data. Contrary to stated hypotheses, active discernment demonstrated no significant relationships with anxiety. Active discernment had a non-significant weak negative relationship with state anxiety ($r = -.15, p = .12$) and a weak positive relationship with trait anxiety ($r = .01, p = .96$).

Hypothesis 4d posited that active discernment would be positively related to presence of meaning in life and search for meaning in life. In the follow-up survey, this hypothesis was partly supported, with active discernment demonstrating a moderate positive relationship with presence of meaning in life ($r = .37, p < .01$). Contrary to the stated hypothesis, active discernment demonstrated a non-significant weak positive relationship with search for meaning in life ($r = .08, p = .41$). The overall pattern of convergent and discriminant relationships was similar across the two time points. One difference was that active discernment and career adaptability were non-significantly positively related in the initial survey, but were significantly positively related in the follow-up survey. An additional difference surrounded the relationship between passive discernment and intrinsic religiosity, with intrinsic religiosity and passive discernment being positively related in the follow-up survey data and there being no relationship found between intrinsic religiosity and passive discernment in the initial survey data.

Qualitative Themes

The open-ended question was presented to participants on both the initial survey and the follow-up survey. The open-ended question was presented immediately after the 34-item VDFS scale, and was written as follows:

What do you see as your role and what is God's role related to career decision-making? If you do not believe in God or do not hold religious/spiritual beliefs that would make this question relevant to your life, feel free to respond with: Does not apply to me.

On the initial survey, 276 participants provided a text response for the open-ended question. Of those 276 participants, 140 participants indicated that the open-ended question did not apply to them. An inductive qualitative thematic analysis, one where themes arose from the data themselves, was implemented (Braun & Clarke, 2006; Braun et al., 2018). I reviewed the remaining 136 responses and identified themes from the qualitative data. Several of the themes and example responses characteristic of those themes are below. Many answers fell within several themes, and responses could be coded into more than one theme.

Collaborative. Participants mentioned the collaborative nature of making career decisions where both the participant and God play a role. One participant mentioned: "God (I call her the Universe) shows me signs and steps to take when I am proactive in developing my work and art." Another participant wrote: "I believe that there is conversation to be had between myself and God." Yet another participant mentioned: "God makes the final decision and shows me it but I also work towards it." Another student wrote:

I believe that it is my job to have faith in God's decision making and path for my life and my career, but in doing so, that means actively making choices and taking steps on my part to accept the plan he lays out for me.

Variety in Level of Roles. Within the collaborative responses, some participants indicated God taking more of a role and others mentioned God taking less of a role. For instance, one participant wrote: “I feel that it is in both God and my hands when making career decisions, but ultimately the plan is God's to make for me.” Another participant wrote:

I think god is someone who is here to motivate my path of success. Though God could guide me through it, I am an independent individual, and God knows that whatever I decide to do. I’m doing it in his image. I have always known what I’ve wanted to do though, and I think I have God to thank for allowing that decision to be easy, and calling for me.

Another participant wrote:

I believe that I am able to choose any career I want. I have free will and God cannot force me to choose a specific career. However, I still seek guidance from him as I wholeheartedly believe that God wants the best for me. He will steer me into the best career for me, and it is my duty to listen to his guidance or not. I must still take an effort to seek out the career and how to get there, but God will help me every step of the way regardless.

Independence. Some participants mentioned that they do not believe that God has a role (or much of a role) in career decision-making. One participant wrote: “I don't feel god plays much of a role in my career decision.” Another participant wrote: “I think that we all have a choice, if it is meant to be it will be. we can decide what we want for ourselves.” Yet another participant mentioned: “I believe in God, but I don't God has any concern for careers.” Another participant wrote: “Does not really apply to me, I am Christian but I do not think about God when making decisions in life.”

Path/Plan/Purpose. Responses within this theme indicated a belief that God or a higher power has a path or plan or purpose for their career. Several of these responses indicated what may be aligned with the theoretical underpinnings of the passive discernment dimension. For example, one participant wrote: “I think that He has a purpose for me, and I need to listen and try to follow that.” Another participant mentioned: “God will choose my career path for what is best for my future.” Yet another participant wrote:

I believe a high power has a plan for everything. This higher power already knows what is going to happen to me in this life. I am experiencing lessons in this world to teach me things I struggled to learn in a past life.

Another student mentioned: “My role is to serve. God's role is to help lead me.” One participant wrote:

My role is to remain a faithful servant of Christ while being in full dependence that His will will come to pass. His role is to guide me to where I need to be right when I need to be there. Pretty much be a sovereign and faithful God.

Another student wrote: “God has a path for me and my role is to stick to his plan and focus on Him.” One participant mentioned: “My role is to follow Gods plan and trust in him that everything in my life is happening for a reason.”

Support. Some participants indicated the role of God as providing support or comfort. One participant wrote:

I don't think God has a role in career decision-making, I believe that is up to you as an individual. He is there to help you with what you need, but you have to put in the effort yourself first.

Another participant mentioned the need for them to engage proactively, but rely on God for comfort. The participant wrote: “I still have to proactively work for what I want in life, but I can still pray to God for assurance and comfort.” Yet another participant wrote: “God’s role is to support what ever I choose.”

God’s Guidance. Participants wrote about the role of God in guiding them in the decision-making process. One participant wrote: “God’s role is to guide me to making the right decisions.” Another participant wrote: “It’s my job to put forth effort and it’s God’s role to guide me.” Yet another participant mentioned: “He doesn’t really have a role other than maybe guidance if I have questions sort of thing.” One participant wrote: “I believe I need to take initiative in finding out who I am and who I am not, and God can be a guide for me, but He can’t make all my decisions for me.” Another participant mentioned: “My role is to do my best at whatever career I choose and lead others to Christ. Christ will guide me to the best career.”

Interests and Talents. Some participants mentioned the role of interests when making career decisions, and others mentioned gifts and talents and their role in career discernment. One participant wrote:

I believe it is my job to find a career that is fulfilling and is related to my interests. God has shaped me into the person I am today through my experiences and how I deal with those experiences. This has consequently shaped my interests, so now I need to find a path that is both fulfilling for me and benefits the lives of others. If God decides I should follow a different path, it will be made clear to me in my daily life.

Another participant mentioned: “I believe that God has a path for me and it starts with my interests and abilities, he just opens or closes the door for me.” Yet another participant wrote: “My role is to pursue what interests me, and God has guided me towards my career but I do not

think that I must base every decision off of whether God wants it for me.” Another mentioned: “I feel that I may have gifts or talents given by God but my career choice with them should be made by me.” Another participant wrote:

I feel that God doesn't directly choose what you will and won't do in life. Instead, I believe that he has given you all the gifts you need to succeed, and that it's up to you to act on those God given gifts and make the most out of your situation.

Personal Fulfillment. Some participants expressed an emphasis on personal happiness and personal fulfillment when making career decisions. One participant wrote: “I see it is my role to be happy and to bring joy into others lives and when I am happy and living through god everything is working out for me.” Another participant mentioned: “My role is to discern what will make me happy and fulfilled long-term. I do not believe God has a role in my decision-making.” Yet another participant wrote: “I don't think that God should really have a role in our career choices. Just as long as you find something that fulfills you, it doesn't have to do anything with God unless you want it to.”

Calling. Participants also mentioned the role of calling within their discernment process. One participant mentioned: “My role is to work hard at whatever God discerns my calling to be.” Another participant wrote:

I feel that God has called me to help people and I pray to Him to guide me, however in the meantime I must live my life. I feel I have been called to help other people through becoming a counselor and God has given me the skills to be successful with that yet I must also understand what my options are, what steps I must take and as I gather more info I continue to pray.

Yet another participant mentioned:

I think that God calls all people to his purposes, his kingdom, but this looks specifically different for each person. I'm still trying to figure out what it looks like for me, but I see and feel the brokenness of our generations mental health problems (relationship between man and himself) and I know that breaks God's heart, so it seemed like a good place to start to find my calling.

