

# Beyond Logic and Intuition: Development and Validation of a Career Discernment Scale

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## Abstract

Past research on career decision-making has focused on two distinct modes of decision-making: logic and intuition. In this study, we extend that two-system model of career decision-making and examine the role of two additional decision-making modalities: advice seeking and spiritual discernment. We conducted two independent studies through which we develop and validate a Career Discernment Scale by examining its dimensions and internal reliability (Study 1), followed by research to establish discriminant and convergent validity (Study 2). Results provide initial support for the dimensionality and reliability of four distinct career decision-making factors, demonstrated by a clear factor structure and internal consistency. In addition, our results show evidence of convergent and discriminant validity through expected correlations across a nomological network of individual differences. Overall, this article highlights the unique role of spirituality and advice seeking in career decision-making with implications for career development and practice.

## Keywords

career decision-making, spirituality, relationships, intuition, logic

Would you tell me, please, which way I ought to go from here?

—Lewis Carroll, *Alice in Wonderland*

Career decisions are an inevitable part of life. Such decisions can arise because of a change in one's personal or professional life, organizational circumstances, or events that occur in the larger society (Arthur et al., 2017; Ensher et al., 2017). The frequency and complexity of career decisions are particularly salient in today's "gig economy," with the technology-driven disruption of jobs and emergence of new and self-directed approaches to work (Barley et al., 2017; Hall et al., 2018; Petriglieri

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et al., 2019). As life and careers become more externally focused on technology, there is a concurrent need to consider other intrinsic factors that shape career decisions, such as spirituality and relationships with others (Hernandez et al., 2011; Nielson et al., 2016).

Research on general decision-making (GDM) has focused primarily on two dominant decision-making styles—logic and intuition (Epstein, 1994; Evans & Stanovich, 2013; Hamilton et al., 2016; Kahneman, 2003; Krieshok et al., 2009; Simon, 1987). The distinctions between logic and intuition as decision-making modalities are grounded in well-established psychological research on automatic versus deliberate systems of GDM (Evans & Stanovich, 2013; Kahneman, 2011) and career decision-making (Motl et al., 2018). This dual systems model of decision-making categorizes decision-making processes as either intuitive and automatic (System 1) or deliberate and rational (System 2; Kahneman, 2003, 2011).

The bilateral model of decision-making, while useful, does not adequately represent the range of decision-making modalities, particularly in the area of career decision-making. For example, the Pew Research Center (2018) found that 90% of respondents in the United States believe in the presence and role of a higher power and that spirituality is an important aspect in an individual's life decisions (Martin, 2010). Similarly, scholars have called for more research on the role of experiential and relational processes in career decision-making (Bell & Taylor, 2004; Savickas, 1997). More importantly, the bilateral model of decision-making focuses on the self as the source of information for making decision. This can be problematic as it neglects the interdependent and relational nature of career decisions (e.g., people's reliance on others or spirituality).

Career decisions are distinct from general decision processes in that they are particularly influenced by identity-based processes such as a person's orientation toward a calling (Creed et al., in press; Garrison et al., 2017; Sturges et al., 2019). For example, a growing body of research points to the role of spiritual callings as a predictor of career decision-making and outcomes (Hernandez et al., 2011). These processes are particularly relevant to careers and are less salient in other decision processes. In addition, to the extent that a person has a relational self-construal, it is likely that career decision-making is dependent on relational influence from significant others (Cross et al., 2000). More specifically, career decisions are also uniquely shaped by relational considerations such as career decision-making in dual-career couples (Hall & Richter, 1988; Lysova et al., 2015) or family responsibilities for parenting (Dunn et al., 2013). These distinctions are not adequately represented in existing measures of career decision-making.

In this study, we extend the two-system model of career decision-making and examine the possibility of additional decision-making processes—spirituality (e.g., decisions made through prayer and other types of religious guidance) and advice seeking (e.g., relying on a mentor's advice). A call for research on the role of spirituality and religion at work has been suggested by many researchers who note these topics have all but been ignored in the past (Benefiel et al., 2014). By developing and testing a new process of career decision-making that integrates spirituality and relationships, we contribute to the growing conversation about the role of employee spiritual beliefs at work (Duffy et al., 2010; Fry & Slocum, 2008; Koenig et al., 2001).

## **Career Decisions and Decision-Making**

People make numerous career decisions during their lifetime. The how of such decisions has been the focus of research in career decision-making (Driver, 1979; Gati & Tal, 2008; Harren, 1979). In particular, researchers have found that people exhibit predictable patterns of behaviors when faced with a career decision. More importantly, differences in these patterns of behavior, otherwise known as career decision-making styles, have consequence on the quality and outcomes of career decisions (Driver, 1979; Hardin & Leong, 2004; Parker et al., 2007). Driver's (1979) work was among the first to examine the role of decision-making styles in careers and organizational behavior and defined

decision-making styles as habitual patterns individuals use in decision-making. Building on Driver's (1979) research, Scott and Bruce (1995, p. 820) specified decision-making styles as "the learned habitual response pattern exhibited by an individual when confronted with a decision situation." They note decision styles are not a personality trait but a habit-based style.

