5.   Career decision making
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INTRODUCTION

Career decision making is a process without simple answers. In particular, career decisions have become more challenging, with increased career mobility and the rise of contingent employment in today's "gig economy" (Amir & Gati, 2006; Arthur, Khapova, & Wilderom, 2005; Barley, Bechky, & Milliken, 2017; Petriglieri, Ashford, & Wrzesniewski, 2019). Further, demographic predictions suggest that people born today are more likely to live past 100 years, with careers that could span more than 60 years (Gratton & Scott, 2017). This increasing longevity, the prevalence of options through career platforms (e.g., LinkedIn), the rise of dual-career couples, and the growing acceptance of multiple career arcs add up to a changing decision making environment that is ripe for new methods and research.

Career decisions do not occur in a vacuum. They are indeterminably shaped by interpersonal relationships (such as in dual-career couples), the availability of alternatives, and levels of uncertainty in career environments. Yet, to date, models have focused primarily on the individual decision maker, without due consideration of a person's network of relationships or organizational environment. In this chapter, we review research on career decision making and provide recommendations for future research. First, we review existing research on career decision making styles and decision making difficulties. This stream of research reflects a focus on individual differences in decision making – a dominant theme in career research. In the second section, we propose and unpack two possible and arguably generative directions for future research: decision making heuristics and decision making environments. We present insights from the broader psychological literature on judgment and decision making and the implications of these insights for careers research.

CAREER DECISION STYLES

Some of the earliest work in career decisions centered on the process of guiding students toward a suitable career. Instruments such as the Occupational Alternatives Questionnaire (Zener & Schnuelle, 1976) and the Career Maturity Inventory (Crites, 1973; Crites & Savickas, 1996) are still helping students understand and prepare for the process of choosing a career (for example, Kent State University, 2019). In the wake of clearer guidance around the process, researchers have found that people exhibit predictable patterns of behavior when faced with a career decision. More importantly, differences in these patterns of behavior, otherwise known as

career decision making styles, have consequences on decision quality and outcomes (Driver, 1979; Hardin & Leong, 2004; Parker, de Bruin, & Fischhoff, 2007).

Michael Driver (1979) was among the first to examine the role of decision making styles in careers and organizational behavior, and he defined decision making styles as habitual patterns individuals use in decision making. Building on Driver's 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 noted that decision styles are not a personality trait, but a habit-based style, and therefore referred to their assessment as the General Decision-Making *Style* inventory. Researchers continued to clarify the role of styles in career decision making, leading Gati, Landman, Davidovitch, Asulin-Peretz, and Gadassi to label their framework Career Decision-Making *Profiles* (2010) to underscore the complex, multidimensional patterns that arise.

Decision styles are not mutually exclusive. Research has found that while people rely on a primary style, other modalities are not precluded (Driver, Brousseau, & Hunsaker, 1998; Harren, 1979; Singh & Greenhaus, 2004). In other words, people tend to rely on a primary style across most situations, but they may, on occasion, use a combination of styles or a non-dominant style. More specifically, research suggests career decisions are made using an opposing bilateral model in which decisions are made by relying on either primarily intuitive or rational processes. (Epstein, 1994; Kahneman, 2003). These two thinking modalities have been described by Kahneman (2003) as "thinking fast" (Type I processing) and "thinking slow" (Type II processing).

Until relatively recently, research into career decision making has been dominated by those employing rational models (Type II processing). Rational career decision making relies on evidence and reason to match desired career characteristics to occupations (e.g., Gati, 1986; Pitz & Harren, 1980). Such models value "reason, logic, objectivity, and independence" (Hartung & Blustein, 2002, p. 43) as the means to reach an optimal match. More specifically, rational decision making involves "a thorough, comprehensive, dispassionate and generally solitary process of weighting, evaluating and eliminating alternatives to arrive at an optimal choice" (Ceschi, Costantini, Phillips, & Sartori, 2017, p. 17).