Prosocial. Several participants wrote about the importance of helping other people within their career, and that playing a role in their vocational discernment process. One participant wrote: "Giving back justice and helping people in my community through becoming an attorney. God's role I think clarified for me that I want to directly be there to help people who need advocates." Another participant mentioned: "I think my role is to help others, and offer my kindness and help." Yet another participant wrote:

I think that my role is to help assist others and advocate for them. I think it is my role to help others by learning about their situations and applying myself to past experiences and skills to help advocate for them. God's role related to career decision-making has helped me tremendously. I feel as though I have been called in the line of social work because of who I am as a person and how I already pursue others. He has helped me become confident in developing my career. God has helped call me towards what my strengths are and has used His presence in my life to help me decide which parts of SOWK I should lean towards and has helped me think about what career paths I should take in this path.

Unsure. Several participants mentioned uncertainty in God's role and their own role in career decision-making. For example, one participant wrote: "I'm not sure."

Proselytize. Some participants wrote about seeing their role as focused on telling others about their faith. For example, one participant wrote: “To spread the good news of Jesus to everyone.”

Work Fact. Several participants simply mentioned specific jobs, roles, or areas that they were planning to pursue in response to the question. For instance, one participant wrote: “Health Care and Military.” Another participant simply wrote: “A veterinarian.” Some participants provided a bit more detail relating to the specific career paths. For example, one participant mentioned:

I believe my calling that God has given me is teaching. I want to teach second grade, and I want them to learn about Christianity while they are young so they have a strong sense of what it is while they are young. I have a special connection with little kids, and I always have, so I am extremely looking forward to being their teacher. I have been praying for God to show me which path to take and for what decision to choose, and I believe he led me to CSU to fulfill my career and the path he wants me to take.

Discussion

The purpose of Study Two involved seeking additional validity and reliability evidence for the Vocational Discernment through Faith Scale. Specifically, this was explored through further investigating the factor structure of the scale, the construct validity of both the passive discernment dimension and the active discernment dimension, and examining temporal stability of the scale’s dimensions through test-retest reliability analyses. Study Two also sought to explore the constructs of passive discernment and active discernment qualitatively through an open-ended question on participants’ views of their role and God’s role in career decision-making.

Evidence of Factor Structure

Further evidence of the factor structure was explored through Confirmatory Factor Analysis of the scale in an independent sample from Study One. The condensed 10-item scale, shortened from the original 34-items through Exploratory Factor Analysis in Study One, was analyzed through CFA in Study Two. Study Two further condensed the scale from 10 items to 7 items. This 7-item scale demonstrated good fit for a two-factor structure: passive discernment (three items) and active discernment (four items). Strong internal consistency was found for both dimensions, demonstrating early evidence of the scale's reliability.

The two-factor structure results from the Confirmatory Factor Analysis process aligned with the proposed two-factor structure. This provides evidence in support of Hypothesis 1 for Study Two, that the two-factor structure (passive discernment and active discernment) found in Study One would replicate in Study Two.

Item Quality and Item Performance

The Confirmatory Factor Analysis process revealed that items hypothesized to load onto the active discernment factor did demonstrate loading onto the active discernment factor, and the items hypothesized to load onto the passive discernment factor did load onto the passive discernment factor, however, item performance considerations are important to note. Most of the item elimination process occurred in Study One, reducing the initial 34-item scale to 10 items. Study Two continued to explore item quality and item performance, leading to additional reduction in scale content. Notably, the Confirmatory Factor Analysis process revealed poor loading (loading scores less than .30) for several items within the passive discernment dimension. Two items from the passive discernment factor were removed due to poor factor loadings: "I am delaying making any decisions about my career until I am directed by God" and

“I will not take steps toward a particular career path until God answers my prayers about the steps I am meant to take.” It is uncertain as to why those two items demonstrated poor loadings. Both of those items focus on components of the theoretical conceptions underpinning the passive discernment factor, however, both capture the idea of delaying decisions and not taking steps until having heard from God. The performance of the items provides important information on the passive discernment dimension, and possible considerations for further conceptualization of the dimension.

One contributing factor to the item loading performance may be the small sample size for the analyses. Shevlin and Miles (1998) suggested that smaller sample sizes may be linked to lower factor loadings in CFA analyses. Research has suggested some instability in factor loading scores and loading patterns within sample sizes of less than 1000 participants (Hirschfeld et al., 2014). The sample size of Study Two was much smaller than 1000 participants, indicating that the small sample size may contribute to the poor item loading performance within the CFA analyses. Future research can continue to explore the factor loading performance of items within larger sample sizes. An additional consideration for item loading performance is data quality concerns, given how many participants struggled to follow directions in more than one place in the survey.

Although Study One focused on reducing the scale based on item redundancy considerations, item redundancy was still present within the active discernment dimension, and one item was removed due to this redundancy: “I am responsible for engaging with God and taking practical steps for my career development,” which included theoretical underpinnings that were captured more succinctly in other items of the active discernment dimension. Overall, items on the active discernment factor “performed” better in the Confirmatory Factor Analysis process,

indicated through higher factor loading scores. Future research should continue to explore item quality and item performance, especially in different samples with differing levels of relevance of the construct (e.g., students at a religiously-oriented higher education institution).

Relationship Between Dimensions

Similar to results found in Study One, the passive discernment and active discernment dimensions were weakly positively correlated in both the initial survey ($r = .38, p < .01$). and the follow-up survey of Study Two ($r = .33, p < .01$). This provides support for Hypothesis 2, that the active discernment factor and the passive discernment factors of the Vocational Discernment through Faith Scale would be weakly to moderately positively correlated. This relates to past research finding that religious coping styles were weakly to moderately positively correlated (e.g., positive religious coping and negative religious coping; $r = .36$, Lehmann & Steele, 2020; surrender religious coping and deferring coping; $r = .39$; Wong-McDonald & Gorsuch, 2004). These results are indicative of a relationship between these two dimensions, suggesting that students may potentially be implementing components of both passive discernment and active discernment coping in their vocational discernment process. Future research may seek to explore correlations between individual items to explore relationships between specific items of both dimensions to further investigate the relationships between the passive discernment concepts and active discernment concepts.

Construct Validity

Study Two further investigated the nomological net of the Vocational Discernment through Faith Scale, specifically though exploring how both the passive discernment and active discernment dimensions would relate to other constructs. Hypotheses 3, 3a, 3b, 3c, and 3d proposed several relationships between the passive discernment factor and other variables. It was

hypothesized that passive discernment would be positively related to religious variables (e.g., intrinsic religiosity, extrinsic religiosity, and faith at work), and positively related to anxiety (both state and trait anxiety). It was hypothesized that passive discernment would be negatively related to career variables (e.g., career adaptability, career engagement, and career self-efficacy), optimism, and presence of meaning in life. It was hypothesized that passive discernment would display no significant relationship to several variables: search for meaning in life, search for calling, presence of calling, and satisfaction with life. The relationships between the passive discernment dimension and other variables were explored in both the initial survey data and the follow-up survey data. As hypothesized, the passive discernment dimension was found to be positively related to extrinsic religiosity and faith at work. Mixed support was found for the proposed relationship between passive discernment and intrinsic religiosity, with that hypothesis being supported in the follow-up survey data and there being no relationship found between intrinsic religiosity and passive discernment in the initial survey data. No meaningful relationship was found between passive discernment and vocational self-efficacy, optimism, state anxiety, trait anxiety, or presence of meaning in life. There were no significant relationships found between the passive discernment dimension and search for meaning, search for calling, presence of calling, and satisfaction with life.