Decision styles are not mutually exclusive. Research has found people rely on a primary decision-making style but did not preclude the use of other modalities (Driver et al., 1998; Harren, 1979; Singh & Greenhaus, 2004). In other words, people tend to rely on a primary decision-making style across situations, but they may on occasion use a combination of styles or their nondominant style. More specifically, research in career decision-making suggests career decisions are made by using an opposing bilateral model in which individuals make decisions by relying on either primarily rational or intuitive processes (Epstein, 1994; Kahnman, 2003). These two thinking modalities have been described by Kahneman (2003) as "thinking fast" (Type I processing) and "thinking slow" (Type II processing). In the context of career decision-making, a rational style involves a reliance on thorough information searches and logical evaluation of alternative options, while an intuitive decision-making style relies on subjective experience and emotions (Scott & Bruce, 1995). These decision styles have been found to be independent of cognitive abilities (Thunholm, 2004) and predict self-ratings of decision quality above and beyond Big Five personality traits (Wood & Highhouse, 2014).

The bilateral model of decision-making, applied to careers, has its limitations. First, rationality and intuition are not necessarily bipolar opposites along a single continuum. In the context of career decision-making, it is quite likely people can use both rationality and intuition as separate and complementary modalities (Epstein, 1994). In addition, current measures of intuition and rationality focus on the individual as the source of information. Research on career decision-making has shown that this is not a complete account (Singh & Greenhaus, 2004). In one of the earliest studies on career decision-making, Harren (1979) distinguished between three styles of career decision-making—rational, intuitive, and dependent—and noted that relationships need to be considered in how people make career decisions. Further, Singh and Greenhaus (2004) and Scott and Bruce (1995) found evidence in addition to rationality and intuition, which people rely on relationships as sources of information in their decision-making. Rationality and intuition are not exhaustive of all career decision styles.

Research by career scholars such as Krieshok et al. (2009) and Gati et al. (2010) has questioned the bilateral model of decision-making. Krieshok et al. (2009) proposed a new trilateral approach to career decision-making. These authors suggest that career decision-making can be enhanced by incorporating other possible modalities of decision-making, beyond rationality and intuition. Krieshok and colleagues (2009) present a compelling argument, and future researchers would be well advised to test these conceptual propositions empirically. Taken together, these ideas suggest that traditional theoretical approaches to career decision-making need to be reconsidered.

With the intent to further knowledge and research on career decision-making styles, we develop and validate an extended model of career decision-making by building on the original two-system model (rational and intuitive) of career decision-making (Epstein, 1994; Kahneman, 2003). We do so by considering relational and existential influences on decision-making, particularly the role of advice seeking and spirituality. We refer to this integrated measure of career decision-making as a Career Discernment Scale (CDS). The term, "discernment," represents the inclusion of spirituality as a decision style (Martin, 2010), one that has had limited consideration in careers research.

Spiritual discernment offers unique insights into decision-making for individuals navigating through decisions in their personal lives and at work (Martin, 2010). Spirituality is a concern with or connection to a transcendent being and often includes an individual's search for an ultimate purpose in life (Fry, 2003). Spirituality itself has been found to have a positive influence on career outcomes such as optimism (Sethi & Seligman, 1993), work engagement (Bickerton et al., 2015), well-being, and other health outcomes (Koenig et al., 2001), thus suggesting it may be a useful aspect to consider with respect to integrating one's whole self with one's career.

The role of spirituality in career decision-making in particular is evident in a range of spiritual practices such as Jesuit discernment (Moberg & Calkins, 2001), Buddhist principles of living (Duffy & Dik, 2009), ancestor prayers (Umatilla, 2014), and meditation (Vallabh & Singhal, 2014). While the career development literature offers a number of definitions for spirituality (for a review, see Duffy, 2006), we define spirituality by the three dimensions identified by Ashforth and Pratt (2003): connection with something greater than the self (transcendence), an integration of the various aspects of the self (holism), and realization of one's potential (growth). This definition acknowledges the personalized nature of spirituality, and how it differs across cultures (Tracey, 2012). For some people, spirituality is experienced as a concern toward transcendence; for others, it could be experienced as an orientation toward holism (e.g., through meditation or spiritual contemplation).

It is important here to consider the relationship and differences between spirituality and religiousness. Duffy et al. (2010) note the link between spirituality and religiousness is a connection to, or search for, the sacred. The difference between the two is religiousness is anchored in a formal tradition or institution. In contrast, spirituality is individualized and may not be tied to a specific religion or faith. As Graber & Johnson (2001) notes "spirituality implies an inner search for meaning or fulfillment and may be undertaken by anyone regardless of religion (p. 40)." Where religiosity can be defined as adherence to an organized religious system, spirituality can transcend organized religion. For example, an agnostic's reliance on a higher power (not a specific religious god or deity) for career decisions is a spiritual practice, but not a religious one. Accordingly, spirituality is broader than religion, with a broader association to career decisions. To date, research on the role of spirituality in decision-making is scarce. To our knowledge, this is the first study that empirically examines the role of spirituality as a career decision-making factor, alongside other established decision-making modalities.

In addition to spirituality, we examined a person's reliance on advice seeking as a distinct career decision-making approach (Brooks et al., 2015). Relational decision-making, more specifically through advice seeking, is well-established as a decision resource. People rely on advice as a means to gain perspective to make their decision (Schotter, 2003; Son & Kim, 2013) and to arrive at more optimal decision outcomes (Harvey & Fischer, 1997). It is a distinctively different modality to rationality and intuition, in that it is other-oriented and dependent on another person's perspective.

Advice seeking is a universal decision-making practice across cultures and yet underrepresented in research on career decision-making. Across the life span, advice seeking is particularly salient in the influence of mentoring (Son & Kim, 2013) and family relationships on decision-making processes (Fouad et al., 2010). For example, research on mentoring has shown how relational approaches to career decision-making are distinct from individual decision-making (Ensher & Murphy, 2011; Sosik & Lee, 2002). A key distinction is approaching the career decision from another person's perspective—or specifically reaching out to others for advice.