Limitations of Intuitive and Rational Decision Styles

There is growing evidence that intuitive styles can be ineffective under some conditions as they are more susceptible to bias than rational styles (Klein, 1998). The best contemporary models integrate the two types, where the strengths of one offsets the shortcomings of the other. Most notably, Savickas and colleagues (2009) developed a comprehensive model for career management in the modern era, based upon five presuppositions about people and their work lives, namely contextual possibilities, dynamic processes, non-linear progression, multiple perspectives, and personal patterns. Murtagh, Lopes, & Lyons (2011) propose an "other-than-rational" career deci-

sion making approach, where positive emotions, happenstance, and self-regulation can guide career decision making.

In the context of career decision making, a rational style relies on thorough information searches and logical evaluation of alternatives, while an intuitive style relies on subjective experience and emotions (Scott & Bruce, 1995). These styles are independent of cognitive abilities (Thunholm, 2004) and predict self-ratings of decision quality above and beyond the Big Five personality traits (Wood & Highhouse, 2014).

The bilateral model of decision making, applied to careers, has limitations. First, rationality and intuition are not opposite ends of a single continuum. In the context of career decision making, it is quite likely that people use both rationality and intuition as complementary modalities, and as Epstein (1994) asserts, both types play highly influential roles in the determination of behavior. Whether rationality or intuition predominates is a function of the nature of the task, situation, and individual differences in decision making style. Second, current measures of intuition and rationality focus on the individual as the source of information. This stops short of considering how relationships affect decision making. Third, empirical research reveals that career decision making is neither exclusively rational nor intentional (Krieshok, Black, & McKay, 2009). Given the limits of rationality, the abundance of non-conscious processes, and the complex interplay between the two, career decision makers inevitably run into difficulties. Recent research by Yip, Li, Ensher, and Murphy (In Press) have examined this limitation and uncovered the role of spirituality and advice-taking as additional modalities that are related but distinct from rationality and intuition.

DECISION MAKING DIFFICULTIES

Difficulties in and barriers to career decision making have been a centerpiece of research for some time (Hilton, 1962). Investigators have looked at a gamut of factors, especially the evaluation of variables influencing the decision, the decision process, the process for implementing the decision, and the decision context, including cognitive as well as behavioral considerations (Jepsen & Dilley, 1974). Many studies of career decision difficulties begin with a decision making framework as their organizing logic (e.g., the Career Decision Making Difficulties Questionnaire by Osipow and Gati, 1998); others end up with decision making-related problems as the central issue in career management (Kelly & Lee, 2002; O'Hare & Tamburri, 1986).

Comprehensive taxonomies have described a wide range of factors shaping career decision making difficulties (e.g., Campbell & Cellini, 1981; Kelly & Lee, 2002; Kelly & Pulver, 2003; Savickas & Jarjoura, 1991), and problems arising from decision making commonly emerge as prominent features. Gati, Krausz, and Osipow's Career Decision-Making Difficulties Questionnaire (CDDQ, 1996; see also, Gati & Saka, 2001) has been a vital assessment and taxonomy of difficulties that can lead a person to make a less-than-optimal career choice. Others use the decision making process itself to tease apart differences among other factorial dimensions, such as

Salomone's (1982) distinction between indecisive students and indecisive mid-career adults. Indecision, it turns out, is perhaps the greatest career decision difficulty of all.

Measures of Career Indecision

Difficulties in career decision making often manifest as indecision. Osipow, Carney, and Barak's (1976) Career Decision Scale was an early measure of indecision at the very start of one's career – the effort to identify a vocation. Larson, Toulouse, Ngumba, Fitzpatrick, and Heppner (1994) identify four areas of indecision for young adults: subjective career distress and obstacles, active problem-solving, academic self-efficacy, and career myths. Though geared toward college students, these same items have analogies for mid- or late-career workers. For example, academic self-efficacy could be interpreted as self-efficacy more broadly for experienced workers, and indeed, tools like the Career Decision-Making Self-efficacy Scale (Taylor & Betz, 1983) and its successor, the Career Decision Self-efficacy Scale (Betz, Klein, & Taylor, 1996) demonstrate a progression toward broader application.