Additional hypotheses (4, 4a, 4b, and 4c) focused on the proposed relationships between the active discernment dimension and other variables. It was hypothesized that the active discernment factor would be positively related to several religious variables (e.g., intrinsic religiosity, extrinsic religiosity, and faith at work), positively related to several career variables (e.g., career adaptability, career engagement, and career self-efficacy), and positively related to optimism. Other positive relationships were hypothesized, between the active discernment

dimension and presence of meaning in life, search for meaning in life, presence of calling, search for calling, and satisfaction with life. It was hypothesized that the active discernment dimension would be negatively related to anxiety (state anxiety and trait anxiety). The relationships between the active discernment dimension and other variables were explored in both the initial survey data and the follow-up survey data. As hypothesized, the active discernment dimension was positively related to intrinsic religiosity, extrinsic religiosity, faith at work, optimism, presence of meaning in life, presence of calling, and search for calling. Active discernment was found to have no meaningful relationship to career engagement and vocational self-efficacy. Mixed support was found for the relationship between active discernment and career adaptability, with no relationship between those variables found in the initial survey data, and a significant positive relationship found in the follow-up data. No meaningful relationship was found between the active discernment dimension and state anxiety or trait anxiety.

Passive Discernment Construct Validity. There were a total of 14 hypothesized relationships between passive discernment and other constructs. Related to the five proposed positive relationships, two hypotheses were supported, one hypothesis found mixed support, and two hypotheses were not supported. As hypothesized, the passive discernment dimension was found to be positively related to extrinsic religiosity and faith at work. Such findings align with findings that the deferring religious coping style is positively related to religious well-being (Wong-McDonald & Gorsuch, 2004). Mixed support was found for the proposed relationship between passive discernment and intrinsic religiosity, with that hypothesis being supported in the follow-up survey data and there being no relationship found between intrinsic religiosity and passive discernment in the initial survey data. In the initial survey data, although the positive relationship was not significant, the relationship was approaching significance ($r = .19, p = .06$).

Contrary to proposed hypotheses, passive discernment was found to not relate significantly to either state anxiety or trait anxiety. Research has found mixed results related to passive religious deferral coping approaches and anxiety (Pargament et al., 1998), with some research associating passive deferral coping with lower levels of anxiety (Gall, 2006). It could be that taking a passive discernment approach provides individuals with the opportunity to expect God to address their vocational discernment concerns and decision-making processes, which could be linked to lower levels of anxiety. Students' levels of anxiety may be somewhat appeased, partly due to feeling lower levels of personal responsibility for making career-related decisions.

From the five proposed negative relationships between the passive discernment dimension and other constructs, none of the hypothesized relationships were supported. Contrary to stated hypotheses, no meaningful relationship was found between passive discernment and vocational self-efficacy, optimism, or presence of meaning in life. These relationships may be indicative of discriminant validity of passive discernment measuring different constructs than optimism or presence of meaning in life. Contrary to stated hypotheses, the passive discernment dimension was found to be positively related to career engagement, and showing mixed results with career adaptability (positive relationship in the initial survey data and no significant relationship in the follow-up survey data). There is a paucity of research quantitatively exploring passive discernment in vocational discernment as it relates to career variables. Although Dik et al., (2009) encouraged active discernment strategies within career decision making, there may be some career-related benefits to students engaging in a passive discernment approach. This is further explored in the General Discussion section. Future research should explore the relationship between the passive discernment approach and career outcomes.

There were four proposed non-significant relationships between the passive discernment factor and other variables. Of the four hypothesized relationships, support was found for all four relationships. There were no significant relationships found between the passive discernment dimension and search for meaning, search for calling, presence of calling, and satisfaction with life. These results are indicative of discriminant validity of the passive discernment dimension. Past research has found the deferring religious coping style to be weakly negatively correlated with existential well-being (Pargament et al., 1998). Future research can continue to explore the relationships between the passive discernment vocational discernment dimension and variables measuring meaning, calling, and well-being to further explore discriminant validity.

Active Discernment Construct Validity. Study Two included a total of 14 hypothesized relationships between the active discernment dimension and other variables. 12 of those 14 proposed positive relationships between the active discernment factor and other variables. Of those 12 hypothesized relationships, 7 were supported through the Study Two data, 1 showed mixed support, and 4 were not supported through the Study Two data. As hypothesized, the active discernment dimension was positively related to intrinsic religiosity, extrinsic religiosity, faith at work, optimism, presence of meaning in life, presence of calling, and search for calling. These results provide evidence of convergent validity of the active discernment dimension with other religious-related variables, meaning in life, calling, and well-being variables. Such findings align with findings that align positive religious coping methods as positively related to well-being variables, including religious and existential well-being (Wong-McDonald & Gorsuch, 2004). However, contrary to proposed hypotheses, the active discernment dimension had no meaningful relationship with search for meaning and satisfaction with life. Future research can continue to explore the relationships between active discernment and different variables.

The active discernment dimension was hypothesized to be positively related to career adaptability, career engagement, and vocational self-efficacy. Contrary to those hypotheses, active discernment was found to have no meaningful relationship to career engagement and vocational self-efficacy. Mixed support was found for the relationship between active discernment and career adaptability, with no relationship between those variables found in the initial survey data, and a significant positive relationship found in the follow-up data. There is a paucity of empirical work to draw from regarding the relationships between active discernment strategies in vocational discernment and career-related variables. Notably, in Study Two, the passive discernment dimension was suggestive of more positive relationships with career-related variables than the active discernment dimension. However, future research is needed to further examine the relationship between the active discernment dimension and career variables. Since one of the relationships demonstrated mixed results, the possible positive relationships may not be able to be replicated or may be related to a third variable.

It was hypothesized that the active discernment dimension would be negatively related to state anxiety and trait anxiety. Lehmann and Steele (2020) found that the active surrender coping approach was negatively associated with posttraumatic stress. Contrary to the hypotheses, no meaningful relationship was found between the active discernment dimension and state anxiety or trait anxiety. However, although no significant relationships were found, the relationships between the active discernment dimension and state anxiety and trait anxiety were mainly negative. Future research can explore if these variables may be significantly negatively related.

Stability of Constructs

Study Two included analyses of stability of the Vocational Discernment through Faith Scale through test-retest reliability measures. Test-retest analyses suggest that both passive

discernment and active discernment are weakly to moderately stable over a 4-week time period. There is a paucity of research exploring the stability of the passive discernment and active discernment dimensions as related to career development over time quantitatively. This suggests that over a 4-week time period, participants may not be demonstrating too many significant changes as it relates to vocational discernment styles. However, results from Study Two demonstrated support for Hypothesis 5, that the active discernment dimension would display more stability than the passive discernment dimension in test-retest correlations. It is possible that through students' faith development process and changes, they may be implementing different levels of passive discernment over time (Fowler & Dell, 2006). It is possible that students are making changes in implementing more active discernment strategies over time. Due to the low sample size for these test-retest reliability analyses, future research should further explore the stability of both the active discernment dimension and the passive discernment dimension. However, although the sample size was small for the test-retest reliability analyses, DeVet et al., (2011) recommended a sample size of at least 50 for test-retest reliability analyses. The sample size for the test-retest reliability analyses in Study Two met that recommendation, although barely. However, other research has recommended sample sizes closer to 200 for test-retest reliability analyses (Polit, 2014). Although the sample size was small for test-retest reliability analyses, the moderate relationship suggests both active and passive discernment are reasonably stable constructs over a one-month period, but the passive discernment approach (more so than active) may shift somewhat for many people over the course of four weeks.

Qualitative Insights

Including the open-ended question in Study Two provided the opportunity to learn more about students' implementation of passive and active discernment strategies. Exploring the

qualitative responses suggested several main themes that emerged from the data. Several of these themes included: collaborative, variety in level of roles, independence, path/plan/purpose, support, God's guidance, interests and talents, personal fulfillment, calling, prosocial, unsure, proselytize, and work fact. Several of these themes aligned with qualitative themes that emerged within Alayan's (2021) work exploring integration themes used within undergraduate students' career decision-making, including similar themes of path/plan, support, calling, prosocial, and work fact. Specifically related to the current study's findings of the collaborative theme, this theme demonstrates some overlap with the collaborative religious coping found in research (Wong-McDonald & Gorsuch, 2004). Of note, the amount of collaboration between one's role and God's role in the qualitative responses were suggestive of quite a lot of variety. Such findings align with findings that highlight the potential different stages of faith development that students may be in during their undergraduate years (Fowler & Dell, 2006), and may highlight the differences found between students as it relates to the passive discernment and active discernment dimensions based on the individuality of one's faith development, and the exploration that students may be engaging in (Fowler & Dell, 2006). The unsure theme may align with Fowler's (1981) individuative-reflective faith stage, where students may be questioning faith beliefs and engaging in a process of faith exploration and development.