Recognizing the value of spirituality and advice seeking in career decision-making, we seek to explore these dimensions further and, in particular, their association with other decision-making styles. We refer to this integrated scale as career discernment—to examine the full range of human experience when people make career decisions. In sum, this study makes a unique contribution to our knowledge of career decision-making, as we construct and test a new scale to assess the relevance of the dimensions of spirituality and advice seeking.

## **Scale Development and Validation**

In this study, we developed and validated a measure that accounts for four distinct decision-making styles—the CDS. Our approach to scale development and validation was guided by Hinkin (1995) using six steps: (1) qualitative interviews and item generation, (2) survey to assess psychometric properties of the new items, (3) exploratory factor analysis for initial item reduction, (4) a second survey to

assess psychometric properties of the retained items, (5) confirmatory factor analysis of retained items, and (6) tests of convergent and discriminant validity (Campbell & Fiske, 1959). Steps 1 through 3 were completed in Study 1. Steps 4 through 6 were completed in Study 2, with a second independent sample.

## Study 1

### Qualitative Interviews

To develop a measure of career decision styles, we followed best practice recommendations by Hinkin (1995). First, we reviewed existing literature on career decision-making and conducted in-depth, semi-structured interviews with 18 executives who had successfully navigated their careers. The sample consisted of 10 men and 8 women, ranging in age from 38 to 70 years with an average age of about 56 years. The racial composition of the sample included 13 Caucasians and 5 people of color.

The interviews were part of a larger study on career-defining moments (Ensher, Nielson, & Kading, 2017). The interviews focused on career decisions made by the respondent and the different ways they approached the decision. More specifically, we asked the following questions: (1) Please describe in detail several of your most pivotal career-defining moments, (2) Tell us about strategies that were helpful to you as you navigated through your defining moment(s) and made important decisions, (3) What are lessons did you learned? and (4) What have we not asked you about career-defining moments that would be helpful for us to know?

The interviews were more than an hour long and were professionally transcribed. This data yielded rich perspectives on career decision-making styles and was the impetus for this scale development study. The transcribed audio recordings of these interviews were read twice through by two researchers for this study who then developed initial codes to identify various types of decision-making styles and associated career outcomes. Decision styles were categorized using an inductive approach whereby after the initial coding, the researchers went back through the coded materials to look for decision styles grounded in past research literature but were open to additional decision tactics (Strauss & Corbin, 1990). From this analysis, 10 of the 18 executives noted a reliance on spirituality in their career decisions. In addition, eight instances mentioned the guidance of mentors and eight times where role models assisted in career decision-making. Overall, we identified four different decision-making styles from our qualitative data—intuition, rationality, advice seeking, and spirituality. These narrative descriptions of decision-making informed our development of items for the CDS.

### Item Generation and Scale Development

Based on our qualitative analysis, we developed items to measure the four career decision-making styles that emerged. First, we adapted items from established scales that measure rationality and intuition as decision-making styles (Scott & Bruce, 1995; Singh & Greenhaus, 2004). In contrast to decision-making measures that focus on rationality and intuition in the context of “important decisions” (Harren, 1979; Scott & Bruce, 1995), we focused the CDS on career decisions in choosing between employment and job options. We developed a pool of 60 items, with 15 items for each style. The items were reviewed by two graduate students to assess face validity. In addition, we examined the factor structure and reliability of the CDS through exploratory and confirmatory factor analysis.

### Participants and Procedures

We surveyed 321 full-time employees through the online survey platform MTurk. We limited our sample of respondents to employees who were in their first full-time job and had made their career decision in the last year. Further, we examined the quality of the data by adding five attention checks in the

survey. Participants ( $N = 32$ ) who failed any one of the attention checks were not included in the analysis. Further, we excluded data of participants ( $N = 2$ ) who took too short a time to finish (less than 2 min). The final sample of 287 participants had an average age of 32.95 (standard deviation [ $SD$ ] = 8.84, ranging from 18 to 69). Sixty-eight percentage had college education or higher, 37% were female; 72% were Caucasian, 13% were African American, 6% were Asian, 3% were Hispanic, 1% were Native American, and 5% were multiracial.

## Measures

We used the 60-item CDS (15 items per decision-making style). Participants reported the extent to which they used a certain style to make career-related decisions within the past 1 year using a 5-point Likert-type scale (1 = *strongly disagree* to 5 = *strongly agree*), following such an instruction “Please think back to when you were making the decision to join your current organization. Think about what you did in making that decision.” We assessed the internal consistency reliability of each subscale with the retained items in the CDS using Cronbach’s  $\alpha$  (rationality,  $\alpha = .85$ ; intuition,  $\alpha = .90$ ; advice seeking,  $\alpha = .88$ ; and spirituality,  $\alpha = .95$ ).

## Analysis Strategy

To explore the factorial structure of the data in Study 1, we followed the suggestion by Hinkin (1995). First, we examined the interitem correlations among items designed to measure each factor. Items that correlated less than .35 on average with all of the other items for that factor were dropped. In the first analysis, we used principal axis factoring with Varimax rotation and did not constrain the number of factors. We evaluated the structure of the CDS based on three standards. First, any emerging factor with an eigenvalue greater than 1 was considered to be a separable factor. Second, we evaluated the number of factors based on the shape of scree plot. Third, we judged the number of factors needed to be taken into consideration by examining the accumulative percentage of variance explained.