Even with the insights garnered from these early studies, research interest in the types, sources, and antecedents of career indecision have remained steady. Germeijs and De Boeck's (2002) Indecisiveness Scale instituted a measure that spans modes of indecision, including career indecisiveness. An even more recent assessment, the Career Indecision Profile (Brown et al., 2012; Hacker, Carr, Abrams, and Brown, 2013), associates career choice difficulties with another set of four areas: neuroticism/negative affectivity, choice/commitment anxiety, lack of readiness, and interpersonal conflicts. Similarly, Meyer and Winer (1993) found that neuroticism and anxiety have strong associations with indecision, based on an investigation using the Career Decision Scale (Osipow, Carney, Winer, Yanico, & Koschier, 1976) and the Sixteen Personality Factor Questionnaire (Cattell & Eber, 1962). In the same vein, the Career Decidedness Scale (Lounsbury, Tatum, Chambers, Owens, & Gibson, 1999) demonstrates the association between personality and career decidedness more broadly. More recently, Gati and colleagues (2011) demonstrated that the "Big Five" personality traits of neuroticism, agreeableness, perfectionism, and the need for cognitive closure are positively associated with career decision making difficulties, while extraversion, openness to experience, and career decision self-efficacy are inversely related to them.

Despite growing research on career indecision, the mechanisms of indecision have yet to be unpacked. The challenge of career indecision is complicated by the fact that the barriers faced by decision makers are not immediately visible. In any problem-solving context, there may be a difference between the actual state of things and the perception of that state (Hennessy & Latre, 1996). More specifically, Holland, Johnston, and Asama (1993) underscored the role of individual traits in career decision making in their Vocational Identity Scale, which distinguishes a person's deeply-rooted and stable pattern of abilities, goals, and interests (*vocational identity*) from more malleable ones that may be shaped by current career aspirations and roles (*career identity*). A promising direction is the development of frameworks for

understanding how individuals assess and respond to career indecision; for example, the Strategies of Coping with Career Indecision framework (Lipshits-Braziler, Gati, & Tatar, 2016).

Future Research

Given the trend toward multiple and longer career arcs, the need for research on career decision difficulties is becoming increasingly important. Longitudinal analyses will be an essential tool for examining how career decision difficulties change over time. To begin with, knowing whether difficulties are temporary or chronic is essential (Brown & Rector, 2008). This distinction brings into focus differing underlying mechanisms that require fundamentally different paths for unblocking the decision process (Fuqua & Hartman, 1983). Namely, acute indecision typically arises from circumstantial factors, such as insufficient data, contradictory information (Jaensch, Hirschi, & Freund, 2015), and heightened emotional states. A better understanding of temporary indecisiveness would require research on the content of information presented to the decision maker and other circumstantial factors. The temporal dimension of indecision is critical in differentiating between chronic and acute decision making difficulties (Hall, 1992). Research on career difficulties across the different life stages and how they evolve over time is a promising direction for future research.

DECISION MAKING HEURISTICS

A heuristic is a strategy for making decisions more quickly by discounting or ignoring available or discoverable information (Gigerenzer & Gaissmaier, 2011). For example, a basic heuristic tied to satisficing (Simon, 1955, 1957) would be to select the first option that "works" – one that meets a set of criteria "well enough" (Klein, 1998). Heuristics reduce effort by (a) examining fewer cues, (b) reducing the effort of retrieving cue values, (c) simplifying the weighting of cues, (d) integrating less information, and (e) examining fewer alternatives (Shah & Oppenheimer, 2008). Among traditional rationalists, heuristics are perceived as second-rate shortcuts since they do not make use of all the information that is available (Dean & Sharfman, 1993, 1996, Gino, Moore, & Bazerman, 2009; Pitz & Harren, 1980). However, contextual factors such as the presence of uncertainty, risk, and opportunities to learn can affect what sort of strategy makes the most sense (Gigerenzer, 2016). In particular, career decisions are often made under a condition of uncertainty. In such situations, heuristics may be more effective at getting to a high-quality decision (Gigerenzer, 2016; Newell & Simon, 1972) than applying an analytical process that requires information that is not readily available to the decision maker.