The path/plan/purpose theme included several responses from students that communicated characteristics of waiting for the plan to be revealed, as aligned with theoretical conceptualizations of the passive discernment dimension. These findings align with past qualitative research highlighting those "praying-and-waiting" responses (Alayan, 2021). This is indicative of those vocational discernment styles representative of the passive discernment dimension. Future research can explore the relationships between the quantitative and qualitative

responses more specifically as it relates to the specific dimensions of the Vocational Discernment through Faith Scale.

The support theme highlighted responses from students relying on God or a Higher Power for support and comfort throughout the career decision-making process. This theme aligns with previous qualitative research finding this theme within responses from undergraduate students (Alayan, 2021). Future research can explore the support theme as it may relate more specifically to well-being outcomes and career-related variables. The emergence of the calling theme highlights the relevance of the concept of calling within undergraduate student samples as it relates to vocational discernment. The prosocial theme highlights the prosocial orientation of calling, as well (Dik & Duffy, 2009). Future research can further investigate the prevalence of both calling and prosocial themes emerging within responses. Overall, the qualitative responses provide additional insight into the passive discernment and active discernment dimensions of the Vocational Discernment through Faith Scale and future research involving the scale.

Participant Information

When considering the participants included in the Study Two analyses from the initial survey, out of the 359 participants who began the initial survey, only 107 were retained in the analyses based on the 80% cutoff parameters for missing data and participants indicating relevance of the items of the scale. Thus, 29.8% of participants found some relevance in the scale, which was a smaller percentage than those in Study One (44.8%). This is especially interesting as the title of Study Two within the research pool included both “religion” and “spirituality,” suggesting that students who find those constructs relevant to their lives may have been more apt to select to be part of the study.

A few significant differences emerged when exploring potential differences between the included participants and excluded participants through Chi-square analyses and *t*-tests. Chi-square analyses revealed significant differences in White or European identification and Hispanic or Central/South American identification between the two groups, included participants and excluded participants. Contrary to results found in Study One, 10.3% of the participants in the included participant group identified as Hispanic or Central/South American ($N = 11$) and 10.7% ($N = 27$) of the participants in the excluded participant group identified as Hispanic or Central/South American. Although the chi-square analyses identified this as statistically significant, the magnitude of the difference in size is so small that it lacks practical significance. Future research can continue to explore racial/ethnic identities as they intersect with religious/spiritual beliefs specifically relevant to passive discernment and active discernment.

Similar to Study One, chi-square analyses did reveal significant differences in religious identification between the two groups, included participants and excluded participants. Notably, 72.9% of the participants in the included group identified as Christian, and 17.1% of the participants in the excluded group identified as Christian. The differences in religious identity in the participant groups is likely related to the context and content of the Vocational Discernment through Faith Scale being more relevant to those who identify as religious. Significant differences were found in frequency of religious service attendance between the two groups. The frequency of religious service attendance significant differences may be related to 23.4% of the participants in the included group indicating attendance at religious services at least once a week, and 3.2% of the participants in the excluded group indicating attendance at religious services at least once a week. This may be related to the religious content of the scale, and the relationship

between religious beliefs and engaging in spiritual practices, including attending religious services.

Significant differences emerged when comparing scores on several religious-related variables across groups, including intrinsic religiosity, extrinsic religiosity, and faith at work scores. These differences may be representative of the content and context of the scale focusing on religion and religious beliefs. Significant differences were found when comparing presence of calling scores across groups, with participants in the included group indicating higher levels of presence of calling compared to the excluded group. The significant differences on presence of calling for included participants may be indicative of relationships between presence of calling and religious identity and religious commitment (Bott & Duffy, 2015; Hernandez et al., 2011). Individuals who were included in the analyses were more likely to identify as White, Christian, and attending religious services more frequently than participants excluded from the analyses. The participants included in analyses were also likely to have higher levels of presence of calling, intrinsic religiosity, extrinsic religiosity, and faith at work. This provides important context for understanding the possible relationships between different identities and level of applicability of various constructs.

Limitations and Directions for Future Research

Study Two provided promising support for the validity and reliability of the Vocational Discernment through Faith Scale, however, there were several limitations of the study. Notably, the sample size for Study Two was small, especially for scale development measures. Therefore, future research should seek to conduct additional factor analyses on larger sample sizes. The sample size led to several hurdles with data analysis, notably one that prevented longitudinal invariance analyses. Future research with larger sample sizes should investigate longitudinal

invariance analyses. Due to the inability to match more students based on different User ID's imputed between the initial survey and the follow-up survey, the participant numbers used for the test-retest reliability analyses were particularly small. Future research should further investigate the test-retest reliability of the scale. The present study also emphasized keeping the data anonymous, which inhibited collecting identifiable information that could have connected more participant responses from the initial survey to the follow-up survey. Future research might choose to proceed ethically, without taking precisely the measures the present study took, in order to improve response rate. For instance, it might be appropriate to collect some identifying information from participants, without placing participants at undue risk, for the purpose of connecting participant responses from the initial survey to the follow-up survey. This might improve overall response rate and also may provide opportunities to connect participant responses.

Although performance on the Confirmatory Factor Analysis in Study Two for the seven-item scale demonstrated adequate to good fit, the factor loadings on items in the passive discernment dimension did not perform as well as items on the active discernment subscale. Notably, there were two factor loadings for the final seven-item scale that were very close to missing the DeVellis (2017) .30 recommended cutoff. Future research should further examine the Confirmatory Factor Analysis for the seven-item scale using a new sample.

GENERAL DISCUSSION

Study One and Study Two provide initial evidence of the psychometric qualities of the Vocational Discernment through Faith Scale. The studies condensed the initial 34-item scale to a 7-item scale that demonstrated adequate to good fit across factor analysis processes using both Exploratory Factor Analysis (Study One) and Confirmatory Factor Analysis (Study Two). Strong internal consistency reliability for the scale was found in both Study One and Study Two. Insight into the scale's construct validity was gathered through measures analyzing relationships between the scale and other variables. Despite the small sample size, test-retest reliability results were promising related to the temporal stability of the scale. Qualitative themes that emerged from an open-ended question provided additional relevant insight into the passive discernment and active discernment constructs.

The present studies respond to the need to expand the literature quantitatively exploring aspects of passive and active discernment approaches to career decision-making processes, specifically related to religion/spirituality. Through these studies, the significance of these concepts to students who identify as religious or spiritual was recognized. Both Study One and Study Two provided insight into the relationships between passive and active discernment and other relevant constructs (e.g., religious variables, career-related constructs, and well-being variables). This research provides initial understanding of the relevance and importance of the passive and active discernment constructs.

The Exploratory Factor Analysis in Study One and the Confirmatory Factor Analysis in Study Two revealed two-factor models (passive discernment and active discernment). The passive discernment dimension aligns theoretically with research on passive deferral approaches to religious coping (Lehmann & Steele, 2020; Pargament et al., 1998), research that has not been

explored within career-decision making processes quantitatively. The active discernment dimension aligns with research on active approaches to religious coping (Lehmann & Steele, 2020). The two-factor results from Study Two aligned with the results from Study One, and also aligned with the theoretical considerations for the development of the scale. This exploratory research provides initial evidence for passive discernment and active discernment coping styles used by students as it relates to career decision-making processes.