After confirming the number of factors in the analysis, we dropped items using the following criteria: First, we included only items with a factor loading higher than .60. Second, we dropped items than had cross-loadings of .30 or higher. Following that, we conducted a second exploratory factor analysis to ensure the identical factorial structure remained. Items were retained based on theoretical and semantic considerations (Henson & Roberts, 2006), so that we also dropped the items that are semantically redundant. A third exploratory factor analysis was conducted to ensure the identical factorial structure.

## Results

### *Factor Structure and Reliability of the CDS*

Through examining the interitem correlations, we dropped 11 items from the original CDS. The 49 remaining items were included in the following exploratory analyses. In the first analysis, we found six factors with eigenvalues greater than 1 and explained 67.86% of the variance accumulatively. We dropped 7 items with loadings lower than .60, and we did not find any items cross-loaded on two or more factors. In the second exploratory factor analysis with the remaining 42 items, we found five factors with eigenvalues greater than 1 and explained 69.66% of the accumulative variance. We found 1 item with loadings lower than .60 and dropped it. We also dropped 14 items that were semantically redundant. For example, the items “I meditate or pray to make a decision” and “I pray for guidance” are redundant with the item “I rely on spiritual discernment.” Also, the items “I rely on what other people think” and “I listen to what people I know tell me” are redundant with the item “I turn to people I can talk to.” In the third exploratory factor analysis with the remaining 26 items, we found four

**Table 1.** The Rotated Matrix of the Third Principal Axis Factor Analysis (Varimax) for Career Discernment Scale Items in Study 1.

Item	Factor in EFA			
	1	2	3	4
<b>Rationality</b>				
3. I think in detail about costs and benefits.	.01	-.01	.17	<b>.62</b>
5. I analyze situations in making my career decisions.	.03	.04	.12	<b>.69</b>
7. I collect as much information as I can.	-.06	.08	.20	<b>.72</b>
11. I carefully evaluate the costs and benefits of the decision.	.01	.01	.19	<b>.69</b>
14. I use data to inform my decisions.	-.01	-.06	.13	<b>.63</b>
15. I try to use my reasoning as much as possible when I make a decision.	-.04	.05	.11	<b>.74</b>
<b>Intuition</b>				
1. I trust my gut instinct.	.18	<b>.68</b>	-.07	.06
7. I trust my feelings.	.03	<b>.76</b>	.04	.00
8. I use my emotions to guide me.	.15	<b>.67</b>	.02	-.02
9. I choose the option I feel right about.	-.01	<b>.71</b>	.08	.14
10. My mind will quickly tell me what to do.	.11	<b>.67</b>	.01	-.05
11. I rely on my intuition.	.06	<b>.82</b>	.06	.00
13. I go with what I sense is right.	.04	<b>.76</b>	.00	.11
14. I trust my first feeling of which option I need to choose.	.08	<b>.73</b>	.03	-.10
<b>Advice seeking</b>				
3. I ask friends to give me advice.	.06	.00	<b>.76</b>	.06
4. I think of someone I respect and consider how they would like to advise me.	.08	.02	<b>.67</b>	.20
5. I turn to people I can talk to.	.06	.01	<b>.77</b>	.18
6. I call people I can trust.	.04	.07	<b>.79</b>	.17
7. I reach out to people for advice.	.06	-.01	<b>.76</b>	.29
13. I seek advice from my family members or significant others.	.13	.06	<b>.58</b>	.15
<b>Spiritual style</b>				
4. I rely on spiritual discernment.	<b>.83</b>	.17	.08	-.03
7. I use spiritual readings such as scripture to decide the right course of action.	<b>.88</b>	.08	.08	-.06
8. I attend spiritual retreats to aid in my decision-making.	<b>.70</b>	.16	.09	-.07
10. I use spiritual practices to guide me.	<b>.90</b>	.09	.05	.04
11. I follow spiritual principles.	<b>.92</b>	.05	.03	.04
12. I lean not on my own wisdom but the wisdom of a higher power.	<b>.88</b>	.11	.14	.02

Note.  $N = 287$ . Numbers in boldface indicate dominant factor loadings. Bolded numbers are loadings above .60. EFA = exploratory factor analysis.

factors with eigenvalues greater than 1 and explained 64.79% of the accumulative variance. All the items that were designed to measure the same career decision-making style loaded on the same factor and there were no cross-loaded items. Specific items and their factor loadings in this analysis are summarized in Table 1. In conclusion, a four-factor structure of the CDS indeed exists.

The Pearson-product correlations among the four subscales of the CDS are shown in Table 2. Cronbach's  $\alpha$  for each of the factors is also presented in Table 2, evidence of reliability and internal consistency.

## Study 2

In the next step of our study, we administered a second survey and conducted a test of confirmatory factor analysis with a different sample. The retained items in the CDS were used in the survey. Further, established measures were added to test convergent and discriminant validity of CDS. Specifically, we

**Table 2.** Descriptive Statistics and Variable Intercorrelations of the Four Factors of the Career Discernment Scale in Study 1.

Variable	<i>M</i>	<i>SD</i>	1	2	3	4
1. Rational style	4.12	0.60	<b>.85</b>			
2. Intuitive style	3.37	0.77	.05	<b>.90</b>		
3. Relational style	3.77	0.79	.38**	.07	<b>.88</b>	
4. Spiritual style	2.65	1.23	.00	.22**	.17**	<b>.95</b>

Note. *N* = 287. *M* = mean; *SD* = standard deviation. Internal consistency reliabilities (Cronbach's  $\alpha$ ) are in boldface on the diagonal.

