BASIC PSYCHOLOGICAL NEED FULFILLMENT AND USER RESISTANCE TO
OBJECTIVE AND ANALYTICAL DECISION-MAKING PRACTICES IN EMPLOYEE
SELECTION

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ABSTRACT

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Two experiments were conducted to examine the reasons underlying practitioners’ resistance to objective and analytical employee selection practices. Working adults (N = 555) were presented with a hypothetical hiring scenario and given instructions for how to identify the most qualified applicant. It was hypothesized that participants would perceive differences in the amount of fulfillment employee selection practices provide for self-determination theory needs and that these differences would affect use intentions. Experiment 1 results suggest that the unstructured interview was perceived as having more potential to fulfill competence, relatedness, and autonomy needs than the structured interview, and that data combination using expert judgment was perceived as having more potential to fulfill competence and autonomy needs than computerized data combination. Manipulation of the need fulfillment potential provided by employee selection practices in Experiment 2 did not significantly affect use intentions. However, results suggest that use intentions were significantly predicted by individual differences in perceived need fulfillment potential for all three self-determination theory needs.
To Erin… my motivation, my inspiration, my love
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INTRODUCTION

Decision-making practices can be characterized by the data collection methods and data combination techniques that are used to make predictions (Meehl, 1954; Sawyer, 1966). Data collection methods refer to the ways people gather information about options in the decision set. These methods are classified as either subjective or objective depending on the amount of human judgment that is involved in the process. Subjective data collection methods, such as unstructured interviews, primarily rely on human judgment to gather information. In contrast, objective data collection methods, such as standardized tests, are designed to limit the influence human judgment has on the assessment process. Data combination techniques refer to the ways people coalesce the information they have gathered about options in the decision set into overall evaluations that they will ultimately use to make predictions. Like data collection methods, data combination techniques are also classified according to the amount of human judgment involved in the process. Holistic data combination techniques primarily rely on human judgment to combine information. For example, a college admissions counselor who reviews an applicant’s grade point average, extracurricular activities, and ACT scores and then uses his or her own personal intuition to determine the student’s likelihood of success is using holistic data combination. In contrast, analytical data combination techniques combine information using statistical or mechanical procedures.¹ A college admissions counselor who enters information about a student’s grade point average, extracurricular activities, and ACT scores into a computer

¹ In an effort to clearly distinguish between the data collection and data combination functions of decision making, the clinical and mechanical titles common to decision-making research are not used in favor of terms (i.e., subjective/ objective and holistic/ analytical) that more clearly differentiate between the principles of these approaches within each function.
program that calculates the student’s likelihood of success, for example, is using analytical data combination.

The benefits of objective data collection methods and analytical data combination techniques have been repeatedly demonstrated across a variety of applications and professions (Dawes, Faust, & Meehl, 1989; Grove, Zald, Lebow, Snitz, & Nelson, 2000). For example, these practices have been shown to improve the accuracy of physicians’ diagnoses (Corey & Merenstein, 1987), psychiatrists’ predictions of parole failure (Burgess, 1928), auditors’ detection of fraud (Bell & Carcello, 2000; Eining, Jones, & Loebbecke, 1997), and hiring managers’ selection decisions (Feltham, 1988; Schmidt & Hunter, 1998; Wollowick & McNamara, 1969). In 1966, Sawyer conducted a review of 45 studies that compared the predictive accuracy of data collection methods and data combination techniques for a variety of purposes in a variety of different settings. This review found that objective data collection methods and analytical data combination techniques consistently resulted in more accurate predictions than their subjective and holistic counterparts. The results of Sawyer’s review suggest that decision-making practices that limit the influence of human judgment through standardized data collection, objective attribute scoring, and analytical data combination generally improve the accuracy of predictions.

Although objective data collection methods and analytical data combination techniques are well supported by research, they remain underutilized by professionals (Arkes, Dawes, & Christiensen, 1986; Boatsman, Moeckel, & Pei, 1997; Bockenholt & Weber, 1992; Highhouse, 2008; Terpstra, 1996). Instead, people continue to have unwarranted confidence in others’ subjective judgments, and relying on expert intuition is more socially acceptable than using test scores or formulas to make important decisions (Hastie & Dawes, 2001). Arguably, the greatest
failure of industrial-organizational psychology has been its inability to convince employers to use the objective data collection methods and analytical data combination techniques that have been developed to improve employee selection (Highhouse, 2008).

*Decision Making in Employee Selection*

The methods practitioners of employee selection use to gather information about applicants can be entirely subjective (e.g., unstructured interviews), entirely objective (e.g., standardized tests), or a combination of subjective and objective approaches (e.g., assessment centers). Once collected, this information is combined to form overall evaluations of applicants through either holistic (e.g., intuition) or analytical (e.g., multiple regression) techniques. Crossing data collection methods with data combination techniques results in a variety of approaches to employee selection (see Table 1; based on Sawyer, 1966; applied to selection by Bass & Barrett, 1981).

- Selection systems that use *pure judgment* have decision makers subjectively collect information about applicants and combine it holistically to form an overall impression of each applicant’s performance potential. A hiring manager who bases employment decisions on his or her perception of how well applicants perform in unstructured interviews is practicing pure judgment.