Evidence of construct validity displayed positive relationships between passive discernment and religious variables, including religious commitment, extrinsic religiosity, and faith at work. These findings align with findings that the deferring religious coping style is positively related to religious well-being (Wong-McDonald & Gorsuch, 2004). However, mixed support was found for passive discernment being positively related to intrinsic religiosity in Study Two, with one of the positive relationships between passive discernment and intrinsic religiosity approaching significance. It could be that passive discernment strategies of career discernment are more strongly related to other religious variables, and potentially suggestive of stronger relationships with extrinsic religiosity, highlighting personal and social benefits of religion and potential weaker relationships with intrinsic religiosity, indicative of religious beliefs core to one's values and life. This may be related to the faith development stages during young adulthood (Fowler & Dell, 2006).

The negative relationship between vocational identity and passive discernment may be suggestive that the passive vocational discernment style might be linked to challenges with career outcomes or decidedness. However, in Study One, the passive discernment dimension was found to be weakly positively related to career engagement. In Study Two, contrary to stated hypotheses, the passive discernment dimension was found to be positively related to career

engagement, and showing mixed results with career adaptability (positively relationship in the initial survey data and no significant relationship in the follow-up survey data). There is a paucity of research quantitatively exploring passive discernment in vocational discernment as it relates to career variables. Although Dik et al., (2009) encouraged active discernment strategies within career decision making, there may be some career-related benefits to students engaging in a passive discernment approach. These specific career-related benefits may be linked to the relationships between the passive discernment dimension, career engagement, and students' anxiety surrounding career-related decisions.

The positive relationship between the passive discernment dimension and career engagement may be indicative of individual perceptions of students' level of career engagement. For instance, students may believe that they are engaging in higher levels of career engagement than what would be recommended by career professionals, however, the students may think that their individual levels of career engagement are sufficient. This may be related to overall developmental stages related to career development and faith development. Students may also be participating in higher levels of career engagement than they had experienced during their high school years, and therefore, may experience their current levels of career engagement as sufficient or more indicative of recommended levels of career engagement. This also could be related to students' anxiety surrounding career being somewhat appeased by releasing themselves of some of the responsibility. However, due to the exploratory nature of the current research, the specifics of those benefits are not possible to further discern. Since some of the relationships demonstrated mixed results, the possible positive relationships may not be able to be replicated or may be related to a third variable. Future research should explore the relationship between the passive discernment approach and career outcomes.

The active discernment dimension was positively related to religious variables (e.g., religious commitment, intrinsic religiosity, extrinsic religiosity, and faith at work), as well as life and well-being variables (e.g., satisfaction with life, presence of meaning in life, and optimism). This research supports the recommendation of the use of active discernment approaches.

Mixed results were found related to the active discernment dimension and its relationship to career variables. In Study One, active discernment was positively related to career variables, including career engagement, presence of calling, and search for calling. However, in Study Two, career engagement, and vocational self-efficacy were not significantly related to the active discernment dimension. Mixed support was found for the relationship between the active discernment dimension and career adaptability, with no significant relationship between those variables found in the initial survey data, and a significant positive relationship found in the follow-up data. No empirical work has directly explored active discernment related to faith within one's career development process, but research has recommended the use of active discernment approaches within the career decision-making process (Dik et al., 2009; Marsh & Dik, 2020). Notably, the relationships found between the active discernment dimension and career variables were positive, although not significant. The low sample size in Study Two could contribute to the null relationships and mixed relationships found related to the active discernment approach.

Implications for Practice

For college students who are in processes of faith, religious, spiritual exploration and career exploration, the scale reveals it is relevant to students at this time. Study One found that the scale was relevant for 44.8% of total participants. This could indicate that these types of considerations are relevant for a number of undergraduate students and it may be important to

address those when relevant within mental health counseling and career counseling. Within both mental health counseling and career counseling, consideration of all identities that an individual may find important and relevant to their life, well-being, and career decision-making process can be important (Blustein & Noumair, 1996). In an emphasis on diversity, equity, and inclusion, religious/spiritual identities are helpful to consider when working with students in different practice settings. Assessing for the importance of a student's religious/spiritual identity is needed, and asking students about the relevance of those identity as it relates to their mental health and career decision-making process.

Especially relevant to career counseling, asking students about their approaches to career decision-making as it may be relevant to one's faith (e.g., through passive or active discernment) can provide critical context for the student's decision-making process. Students who identify as Christian may be consulting popular Christian literature for guidance on their career decision-making processes, and popular literature themes vary, with some emphasizing active discernment strategies, and others focusing on a passive approach (Alayan & Norquist, 2020). Highlighting the importance of active discernment strategies can be an important intervention when working with students, especially as active discernment is positively related to different career and well-being outcomes.

Results from Study Two suggest that even though the proportion of students who found the scale to be relevant to them was less than in Study One, the scale was found to be relevant enough for 29.8% of the students to be included in the analyses. Due to the two studies finding initial evidence of validity and reliability, the Vocational Discernment through Faith scale can be administered to students in mental health counseling and career counseling settings to gather information about students' utilization of passive discernment and/or active discernment

vocational discernment and coping strategies. The open-ended question used in Study Two can be administered to students to learn more about how students may view their role as it compares to God's role in their career decision-making process, and to begin conversations further investigating how this may be impacting students' vocational discernment process. Learning more about students' alignment with passive discernment and active discernment can also impact conversations related to religious commitment, religious well-being, meaning in life, and career engagement and adaptability. Study Two provides additional support for career counselors and mental health clinicians considering religious and spiritual identities as an important aspect of cultural considerations, and diversity within practice.

Limitations and Future Research

It is important to acknowledge the limitations of the studies to inform future research. One limitation related to the comparison groups of included participants and excluded participants is that there may be too much power for the *t*-test analyses and chi-square analyses run, where there may have been results indicating that even small differences between the groups would emerge as significant. Future research should continue to explore differences between groups of participants included in analyses and those excluded from analyses. Of note, although Cohen's effect size guidelines are still widely used in the field, some in the field highlight limitations of using Cohen's effect size guidelines. Funder and Ozer (2019) encourage revised guidelines of interpreting effect sizes (e.g., new guidelines of an effect size of .05 as very small, .10 as small, .20 as medium, and .30 as large, and .40 or greater as a very large effect size likely to represent an overestimation). Future research can consider use of updated guidelines to interpret effect sizes.

Future research continuing to investigate the factor structure of the Vocational Discernment through Faith Scale can provide additional insight into the scale and its dimensions. Future research can continue to investigate reliability of the scale. Future research may be able to include an opportunity for participants to write their understanding of each item or any reactions to each item.

Some of the potential explanations for cross-loadings were based on speculation. Future research that provides participants with the opportunity to write-in their own interpretations of items could provide more insight into ways that participants are interpreting these items. It will also be important to consider the strong correlation between active discernment and religious commitment in future research to discern if active discernment and religious commitment are distinct constructs.

For the EFA analyses, sample size recommendations vary, and the 356 participants met the criteria posited by several researchers. However, Comrey and Lee (1992) suggest 500 participants as very good and 1000 or more as excellent. Future research may be able to explore the EFA analyses within larger sample sizes. Additional future research may also look to explore factor analysis through using the Exploratory Graph Analysis, a newer approach used to explore and estimate number of factors (Golino & Epskamp, 2017).

It was also important to gather information from undergraduate students due to the relevance of the constructs within the student population. However, data quality within introductory psychology participant pools may be indicative of low levels of attentiveness (Hauser & Schwarz, 2016). One notable concern, especially for Study Two, was related to overall data quality. One limitation of the present studies surrounded not having included attention checks to provide additional information on the quality of the data provided in the

study, as well as opportunities to use formal attention checks to only include high-quality data in the analyses. Attention check options include honesty checks, such as: “Did you expend effort and attention sufficient to warrant using your responses for this research study?” (Abbey & Meloy, 2017, p. 4), as well as evaluating effort on surveys based on time spent on individual items and the survey in its entirety (Abbey & Meloy, 2017). Future research may incorporate attention checks within the survey to gauge for attention throughout.