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

included an established measure of GDM styles (Hamilton et al., 2016) to examine the convergence between the rationality and intuition scales of the CDS with an established measure.

In addition, we included three relevant personality variables—conscientiousness, agreeableness, and openness (Barrick & Mount, 1991; John & Srivastava, 1999)—variables we hypothesize to correspond to the decision-making styles of rationality, advice seeking, and spirituality, respectively. We expect the personality trait of conscientiousness to correspond with rational decision-making and openness with intuition. In addition, we examined the convergence between the Advice Seeking subscale with relational self-construal (Cross et al., 2000) and the relationship between the Spirituality subscale and an established measure of spiritual calling, otherwise known as transcendent summons (Dik et al., 2012).

## Participants and Procedures

We surveyed 315 full-time employees who were employed in their first full-time job. We obtained this sample through Qualtrics, an established survey and participant recruitment platform. Prior studies have utilized Qualtrics as a reliable means of gathering data (e.g., Courtright et al., 2016). Similar to Study 1, we examined the quality of the data by adding five attention checks in the survey. Of the 315 participants whose data were used in the current research, the average age was 37.07 ( $SD = 10.99$ , ranging from 19 to 71), 55% had a college degree or higher, and 50% were female; 89% were Caucasian, 6% were Asian, 2% were African American, 1% was Hispanic, 1% was Middle Eastern, and 1% was multiracial.

## Measures

### CDS

To measure four career decision-making styles, we used the retained 26-item CDS. In addition, we assessed the internal consistency reliability of each subscale using Cronbach's  $\alpha$  (rationality,  $\alpha = .78$ ; intuition,  $\alpha = .83$ ; advice seeking,  $\alpha = .84$ ; and spiritual discernment,  $\alpha = .94$ ).

### GDM Styles

This was measured with the 10-item Rational and Intuitive Decision Styles Scale (Hamilton et al., 2016). Example items include "I prefer to gather all the necessary information before committing to a decision" (rational) and "I rely mainly on my gut feelings" (intuitive). Hamilton et al. (2016) collected data with five samples of undergraduate students with diverse gender and racial backgrounds. They demonstrated that a two-factor structure of the scale emerged in these samples. The scale reached a high test-retest reliability ( $r = .79$ ,  $p < .00$  for rational dimension;  $r = .79$ ,  $p < .00$  for intuitive



dimension) in a study with 2-month time-lag design. Items were averaged to create an overall score for each of the two subscales (in this study: rational style,  $\alpha = .92$ ; intuitive style,  $\alpha = .85$ ).

### **Big 5 Personality Traits**

Three measures of conscientiousness, agreeableness, and openness were adopted from the corresponding subscales of the Big Five Inventory (BFI; John & Srivastava, 1999). In the adapted measures, 9 items measured conscientiousness, 9 items measured agreeableness, and 10 items measured openness. John and Srivastava (1991) collected responses from more than 400 undergraduate students and found that the BFI was high in internal consistency (the Cronbach's  $\alpha$  ranges from .79 to .88 for five subscales). The measure was correlated with other personality measures, including Trait Descriptive Adjectives (the correlation ranges from .89 to .99 across five subscales) and the Five-Factor Inventory (the correlation ranges from .83 to .96) as evidence of convergent validity. The results from the confirmatory factor analysis indicate a stable five-factor structure of the BFI. Items were averaged to create an overall score for each of the two subscales for each decision-making style for each participant (conscientiousness,  $\alpha = .84$ ; agreeableness,  $\alpha = .78$ ; and openness,  $\alpha = .70$ ).

### **Relational Self-Conceptual**

We measured relational self-construal with an established 11 items scale development by Cross et al. (2000). Example items include "My close relationships are an important reflection of who I am" and "In general, my close relationships are an important part of my self-image." Cross et al. (2000) collected eight samples consisting of undergraduate students and demonstrated that only one factor emerged in the factor analysis. The internal consistency of the measure ranges from .85 to .90 across multiple samples, and the test-retest reliability of the measure ranges from .63 to .73 in two samples. Items were averaged to create an overall score for relational self-construal ( $\alpha = .86$ ).

### **Transcendent Summons**

We used an established measure of transcendent summons from the Calling and Vocation Questionnaire (CVQ; Dik et al., 2012). Example items include "I'm searching for my calling in my career" and "I yearn for a sense of calling in my career." Items were averaged to create an overall score for each participant ( $\alpha = .89$ ). The internal consistency ( $\alpha = .86$ ) and test-retest reliability ( $r = .67, p < .00$ ) for transcendent summons of the CVQ were high in Study 1 done by Dik et al. (2012), in which multiple samples of undergraduate students were collected. In Study 2 (undergraduate students were recruited in the sample), the convergent validity of the measure was high through the finding that the self-report and the other-report Transcendent Summons subscale of the CVQ was strongly correlated ( $r = .51, p < .00$ ) and the self-report transcendent summons was significantly correlated with hope at work ( $r = .35, p < .00$ ).

## **Results**

### **Confirmatory Factor Analysis**

Before conducting confirmatory factor analysis, we examined the data distribution for each item in the refined CDS. We found 5 items in the Rationality subscale of the CDS. One item in the Intuition subscale of CDS had a kurtosis that was above 1.96, which indicated the distribution of these items were highly peaked. We transformed these items by squaring each of the items. In the following analyses, these transformed items replaced the original items.