The call to apply heuristics to career decision making can be traced back at least three decades (Fitzgerald & Rounds, 1989; Gelatt, 1989; Heppner & Frazier, 1992). One of the first heuristics proposed is sequential elimination (Gati, 1986) in which

occupational alternatives are evaluated as sets of characteristics. Characteristics are considered in turn, and options deemed insufficient in that characteristic are eliminated, until only a handful of options remain. It is an application of Tversky's (1972) elimination-by-aspects choice theory to career decision making.

Research on decision making reveals that people regularly use simplifying heuristics in making judgments in some circumstances (Kahneman & Tversky, 1972, 1973; Tversky & Kahneman, 1973, 1974, 1980). Such heuristics are cognitive processing short cuts, and they typically avoid making major mistakes but often fail to reach the "optimal" decision. Decisions made using heuristics have been observed to be inconsistent and prone to systematic biases because some aspects of the decision are not adequately weighed or considered at all (Pitz & Harren, 1980). The fact that heuristics are sometimes employed in even relatively simple decisions underscores the limits of rational models to explain actual behavior (Tversky & Kahneman, 1973, 1974, 1980).

Moreover, people do not just have access to a single approach or option for solving their problems. Heuristics can be used when they offer advantageous short cuts to a solution, while more sophisticated decision strategies can be employed when the situation warrants (Gigerenzer & Selten, 2002). A crucial factor in whether heuristics or complex rational strategies are more effective is whether the context involves risk or uncertainty (Qin & Simon, 1990). A decision faces *risk* when the comprehensive set of potential future states are known, and there is certainty as to the associated outcomes and their probabilities. *Uncertainty* prevails when the states, outcomes, and probabilities are not just unknown but are unknowable. In such circumstances, optimization is mathematically impossible and heuristics have an advantage, often outperforming complex "rational" strategies (Gigerenzer & Brighton, 2009).

Types of Heuristics

By definition, heuristics are procedural, and they tend to have a search-like quality about them with three fundamental elements (Gigerenzer & Todd, 1999): (1) *Search rules* that specify the path within the information space that the search will follow, (2) *Stopping rules* that specify when to conclude the search, and (3) *Decision rules* that specify how the final decision will be reached.

Several considerations influence the selection of a particular heuristic or the development of a new one for career decision making. First, heuristics are developed and refined through learning (Rieskamp & Otto, 2006). This suggests that career decision heuristics will evolve over a person's lifespan. Second, heuristics can be shared across individuals through social processes, including imitation and teaching (e.g., Snook, Taylor, & Bennell, 2004). This underscores the practical benefits of research into career heuristics. Third, heuristics can be applied in a broad range of circumstances and can take a wide range of forms. Gigerenzer and Gaissmaier's (2011) categorization offers a useful bridge to the career decision making literature. Their categories, along with examples of how they might be applied to different career situations, appear in Table 5.1.