The sample was mainly female, White or European, and first year. This serves as a limitation of generalizability of the results. Of note, the sample was also young in age, even for an undergraduate sample. Young students may have different experiences developmentally with career discernment and career decision-making processes than students closer to graduation. Future research should incorporate students of diverse gender identities, racial/ethnic identities, and year in school. Future research may also be able to explore the applicability of the scale to undergraduate students at a religiously-affiliated higher education institution, where the content of the scale may be a bit more relevant.

Another limitation of the present studies is that the samples are convenience samples of university students. Both career development and faith development are relevant dynamics to university students, however, the dynamics of the VDFS are relevant to the developmental considerations of emerging adults broadly, not just college students. Future research should explore these constructs in samples of emerging adults who choose to not pursue college or are not currently enrolled as university students.

Future research should further examine the Confirmatory Factor Analysis for the seven-item scale using a new sample. The passive discernment dimension items may need to be revisited, with potential re-writing of the items as related to the theoretical underpinnings of the

active discernment dimension. Future research can also include latent profile analysis, classifying participants based on their scores on both the passive discernment and active discernment subscales and using those classifications to further examine relationships between vocational discernment approaches and career variables, religious variables, and well-being variables.

Future research can conduct a qualitative analysis using multiple coders to conduct a coding and thematic analysis approach. This process may be able to provide additional insight into the qualitative responses provided. Mixed-methods research approaches may be able to be used, comparing qualitative responses to the specific item scale responses. In addition, since these theoretical considerations and constructs are new to be explored quantitatively, additional qualitative exploration specifically focused on open-ended questions in interview style highlighting passive discernment and active discernment styles might provide important insight.

Overall, Study One and Study Two provide initial evidence of the psychometric qualities of the Vocational Discernment through Faith Scale, highlighting the two-factor structure of the active discernment dimension and passive discernment dimension. Future research can continue to explore the active discernment and passive discernment approaches to career decision-making.

REFERENCES

- Abbey, J. D., & Meloy, M. G. (2017). Attention by design: Using attention checks to detect inattentive respondents and improve data quality. *Journal of Operations Management, 53*, 63-70.
- Abkhezr, P., McMahon, M., Glasheen, K., & Campbell, M. (2018). Finding voice through narrative storytelling: An exploration of the career development of young African females with refugee backgrounds. *Journal of Vocational Behavior, 105*, 17-30.
- Alayan, A. (2021). *Meaning making and faith-work integration: A qualitative study of university students* [Masters Thesis, Colorado State University].
- Alayan, A. J., & Norquist, B. (2020). Vocational discernment themes in popular Christian literature. *Journal of Psychology and Christianity, 39*(3), 197-213.
- Ano, G. G., & Vasconcelles, E. B. (2005). Religious coping and psychological adjustment to stress: A meta-analysis. *Journal of clinical psychology, 61*(4), 461-480.
- Arnett, J. J. (2023). *Emerging adulthood: The winding road from the late teens through the twenties*. Oxford University Press.
- Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American psychologist, 55*(5), 469.
- Bandalos, D. L., & Boehm-Kaufman, M. R. (2009). Four common misconceptions in exploratory factor analysis. *Statistical and methodological myths and urban legends: Doctrine, verity and fable in the organizational and social sciences, 2009*, 61-87.
- Benefiel, M., Fry, L. W., & Geigle, D. (2014). Spirituality and religion in the workplace: History, theory, and research. *Psychology of Religion and Spirituality, 6*(3), 175.

- 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.
- Bjoreck, J. P., Lee, Y. S., & Cohen, L. H. (1997). Control beliefs and faith as stress moderators for Korean American versus Caucasian American Protestants. *American journal of community psychology*, 25(1), 61-72.
- Blustein, D. L., & Noumair, D. A. (1996). Self and identity in career development: Implications for theory and practice. *Journal of Counseling & Development*, 74(5), 433-441.
- Boateng, G. O., Neilands, T. B., Frongillo, E. A., Melgar-Quinonez, H. R., & Young, S. L. (2018). Best practices for developing and validating scales for health, social, and behavioral research: a primer. *Frontiers in public health*, 6, 149.
- 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.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative research in psychology*, 3(2), 77-101.
- Braun, V., Clarke, V., Hayfield, N., & Terry, G. (2018). Thematic analysis. *Handbook of research methods in health social sciences*, 1-18.
- Burisch, M. (1984). Approaches to personality inventory construction: A comparison of merits. *American Psychologist*, 39(3), 214.
- Chartrand, J. M., Rose, M. L., Elliott, T. R., Marmarosh, C., & Caldwell, S. (1993). Peeling back the onion: Personality, problem solving, and career decision-making style correlates of career indecision. *Journal of Career Assessment*, 1(1), 66-82.

- Clark, L. A., & Watson, D. (2016). Constructing validity: Basic issues in objective scale development. In A. E. Kazdin (Ed.), *Methodological issues and strategies in clinical research* (pp. 187–203).
- Comrey, A. L., & Lee, H. B. (2013). *A first course in factor analysis*. Psychology press.
- Cortina, J. M. (1993). What is coefficient alpha? An examination of theory and applications. *Journal of applied psychology*, 78(1), 98.
- Dawis, R. V. (2000). Scale construction and psychometric considerations. In *Handbook of applied multivariate statistics and mathematical modeling* (pp. 65-94). Academic Press.
- Dean, K. L., Fornaciari, C. J., & McGee, J. J. (2003). Research in spirituality, religion, and work: Walking the line between relevance and legitimacy. *Journal of organizational change management*.
- DeVellis, R. F. (2017). *Scale Development: Theory and applications 4th edition*. Los Angeles: SAGE Publications.
- De Vet, H. C., Terwee, C. B., Mokkink, L. B., & Knol, D. L. (2011). *Measurement in medicine: a practical guide*. Cambridge university press.
- Diener, E. D., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of personality assessment*, 49(1), 71-75.
- Dik, B. J., Daniels, D., & Alayan, A. J. (2024). Religion, Spirituality, and the Workplace: A Review and Critique. *Annual Review of Organizational Psychology and Organizational Behavior*, 11, 279-305.
- Dik, B. J., & Duffy, R. D. (2009). Calling and vocation at work: Definitions and prospects for research and practice. *The counseling psychologist*, 37(3), 424-450.

- Dik, B. J., & Duffy, R. D. (2015). Strategies for discerning and living a calling. In P. J. Hartung, M. L. Savickas, & W. B. Walsh (Eds.), *APA handbook of career intervention, Vol. 2. Applications* (pp. 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., Duffy, R. D., & Tix, A. P. (2012). Religion, spirituality, and a sense of calling in the workplace. *Psychology of religion and workplace spirituality, 113*-133.
- 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.
- Duffy, R. D. (2006). Spirituality, religion, and career development: Current status and future directions. *The Career Development Quarterly, 55*(1), 52-63.
- 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., & Allan, B. A. (2014). Examining predictors and outcomes of career calling among undergraduate students. *Journal of Vocational Behavior, 85*, 309–318.
- Duffy, R. D., Manuel, R. S., Borges, N. J., & Bott, E. M. (2011). Calling, vocational development, and well being: A longitudinal study of medical students. *Journal of Vocational Behavior, 79*(2), 361-366.
- Duffy, R. D., & Sedlacek, W. E. (2007). The presence of and search for a calling: Connections to career development. *Journal of Vocational Behavior, 70*(3), 590-601.