**Table 3.** Model Fit Indices for the Three Models in Study 2.

Model	$\chi^2$ (df)	CFI	TLI	RMSEA	SRMR	AIC
One-factor model	2,544.06*** (324)	.45	.40	.15 [.14, .15]	.18	26,250.11
Two-factor model	1,668.41*** (323)	.66	.63	.12 [.11, .12]	.14	25,376.46
Four-factor model	607.84*** (318)	.93	.92	.05 [.05, .06]	.07	24,325.89

Note. The upper and lower bounds of the 90% confidence intervals of each RMSEA are listed in the bracket: [upper bound, lower bound]. df = degrees of freedom; CFI = comparative fit index; TLI = Tucker–Lewis index; RMSEA = root mean square error of approximation; SRMR = standardized root mean square residual; AIC = Akaike information criterion.

\*\*\* $p < .001$ .

In the confirmatory factor analysis, we specified three models: (1) a one-factor model in which all items loaded on one factor, (2) a two-factor model in which items in the Rationality and Advice Seeking subscales loaded on the first factor and items in the Intuition and Spirituality subscales loaded on the second factor, and (3) a four-factor model in which items from each subscale loaded on the corresponding factor. The model fit indices for the three models are displayed in Table 3. As a rule of thumb, we considered a model with a Bentler’s (1990) comparative fit index greater than .90, a Tucker–Lewis index (Tucker & Lewis, 1973) greater than .90, a root mean square error of approximation (Browne & Cudeck, 1992) smaller than .80, and a standardized root mean square residual (SRMR; Hu & Bentler, 1999) less than .60 as a model with an acceptable goodness of fit. Comparing Akaike information criterion (AIC) for the three models, we found that the AIC decreases as the number of specified factors increases in a particular model. We conclude that the four-factor model fit the data the best. The fit indices of the four-factor model were consistent with our expectation, except that SRMR (.07) is slightly higher than the cutoff of .60. We believed that the four-factor model generally fit the data in Study 2. All standardized loadings range from .43 to .94, and all these loadings are significant at the .001 level. Items in the four-factor model and their coefficients are displayed in Table 4.

We obtained the Cronbach’s  $\alpha$  for each of the subscales in the 20-item CDS. The Cronbach’s  $\alpha$  for all subscales ranged from .78 to .94 (rationality,  $\alpha = .78$ ; intuition,  $\alpha = .83$ ; advice seeking,  $\alpha = .84$ ; and spirituality,  $\alpha = .94$ ). The results indicate that the four-factor CDS is generally internally consistent.

### Convergent and Discriminant Validity of the CDS

To examine the convergent validity and discriminant validity of the CDS, we examined the bivariate relationships among the subscales of the CDS and among the CDS and other variables. Table 5 shows the zero-order Pearson correlations of these variables, and their means, *SDs*, and Cronbach’s  $\alpha$  values.

On convergent validity, we found that the Rationality subscale of the CDS was correlated with conscientiousness ( $r = .38, p < .01$ ). The Intuition subscale of the CDS was correlated with the Intuition subscale of the GDM Scale ( $r = .47, p < .00$ ) and openness ( $r = .06, p = .27$ ). The Advice Seeking subscale of the CDS was correlated with relational self-construal ( $r = .38, p < .01$ ). The Spirituality subscale of the CDS was correlated with transcendent summons ( $r = .20, p < .01$ ).

Across these tests, there was one unsupported relationship—we expected a positive relationship between the Rationality subscale of the CDS and the Rationality subscale of the GDM. However, this expected relationship was not supported ( $r = .01, p = .92$ ). Conversely, we found a strong and positive association between the CDS subscale of intuition and the GDM subscale of intuition ( $r = .47, p < .00$ ). Overall, we interpret two possible implications of this finding. First, further research is needed to examine the relationship between the Rationality subscale of the CDS and existing measures of rational decision-making. Second, it is plausible that a general disposition toward rationality may not translate to rational career decision-making.

**Table 4.** The Items in the Career Discernment Scale and Their Coefficients in Confirmatory Factor Analysis in Study 2.

Item	Loading
<b>Rationality</b>	
3. I think in detail about costs and benefits.	.66
5. I analyze situations in making my career decisions.	.67
7. I collect as much information as I can.	.64
11. I carefully evaluate the costs and benefits of the decision.	.59
14. I use data to inform my decisions.	.43
15. I try to use my reasoning as much as possible when I make a decision.	.59
<b>Intuition</b>	
1. I trust my gut instinct.	.64
7. I trust my feelings.	.76
8. I use my emotions to guide me.	.67
9. I choose the option I feel right about.	.47
10. My mind will quickly tell me what to do.	.51
11. I rely on my intuition.	.74
13. I go with what I sense is right.	.46
14. I trust my first feeling of which option I need to choose.	.75
<b>Advice seeking</b>	
3. I ask friends to give me advice.	.68
4. I think of someone I respect and consider how they would like to advise me.	.65
5. I turn to people I can talk to.	.75
6. I call people I can trust.	.76
7. I reach out people for advice.	.75
13. I seek advice from my family members or significant others.	.58
<b>Spiritual style</b>	
4. I rely on spiritual discernment.	.80
7. I use spiritual readings such as scripture to decide the right course of action.	.87
8. I attend spiritual retreats to aid in my decision-making.	.86
10. I use spiritual practices to guide me.	.94
11. I follow spiritual principles.	.90
12. I lean not on my own wisdom but the wisdom of a higher power.	.77

Note.  $N = 287$ .