Table 5.1   *Examples of heuristics*

	Class of Heuristic	
1.	*Take-the-first heuristic* Choose the first alternative that comes to mind.	Possible class of heuristic used by experienced career-decision makers (i.e., those in a second or third career arc) whose extensive latent knowledge about the world and self might shape the career decision.
2.	*Take-the-Best* A model of how people infer which of two alternatives has a higher value on a criterion, based on binary cue values retrieved from memory.	Possible heuristic class used by those who have a strong sense of what career they want or, more generally, what is important to them.
3.	*Mapping Heuristic* Tally the number of relevant cues with positive values. Among the options with the highest number of positive cues, chose the one with the highest median criterion value.	Possible heuristic used by young adults who have very few preconceived ideas about their career. Also, potentially the class used by later career adults who are simply substantially uncertain about their next career. In either case, applying the heuristic could support learning about career options and goals.

Heuristic Rules

The relevance and consequence of the above heuristics have yet to be studied in the career decision making context. They present generative possibilities for future research. A starting point will be to consider how established criteria fit into a heuristic context. Of the three types of rules in heuristics (i.e., search, stopping, and decision), decision rules obviously have the closest connection to career decision making. For example, a criterion eliminating career options that require more than 50% travel is easily seen as a heuristic decision rule. However, there remains much to learn more about how heuristics are applied by actual people making career decisions. It might turn out that previously unconsidered frameworks and taxonomies prove to be more helpful in practice. As a specific example, we next discuss real options as heuristic decision rules in career decision making.

Real Options as Heuristic Rules

Career decisions, especially those made early in a career, have an investment-like quality to them. Just like any other investment, choosing a career involves making an initial expenditure in exchange for a future stream of payments. The initial expenditure involves committing time, money, or other resources to gain the qualifications needed to enter the career. Payments received include not only income, but also perks, status, and other rewards associated with the chosen career. Taken together, this pattern of expenditures and payments is no different from the countless financial investments evaluated every day in the standard course of business, so it is worth considering how the "career as an investment" lens might shape career decision heuristics.

Consider the case of a recent MBA graduate with two offers from management consulting firms. Firm A is the premier firm, globally recognized as a thought leader in many industries, with an extensive list of highly desirable client relationships. Firm B is a respected but second-tier firm, with select areas of excellence and several sought-after clients. Firm A compensates new hires at 10% below the industry average, whereas Firm B pays 10% above it. From a strict NPV (Net Present Value) point of view, the obvious choice is to take Firm B's offer.

Nonetheless, many choose Firm A. How does Firm A get away with it? Why would top students from the best business schools take what is "obviously" an inferior offer? The answer is, at least in part, "option value." The experience of being at Firm A creates value above and beyond the direct compensation. In particular, being ex-Firm A creates career options that are fundamentally unavailable to departing or former employees of Firm B. Such real options-based career decisions are played out each year among MBA graduates around the world. However, you do not have to be an MBA graduate to recognize that sometimes the seemingly inferior choice delivers value through the doors that open up later. In today's labor context where lifetime employment is rare and individuals manage their own career progression, incorporating the value of potential career paths is more important than ever.

Real options are a logical structure for evaluating decisions like this where potential choices have one or more "options" to change the decision in the future and, as in the case just described, they have the potential to offer tremendous explanatory power in career decision making. In finance, the application of real options determines the appropriate price of investment alternatives that have such options embedded in them. It is a level of quantification and calculation that is uncommon and usually uncalled for in career decision making. Instead, the opportunity to integrate real option thinking into career decisions research is to consider how its lessons can be incorporated into career decision heuristics and into heuristic decision rules in particular. Table 5.2 provides specific examples of how common option types (Copeland & Antikarov, 2002; Guthrie, 2009; Kodukula & Papudesu, 2006, Trigeorgis & Reuer, 2017) might be translated into career decision research, especially heuristics models.

Research into heuristic-based decision making and the integration of real options into heuristic decision rules offers the promise of opening up new perspectives on career decision making. More importantly, real option heuristics brings to the foreground the role of time and discounting in career decision making – a factor that is relatively under-studied and growing in importance as people work ever longer. Moreover, real options theory addresses important aspects of career uncertainty by considering the value of opportunity generation across career alternatives. It mirrors the thinking employed by people with long time horizons and high aspirations who are inclined toward career paths that create future value.