- Duffy, R. D., & Sedlacek, W. E. (2010). The salience of a career calling among college students: Exploring group differences and links to religiousness, life meaning, and life satisfaction. *The Career Development Quarterly*, 59(1), 27-41.
- Ecklund, E. H., Daniels, D., Bolger, D., & Johnson, L. (2020). A nationally representative survey of faith and work: Demographic subgroup differences around calling and conflict. *Religions*, 11(6), 287.
- Epstein, E. M. (2002). Religion and business—the critical role of religious traditions in management education. *Journal of Business Ethics*, 38(1), 91-96.
- Erikson, E. H. (1994). *Identity and the life cycle*. WW Norton & company.
- Espinosa, G. (2014). The influence of religion on Latino education, marriage, and social views in the United States. *Family Factors and the Educational Success of Children*, 203-223.
- Fabrigar, L. R., Wegener, D. T., MacCallum, R. C., & Strahan, E. J. (1999). Evaluating the use of exploratory factor analysis in psychological research. *Psychological methods*, 4(3), 272.
- Floyd, F. J., & Widaman, K. F. (1995). Factor analysis in the development and refinement of clinical assessment instruments. *Psychological assessment*, 7(3), 286.
- Fowler, J. (1981). *Stages of faith: The psychology of human development and the quest for meaning*. New York, NY: Harper & Row.
- Fowler, J. W., & Dell, M. L. (2006). Stages of faith from infancy through adolescence: Reflections on three decades of faith development theory. *The handbook of spiritual development in childhood and adolescence*, 34-45.
- Francis, B., Gill, J. S., Yit Han, N., Petrus, C. F., Azhar, F. L., Ahmad Sabki, Z., ... & Sulaiman, A. H. (2019). Religious coping, religiosity, depression and anxiety among medical

- students in a multi-religious setting. *International journal of environmental research and public health*, 16(2), 259.
- Funder, D. C., & Ozer, D. J. (2019). Evaluating effect size in psychological research: Sense and nonsense. *Advances in methods and practices in psychological science*, 2(2), 156-168.
- Gall, T. L. (2006). Spirituality and coping with life stress among adult survivors of childhood sexual abuse. *Child Abuse & Neglect*, 30, 829–844.
- Gati, I., & Kulcsár, V. (2021). Making better career decisions: From challenges to opportunities. *Journal of Vocational Behavior*, 126(1), 35-45.
- Geigle, D. (2012). Workplace spirituality empirical research: A literature review. *Business and Management Review*, 2(10), 14-27.
- Giacalone, R. A., & Jurkiewicz, C. L. (Eds.). (2003). *Handbook of workplace spirituality and organizational performance*. Me Sharpe.
- Golino, H. F., & Epskamp, S. (2017). Exploratory graph analysis: A new approach for estimating the number of dimensions in psychological research. *PloS one*, 12(6), e0174035.
- Good, M., Willoughby, T., & Busseri, M. A. (2011). Stability and change in adolescent spirituality/religiosity: A person-centered approach. *Developmental Psychology*, 47(2), 538.
- Goretzko, D., Pham, T. T. H., & Bühner, M. (2021). Exploratory factor analysis: Current use, methodological developments and recommendations for good practice. *Current psychology*, 40, 3510-3521.
- Gorsuch, R. L., & McPherson, S. E. (1989). Intrinsic/extrinsic measurement: I/E-revised and single-item scales. *Journal for the Scientific study of Religion*, 348-354.

- Guadagnoli, E., & Velicer, W. F. (1988). Relation of sample size to the stability of component patterns. *Psychological bulletin*, 103(2), 265.
- Hardy, L. (1990). *The fabric of this world: Inquiries into calling, career choice, and the design of human work*. Wm. B. Eerdmans Publishing.
- Hauser, D. J., & Schwarz, N. (2016). Attentive Turkers: MTurk participants perform better on online attention checks than do subject pool participants. *Behavior research methods*, 48, 400-407.
- 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.
- Hirschi, A., Freund, P. A., & Herrmann, A. (2014). The career engagement scale: Development and validation of a measure of proactive career behaviors. *Journal of Career Assessment*, 22(4), 575-594.
- Hirschfeld, G., von Brachel, R., & Thielsch, M. (2014). Selecting items for Big Five questionnaires: At what sample size do factor loadings stabilize?. *Journal of Research in Personality*, 53, 54-63.
- 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.
- Houghton, J. D., Neck, C. P., & Krishnakumar, S. (2016). The what, why, and how of spirituality in the workplace revisited: A 14-year update and extension. *Journal of Management, Spirituality & Religion*, 13(3), 177-205.
- Howard, M. C. (2016). A review of exploratory factor analysis decisions and overview of current practices: What we are doing and how can we improve?. *International journal of human-computer interaction*, 32(1), 51-62.

- 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, 434-449.
- Kopplin, D. (1976, August). *Religious orientations of college students and related personality characteristics*. Paper presented at the convention of the American Psychological Association, Washington, DC.
- Krägeloh, C. U., Chai, P. P. M., Shepherd, D., & Billington, R. (2012). How religious coping is used relative to other coping strategies depends on the individual's level of religiosity and spirituality. *Journal of religion and health*, 51, 1137-1151.
- Kyriazos, T. A. (2018). Applied psychometrics: sample size and sample power considerations in factor analysis (EFA, CFA) and SEM in general. *Psychology*, 9(08), 2207.
- Leak, G. K. (1992). Religiousness and social interest: An empirical assessment. *Individual Psychology: Journal of Adlerian Theory, Research & Practice*.
- Lehmann, C., & Steele, E. (2020). Going beyond positive and negative: Clarifying relationships of specific religious coping styles with posttraumatic outcomes. *Psychology of Religion and Spirituality*, 12(3), 345.
- Lim, S., & Jahng, S. (2019). Determining the number of factors using parallel analysis and its recent variants. *Psychological methods*, 24(4), 452.
- Liu, Y., Millsap, R. E., West, S. G., Tein, J. Y., Tanaka, R., & Grimm, K. J. (2017). Testing measurement invariance in longitudinal data with ordered-categorical measures. *Psychological methods*, 22(3), 486.
- Lynn, M. L., Naughton, M. J., & VanderVeen, S. (2009). Faith at work scale (FWS): Justification, development, and validation of a measure of Judaeo-Christian religion in the workplace. *Journal of business ethics*, 85(2), 227-243.

- Maggiori, C., Rossier, J., & Savickas, M. L. (2017). Career adapt-abilities scale–short form (CAAS-SF) construction and validation. *Journal of career assessment*, 25(2), 312-325.
- Marsh, D. R., & Dik, B. J. (2021). Beyond-the-self callings: The role of a transcendent summons for undergraduates and working adults. *Journal of Career Assessment*, 29(4), 570-588.
- Marteau, T. M., & Bekker, H. (1992). The development of a six-item short-form of the state scale of the Spielberger State—Trait Anxiety Inventory (STAI). *British journal of clinical Psychology*, 31(3), 301-306.
- McDonald, R. P. (1999). Classical item analysis. *Test Theory: A unified treatment*, 231-247.
- Mhatre, S. G., & Mehta, N. K. (2023). A review of workplace spirituality: identifying present development and future research agenda. *Management Research Review*, 46(9), 1185-1206.
- Miller, D. W. (2003). The faith at work movement. *Theology Today*, 60(3), 301-310.
- Miller, D. W., & Ewest, T. (2013). The present state of workplace spirituality: A literature review considering context, theory, and measurement/assessment. *Journal of religious & theological information*, 12(1-2), 29-54.
- Miller, D. W., Ewest, T., & Neubert, M. J. (2018). Development of the integration profile (TIP) faith and work integration scale. *Journal of Business Ethics*, 1-17.
- Milliman, J., Czaplewski, A. J., & Ferguson, J. (2003). Workplace spirituality and employee work attitudes: An exploratory empirical assessment. *Journal of organizational change management*, 16(4), 426-447.
- Nunnally J.C. *Psychometric Theory*. New York, NY: McGraw-Hill; (1978).