In tests of discriminant validity, we found that the four career decision-making factors had differential relationships with two demographic variables (age and gender). We found a significant and negative correlation between age and intuition ( $r = -.14, p < .01$ ), advice seeking ( $r = -.21, p < .01$ ), and spirituality ( $r = -.20, p < .01$ ). These results indicate that those who are older are less likely to rely on intuition, advice seeking, and spirituality to make a career decision. We also found significant relationship between gender and intuition, indicating that females are more likely to use intuition to make career decisions.

## Discussion

Our findings provide support for a valid and reliable measure of four distinct career decision-making styles. From Study 1, we identified the range of ways people make career decisions and established four distinct factors—rationality, intuition, advice seeking, and spirituality. From Study 2, we validated this measure through confirmatory factor analysis and examined its validity with a nomological network of individual traits and motivational states.

**Table 5.** Descriptive Statistics and Variable Intercorrelations in Study 2.

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11
1. Rationality	4.31	0.53	<b>.79</b>										
2. Intuition	3.39	0.65	.03	<b>.87</b>									
3. Advice seeking	3.67	0.70	.24**	.13*	<b>.88</b>								
4. Spirituality	1.91	1.08	-.10	.24*	.15**	<b>.98</b>							
5. General decision styles, logic	3.68	0.89	.03	.00	-.10	-.06	<b>.90</b>						
6. General decision styles, intuition	3.13	0.76	-.02	.50**	.09	.08	.00	<b>.82</b>					
7. Conscientiousness	4.00	0.64	.44**	.00	.07	-.18**	.06	-.07	<b>.84</b>				
8. Agreeableness	2.15	0.60	-.25**	-.16**	-.17**	.08	-.04	-.02	-.45**	<b>.78</b>			
9. Openness	3.56	0.55	.30**	.04	.18**	.02	.02	-.03	.24**	-.18**	<b>.70</b>		
10. Relational self-construal	3.62	0.62	.18**	.18**	.40**	-.01	.01	.08	.23**	-.31**	.23**	<b>.86</b>	
11. Transcendent summon	2.45	0.87	.09	.21**	.20**	.18**	.02	.09	-.05	.02	.18**	-.15**	<b>.89</b>

Note. *N* = 315; *M* = mean; *SD* = standard deviation. Internal consistency reliabilities (Cronbach’s  $\alpha$ ) are in boldface on the diagonal.

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

**Table 6.** Proposed Dimensions of Career Decision-Making Styles.

Type of Processing	Dependence	
	Independent	Dependent
Deliberate processing	Rationality	Advice seeking
Automatic processing	Intuition	Spiritual

The current research contributes to the study of career decision-making in several ways. First and most importantly, the structure of the CDS demonstrates there are indeed four different approaches individuals use to make a career-related decision. These approaches are empirically independent, yet not mutually exclusive—people vary along a continuum in their use of these decision styles. In particular, the findings of this study establish the distinct role of advice seeking and spirituality in career decision-making, beyond logic and intuition. To our knowledge, this study is the first to establish “spiritual decision-making” as empirically distinct from the dominant decision processes of rationality and intuition.

Second, we found a pattern of relationships among the different career decision-making approaches. In both Study 1 and Study 2, we found that intuition was moderately associated with spirituality. Similarly, across both studies, we found that advice seeking was moderately associated with rationality. We organize the relationships in a conceptual model, summarized in Table 6 and explained in the paragraphs below.

The correlations between intuition and spirituality in Study 1 ( $r = .22, p < .01$ ) and Study 2 ( $r = .24, p < .01$ ) suggest that they share common characteristics. These decision styles are similar in that they rely on the automatic processing of information (Kahneman, 2011). They are distinct, conceptually, in that intuition relies on individual experience (an independent decision styles), whereas spirituality relies on other-oriented experience (an interdependent decision style).

Similarly, we found a correlation between rationality and advice seeking in Study 1 ( $r = .38, p < .01$ ) and Study 2 ( $r = .24, p < .01$ ). These decision styles are similar in that they rely on the deliberate processing of information (Kahneman, 2011). They are distinct, conceptually, in that rationality relies on individual cognition (an independent decision styles), whereas advice seeking represents an interdependent and shared model of decision-making. Our results and extended conceptualization of these four decision styles suggest that there could be potential merits in using all four. For example, the Jesuit practice of discernment includes all four decision-making processes discussed in this article (Delbecq, 2000). Jesuit career discernment is traditionally practiced through an intensive 30-day retreat format under the guidance of an experienced mentor or over a 9-month period for laypersons. This practice values relational approaches of advice seeking and spirituality as well as individual reliance on logic and intuition.

Finally, our results suggest that career decision-making styles are related but distinct from general decision styles. Of the four decision styles represented in the CDS, intuition was associated with the established measure of intuition in GDM ( $r = .50, p < .01$ ). This suggests that intuition as a GDM process is quite similar to the use of intuition in career decision-making. While we expected a weak to moderate relationship between the CDS measure and GDM measure of rationality, the relationship was not significant. This leads us to two possible conclusions. One, the use of rationality in career decisions is different from general reliance on rationality. Second, the measures tap into different facets of rationality in decision-making. More research is required to verify the plausibility of this interpretation.