Table 5.2   Real options types

Real Option Type	Description	Avenues for research
1. Expand/Invest	A career path where the immediate value of the path is marginal or negative, but it contains value derived from the expansion of career path choices in the future.	The option to expand is likely to be attractive to high-aspiration individuals with a long-term view of their career – decision makers who may be willing to accept a negative or low NPV (Net Present Value) in the short term in exchange for the potential of high growth in the future. For example, many entry-level sales jobs offer compensation heavily tied to sales performance. Even a good salesperson may find it difficult to earn an acceptable income for some time, but over time, sales staff can become some of the best paid staff.
2. Contract/Abandon	A career path with uncertain outcomes but the possibility for exiting the path at a future time without incurring significant loss.	The option to contract can be salient among individuals whose priorities lay outside career considerations (e.g., with intentions to start a family, providing care to family members), have vocational aspirations that simply cannot be addressed in the current career decision, or are generally uncertain about their ability to commit to a career.
3. Wait/Defer	A career path that affords delaying choices further into the future.	The option to wait is built-in to any position that offers good-enough rewards, a schedule that is not too demanding, and little chance of being laid-off.
4. Gather Information	A career path with the opportunity to gather information needed for subsequent job and career decisions.	The option to gather information is most valuable to those without a clear sense of vocation or with a high need for data in the decision making process. Temporary employment, including internships, are jobs with information gathering value that goes beyond the immediate compensation.
5. Test Ideas	A career path that accommodates or even rewards testing of ideas associated with future career decisions.	The option to test ideas is most valuable to those interested in careers that involve breaking new ground or disrupting established practices. Someone with a specific entrepreneurial endeavor in mind might find value in taking a job that affords them the opportunity to test ideas or observe related ideas being tested.
6. Obtain/Find Resources	A career path with the opportunity to obtain or find resources needed for future career decisions.	The option to obtain or find resources is most valuable to those interested in careers that will require resources beyond those immediately available to the decision maker. For example, those with entrepreneurial ambitions may choose a first career that puts them in contact with those having the resources that will be needed.

DECISION MAKING ENVIRONMENTS

Research on career decision making has focused primarily on the individual as a unit of analysis, leaving the influence of context unaddressed. The individual-centric model of decision making, while useful, does not adequately represent the effect of situational and environmental factors on career decisions. Further, research on career decision making has relied primarily on cross-sectional and survey-based methods. The influence of the organizational environment is often theorized but not empirically examined in research on careers (Hall & Yip, 2014).

A layering of the influence of context invites at least two streams of multi-level research into career decision making. First, researchers could examine the role of organizational practices and policies and their influence on career decision making. For example, Hall and Yip (2016) identified a typology of organizational career cultures. An inductive analysis of the decision environments that people operate in is necessary to assess the context's influence on career decision making styles. Future research in this area could include the use of qualitative and unobtrusive measures of decision making. In particular, qualitative methods could be employed to surface the contextual nature of decision making styles, including how decision environments influence it.

Second, a focus on decision making environments could surface decision making's relational nature. Relationships are influential environmental factors in career decision making, and they need further consideration. For example, career decisions are often heavily influenced by other people's perspectives and advice. Decision makers rely on counsel to gain perspective (Heath & Gonzalez, 1995; Schotter, 2003) in the service of making better decisions (Harvey & Fischer, 1997). Other studies have found that family members have a significant influence on decision making processes (Fouad et al., 2010) in both eastern and western cultures (Fouad, Fitzpatrick, & Liu, 2011). To the extent that a person has a relational self-construal, career decision making is likely dependent on relational influence from significant others (Cross, Bacon, & Morris, 2000).