- Obregon, S. L., Lopes, L. F. D., Kaczam, F., da Veiga, C. P., & da Silva, W. V. (2021). Religiosity, Spirituality and Work: A Systematic Literature Review and Research Directions. *Journal of Business Ethics*, 1-23.
- Paloutzian, R. F., & Park, C. L. (2013). Directions for the future of psychology of religion and spirituality: research advances in methodology and meaning systems. *Handbook of the psychology of religion and spirituality*, 651-665.
- Parent, M. C. (2013). Handling item-level missing data: Simpler is just as good. *The Counseling Psychologist*, 41(4), 568–600. <https://doi.org/10.1177/0011000012445176>
- Pargament, K. I., Koenig, H. G., & Perez, L. M. (2000). The many methods of religious coping: Development and initial validation of the RCOPE. *Journal of clinical psychology*, 56(4), 519-543.
- Pargament, K. I., Smith, B. W., Koenig, H. G., & Perez, L. (1998). Patterns of positive and negative religious coping with major life stressors. *Journal for the scientific study of religion*, 710-724.
- Park, C. L. (2012). Religious and spiritual aspects of meaning in the context of work life. *Psychology of religion and workplace spirituality*, 25-42.
- Pavot, W., & Diener, E. (1993). Review of the satisfaction with life scale. In *Assessing well-being* (pp. 101-117). Springer, Dordrecht.
- Pawar, B. S. (2016). Workplace spirituality and employee well-being: an empirical examination. *Employee relations*, 38(6), 975-994.
- Polit, D. F. (2014). Getting serious about test–retest reliability: a critique of retest research and some recommendations. *Quality of Life Research*, 23, 1713-1720.

- Praskova A., Creed P. A., Hood M. (2015). The Development and initial validation of a career calling scale for emerging adults. *Journal of Career Assessment*, 23(1), 91–106.
- Puffer, K. A., Brooks, R., & Davis, E. (2023). Predicting Religious Undergraduates' Career Development: The Salient Roles of Religious Calling, Life Satisfaction, and Quest Religiosity. *Religions*, 14(5), 629.
- Raykov, T., & Marcoulides, G. A. (2011). *Introduction to psychometric theory*. Routledge.
- Rehm, M. L., & Allison, B. N. (2009). Exploring spirituality of university FCS students: A resource for resiliency. *Journal of Family and Consumer Sciences*, 101(4), 12.
- Rotter, J. B. (1966). Generalized expectancies for internal versus external control of reinforcement. *Psychological monographs: General and applied*, 80(1), 1.
- 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.
- Shevlin, M., & Miles, J. N. (1998). Effects of sample size, model specification and factor loadings on the GFI in confirmatory factor analysis. *Personality and Individual differences*, 25(1), 85-90.
- Shimizu, A. B., Dik, B. J., & Conner, B. T. (2019). Conceptualizing calling: Cluster and taxometric analyses. *Journal of Vocational Behavior*, 114, 7-18.
- 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.
- Super, D. E. (1980). A life-span, life-space approach to career development. *Journal of vocational behavior*, 16(3), 282-298.

- Surzykiewicz, J., Skalski, S. B., Niesiobędzka, M., & Konaszewski, K. (2022). Exploring the mediating effects of negative and positive religious coping between resilience and mental well-being. *Frontiers in behavioral neuroscience*, 16,
- Swanson, J. L., & D'Achiardi, C. (2005). Beyond interests, needs/values, and abilities: Assessing other important career constructs over the life span. *Career development and counseling: Putting theory and research to work*, 353-381.
- Utami, N. M. S., Sapta, I. K. S., Verawati, Y., & Astakoni, I. M. P. (2021). Relationship between workplace spirituality, organizational commitment and organizational citizenship behavior. *The Journal of Asian Finance, Economics and Business*, 8(1), 507-517.
- Vianello, M., Galliani, E. M., Rosa, A. D., & Anselmi, P. (2020). The developmental trajectories of calling: Predictors and outcomes. *Journal of Career Assessment*, 28(1), 128-146.
- Walker, A. G. (2013). The relationship between the integration of faith and work with life and job outcomes. *Journal of business ethics*, 112(3), 453-461.
- Wang, X. H., Wang, H. P., & WenYa, L. (2023). Improving the quality of Career decision-making of students in Chinese higher Vocational Colleges. *SAGE Open*, 13(2), 1-14.
- Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology*, 54, 1063–1070.
- White, M. J., Marsh, D. R., Dik, B. J., & Beseler, C. L. (2021). Prevalence and Demographic Differences in Work as a Calling in the United States: Results From a Nationally Representative Sample. *Journal of Career Assessment*, 1.

- Wong-McDonald, A., & Gorsuch, R. L. (2004). A multivariate theory of God concept, religious motivation, locus of control, coping, and spiritual well-being. *Journal of psychology and theology*, 32(4), 318-334.
- Worthington Jr, E. L., Wade, N. G., Hight, T. L., Ripley, J. S., McCullough, M. E., Berry, J. W., ... & O'Connor, L. (2003). The Religious Commitment Inventory--10: Development, refinement, and validation of a brief scale for research and counseling. *Journal of counseling psychology*, 50(1), 84.
- Worthington, R. L., & Whittaker, T. A. (2006). Scale development research: A content analysis and recommendations for best practices. *The counseling psychologist*, 34(6), 806-838.

APPENDIX A

Vocational Discernment Through Faith Scale:

The following questionnaire seeks to assess the degree to which faith plays a role in your career development. If you do not believe in God or do not hold religious/spiritual beliefs that would make these statements relevant to your life, then 0 may be the most appropriate response.

- 0 = Does not apply to me
- 1 = Not at all true of me
- 2 = Mildly true of me
- 3 = Moderately true of me
- 4 = Mostly true of me
- 5 = Totally true of me

Passive Discernment:

1. I do not have a role in figuring out what career path I am supposed to take, as it is entirely up to God.
2. Since I have already prayed for God to show me what my calling is, I have done all I can.
3. Because God has a plan for my future, there is no need for me to put effort toward deciding what kind of work I want to do.
4. I will not take steps toward a particular career path until God answers my prayers about the steps I am meant to take.
5. When it comes to deciding on a career path, I pray and let God take care of everything else.
6. It is not me who is responsible for determining what my calling is, it is God.
7. I am waiting for direct communication from God regarding what career I should pursue.
8. I am delaying making any decisions about my career until I am directed by God.
9. Until God provides me with direct guidance about what my calling is, I am refraining from pursuing a particular line of work.
10. All I need to do is pray, and God will show me what I am called to do for my career.
11. I am waiting for revelation from God to figure out what my calling is.
12. It would be wrong for me to move forward in my career path without God's approval or direction.
13. It does not really matter what I think/what I want to do, my preferences are not important in making this decision.
14. I have faith that God will reveal my calling if I just pray and wait for Him to do so.
15. I have been praying and waiting for God to reveal to me, in His time, what career I should pursue.
16. I am praying and waiting for God to show me which career he wants me to choose.
17. I have refrained from taking steps toward figuring out my calling because I know God will reveal my calling to me in due time.
18. I will not pursue any career until God reveals to me that His plan for me includes that particular career.

Active Discernment:

1. I work with God to determine the career I am meant to have.
2. Prayer alone might not reveal my calling; I simultaneously have to work toward figuring it out myself.
3. Praying is just one of the many things I do to find my calling as it applies to my career.
4. I am collaborating with God to discern the best career path for me.
5. Being proactive and listening to God are both ways to understand my calling.
6. Discovering my calling requires that I make career decisions while relying on God for help.
7. I pray and take active steps to discern my calling.
8. It is my job to take steps toward figuring out my calling, in addition to seeking guidance from God.
9. To find out what kind of work I am meant to do, I must engage with my faith and be proactive in figuring out a fitting career path.
10. Although God has a plan for my future, it is also important for me to put forth effort in making career decisions.
11. In order to discern my calling, I pray and also take concrete steps toward learning more about myself and my options.
12. God may reveal my calling through my taking actions to find a career that is right for me.
13. I pray while also seeking guidance from others regarding discerning my calling.
14. I believe God is going to use my gifts in whatever career I choose to pursue.
15. I am responsible for engaging with God and taking practical steps for my career development.
16. I pray and also consult leaders in my community, people who have a faith I respect, when making career decisions.