More importantly, we note that spirituality and advice seeking are not correlated with the GDM measures (of rationality and intuition). This suggests that a reductionist approach to decision-making (limited to the categories of rational and intuition decision-making) may not adequately represent the full range of approaches by which people make career decisions. This finding is consistent with current perspectives that underscore the role of multiple cognitive decision systems and call for research to investigate the interplay of these systems (Glöckner & Witteman, 2010). A measure of distinct decision styles, such as the CDS, could help advance this endeavor.

## Limitations and Future Research

Although our results provide support for the validity of four decision-making processes, our studies were cross-sectional and relied on self-report questionnaires. Further evidence for the causal relationships between differences and outcomes of decision-making processes could be examined with longitudinal and multisource data. This is particularly important for establishing criterion validity. In particular, Hinkin (1995) recommends the use of a separate and independent sample to test the predictive validity of a scale. Future studies could further validate the CDS Scale by examining the scales in relation to other criterion such as supervisor or peer ratings. It also would be useful to include organizational outcomes (e.g., job performance and career advancement) measured objectively and by different sources (e.g., supervisors, colleagues).

Additional research could further validate and extend our current measure of spiritual decision-making. In the development of our measure, we included a wide range of perspectives on spirituality through interviews with people of diverse spiritual beliefs and practices. However, certain spiritual practices, related to career decision-making, may not be adequately represented in our measures, thus suggesting avenues and opportunities for future research.

Finally, we recommend the inclusion of other established decision-making scales be used in future studies to further establish the discriminant validity of the CDS. Existing measures of career decision-making strategies (Singh & Greenhaus, 2004) and decision-making profiles (Gati et al., 2010) would be conceptually relevant measures to include for future research.

## Practical Implications

Career decisions are consequential for individual well-being and for organizations. They are also not exclusively rational decisions. Our findings reveal that integrating intuition, advice from others, and spirituality can be beneficial for career decision-making. This advances an integrated perspective on careers by considering the role of the “whole person” and the subjective experience of careers. For organizational and career development practitioners, this fills an important gap—career decisions, planning, and coaching can benefit by going beyond the binary of logic and intuition, by considering how relational modalities, such as advice seeking and spirituality, can be beneficial for effective and meaningful career outcomes.

More specifically, we recommend that career planning and the teaching of careers consider the added role of relationships and spirituality as valued processes in decision-making. Instead of imposing a particular decision-making style, managers and career coaches can encourage students and employees to explore a range of decision-making approaches. This can be achieved by using the CDS as a form of career assessment for exploration, followed by a discussion on the unique role of each decision-making process.

An understanding of the four decision-making styles—rationality, intuition, advice seeking, and spirituality—can be useful for people making career decisions but also leadership and organizational decisions. A career is more than one’s occupation, as it often pertains not only to what one does, but who one is. Hence, most work-related decisions often influence our personal life and vice versa, so work-related decisions fare best when using a holistic approach to decision-making.

The findings related to the importance of spirituality and advice seeking provide a dimension that may be useful to the extant literature on spirituality and management overall, and for career decision-making in particular. There is a burgeoning interest in spirituality and the role of callings in career development (Duffy & Sedlacek, 2007). For example, Jesuit spiritual exercises have been used as a framework for helping students discern career decisions (Stackman & Connor, 2016). Further, the scholarly literature on callings is growing exponentially (Thompson & Bunderson, 2019) as is the popular interest in this topic (Duffy & Dik, 2013); therefore, this scale that provides the components of spirituality and advice seeking can be very useful for those researchers seeking metrics for these dimensions.

In conclusion, this article provides evidence on the role of four distinct decision-making styles—rationality, intuition, advice seeking, and spirituality—and their relationship with related career constructs. The findings across two studies provide support for the psychometric properties of the CDS scale, in terms of content, convergent, and discriminant validity. Further, the research was conducted with different and independent samples from a broad spectrum of settings, to strengthen the generalizability of findings. Overall, our studies further an understanding on the different ways people make decisions. Most importantly, this study highlights the unique role of spirituality and advice seeking, which are decision-making approaches neglected in current typologies of career decision-making.

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**Haoxiong Li** is a PhD candidate majoring in positive organizational psychology at Claremont Graduate University. He received his BA from the University of Toledo and his MA from San Diego State University. He is interested in research regarding employees' positive psychological states, leadership, and survey development. Currently, his research is focusing on exploring the relationships between leaders' positive psychological states, positive leadership behaviors, and other positive outcomes. He enjoys running, playing badminton, reading, and spending time with his friends.

**Ellen A. Ensher**, PhD, is a professor of management at Loyola Marymount University (LMU) in Los Angeles, CA. Inc. recognized her in their list of 100 top leadership speakers in 2018. In 2017, she was named LMU Professor of the Year for excellence in teaching. Ellen is the coauthor with Susan Murphy of *Power Mentoring: How Mentors and Protégés Get the Most Out of Their Relationships* and has published over 50 articles and book chapters. She has published in leading journals including *Journal of Career Development*, *Journal of Vocational Behavior*, and *Leadership Quarterly* on topics related to mentoring and careers. In addition, she is a LinkedIn Learning author of four courses on mentoring and management. She enjoys swimming, reading, and traveling with students, friends, and family. To view her TEDx talk on mentoring, and for more information, please visit [ellenensher.com](http://ellenensher.com).

**Susan E. Murphy**, PhD, is Chair in Leadership Development and the co-director of the Centre for Strategic Leadership at the University of Edinburgh Business School, where she teaches across undergraduate and graduate programs. She received a BS, MS, and PhD in organizational psychology and MBA from the University of Washington. Her research program focuses on leadership development across the life span. She enjoys running, hiking, traveling, and spending time with her family and friends.