The relational nature of decision making should not be underestimated. Career decisions are uniquely shaped by relational considerations, such as career decision making in dual-career couples (Hall & Richter, 1988; Kater, 1985; Lysova, Korotov, Khapova, & Jansen, 2015) or family responsibilities for parenting (Dunn, Rochlen, & O'Brien, 2013). Research on mentoring relationships has shown that relational approaches to career decision making are distinct from individual ones (Sosik & Lee, 2002). A crucial distinction is approaching a career decision from another person's perspective versus relying on their logic or intuition. More specifically, from a relational perspective, mentors can provide career advice, offer emotional support, and serve as role models (Ensher & Murphy, 2011; Ragins & Cotton, 1999). Importantly, it works. A robust body of research has actively supported the relationship between mentoring and career success (Allen, Eby, Chao, & Bauer, 2017; Wen, Chen, Dong, & Shu, 2019). For example, Lease (2004) examined the impact of mentoring on career decision making difficulties among students and found that mentoring was

influential in framing their choices. Among other benefits, advice-taking can offer the advice-seeker perspective on solutions, problem reformulation, validation, and legitimization (Cross, Borgati, & Parker, 2001). Relational decision making, specifically through advice-taking, is well-established as a decision resource. People rely on advice as a means to gain perspective on their decision (Heath & Gonzalez, 1995; Schotter, 2003) and to arrive at better outcomes (Harvey & Fischer, 1997).

Alongside the rise of systems thinking in the 1990s, the family context gained attention as a source for career decision making difficulties (Bradley & Mims, 1992; Kinnier, Brigman, & Noble, 1990; Larson, 1995; Larson & Wilson, 1998), though its origins can be traced back a decade earlier to Bratcher (1982). A central problem is that enmeshment in the family system may make it difficult for a person to differentiate their career desires and expectations from those of the family, especially in the case of young adults still living with their parents (Zingaro, 1983). More broadly, the family context can have both beneficial and harmful effects on effective career decision making (Hargrove, Creagh & Burgess, 2002). Advances in social network analysis could be particularly useful in research on family environments and relational influences on decision making. For example, Kilduff (1992) applies network analysis to study the impact of friendship networks on career decisions. Volpe and Murphy (2011) extend a social network perspective to understand how the networks of professional working women might predict their career exit decisions, but a lot more could be done to uncover antecedents, consequences, and mechanisms associated with the family context.

Finally, research on decision making environments is likely to underscore the role of risk, uncertainty, and complexity in career decisions. As described above, heuristics are particularly useful in environments of high risk and uncertainty (e.g., Qin & Simon, 1990). When faced with uncertainty, prioritizing down to a small set of decision criteria can lead to better decisions than accounting for all possible criteria and methodically analyzing the circumstances. Moreover, given the uncertainty inherent in career decisions, especially the ongoing rapid evolution of the workplace, prior career decisions and experience may not be useful guides to future outcomes. Some aspects of the changing workplace environment are now being made public thanks to discussion boards (e.g., Reddit) and public websites featuring employee feedback (e.g., Vault and Glassdoor), which provide a rich but as yet largely untapped source of data about career decision making environments. With the availability of such data, researchers could examine how broader contexts affect career decision making and difficulties, applying approaches such as chaos theory (Bright, Pryor, & Harpham, 2005; McKay, Bright, & Prior, 2005) and system dynamics (Flynn et al., 2014) to explore career decision making as a part of a complex, adaptive career development system.

CONCLUSION

In this chapter, we examine current and possible directions for research on career decision making. From our review of the literature and contemporary methods, we propose that more research is needed in understanding career decision making as a heuristic-driven process, to supplement the current emphasis on personality and motivation. This requires methods that can capture decision making processes and information as they occur in real-time. By doing so, researchers can begin to unpack the different ways people make sense of uncertain career environments and decisions. We suggest that real options theory opens the door to evaluating career decisions not just as point-in-time decisions but as decisions that shape future choices. The more one appreciates the complexity and uncertainty inherent in the career decision making context; the more one faces the limitations of traditional "rational" decision making processes.

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