- The *trait rating* approach to employee selection is characterized by the use of subjective data collection methods and analytical data combination techniques. A hiring manager who assesses both applicants’ personality and intelligence through unstructured interviews, enters these attribute ratings into a formula that computes an overall score representing each applicant’s predicted success, and bases selection decisions on these scores is practicing trait rating.
• *Profile interpretation* involves the use of objective data collection methods and holistic data combination techniques. A hiring manager who assesses applicants’ personality and intelligence through paper-and-pencil measures, holistically combines this information to form predictions about each applicant’s likelihood of success, and bases selection decisions on these predictions is practicing profile interpretation.

• The *pure statistical* approach to selection uses objective data collection methods and analytical data combination techniques. A hiring manager who assesses applicants’ personality and intelligence through paper-and-pencil measures, enters these attribute ratings into a formula that computes an overall score representing each applicant’s predicted success, and bases selection decisions on these scores is using pure statistical selection.

• Selection systems that use *judgmental composite or mechanical composite* are characterized by the use of both objective and subjective data collection methods. This information is then combined using either holistic (judgmental composite) or analytical (mechanical composite) methods (Gatewood & Feild, 2001; Sawyer, 1966). The assessment center, which uses a combination of subjective observation and standardized ratings, along with holistic integration of observations, is an example of a judgmental composite.

For the sake of parsimony, this study will focus only on those approaches that make use of a singular method of data collection, paired with a singular method of data combination. That is, the present study will not investigate reactions to selection systems that use more than one method of data collection (i.e., composite systems) or more than one method of data combination (e.g., synthesis systems; Sawyer, 1966).
Over the past 100 years, the traditional unstructured interview, a subjective method of assessment, has been the predominate approach used by practitioners to collect information about applicants (Buckley, Norris, & Wiese, 2000; Dipboye, 1997; Ryan, McFarland, Baron, & Page, 1999; van der Zee, Bakker, & Bakker, 2002). However, negative findings about the predictive validity, reliability, and job-relatedness of the unstructured interview have motivated the development of more objective methods of assessment (Buckley et al., 2000). Structuring the employment interview, for example, has been found to improve the predictive validity of this approach to data collection (McDaniel, Whetzel, Schmidt, & Maurer, 1994; Schmidt & Hunter, 1998; Wiesner & Cronshaw, 1988). Adding structure to an employment interview increases the objectiveness of the assessment method by limiting the amount of discretion interviewers have over the questions asked to applicants and the scoring of their responses (Huffcut, 1992; Huffcut & Arthur, 1994). This reduction in subjectivity improves the psychometric properties of interviews and lessens the influence common decision-making biases have on prediction (Conway, Jako, & Goodman, 1995; Huffcut, 1992; Huffcutt & Arthur, 1994).

The use of objective data collection methods in employee selection is further supported by the development of paper-and-pencil assessments with greater demonstrated predictive validity than the traditional unstructured interview. For example, a meta-analysis of 85 years of personnel research found that paper-and-pencil measures of general mental ability, job knowledge, and integrity were each better predictors of overall job performance than the unstructured interview (Schmidt & Hunter, 1998); an assessment that is presumed to subjectively assess ability, aptitude, and personality concurrently (Huffcutt, Conway, Roth, & Stone, 2001). Although interviewers can and do evaluate personality during employment interviews, research suggests they are not able to accurately assess conscientiousness or emotional stability, the traits
most closely related to job performance. In order to evaluate these traits, research again recommends use of objective paper-and-pencil assessments (Barrick & Mount, 1991; Barrick, Patton, & Haugland, 2000; Hough, 1992; Salgado, 1997).

Research also supports the use of analytical data combination techniques over holistic procedures for the purpose of employee selection. For example, in their study of assessment center ratings, Wollowick and McNamara (1969) found that test scores, character measures (e.g., judgments of self-confidence, risk taking), and exercise ratings correlated .45, .41, and .39 respectively with a criterion of managerial responsibility. When analytically combined, the multiple R increased to .62. However, overall assessments derived through holistic combination had only a .37 correlation with the criteria; a result that is less predictive than use of exercise ratings alone. Similar results have been found in assessment center work with Army recruiters (Borman, 1982), female military officers (Tziner & Dolan, 1982), and law enforcement officers (McEvoy, Beatty, & Bernardin, 1987). Highhouse and Kostek (2010) presented a review of 20 studies comparing holistic and analytical approaches to data combination in the contexts of employee selection and college admissions. In almost every case, holistic evaluations were equaled or exceeded by simple combinations of standardized test scores.

The trend established by research on the data combination techniques used in employee selection is consistent with a larger trend found in the results of decision-making research in general. In 1954, Meehl presented a review of 20 studies comparing the accuracy of analytical and holistic data combination procedures in a variety of contexts. In every case, analytical combinations equaled or outperformed holistic approaches. Revisiting the topic nearly a half century later, Grove and colleagues (2000) conducted a meta-analysis of 136 studies making 617 distinct comparisons between these two forms of data combination. This study also found that
analytical approaches to data combination consistently outperformed holistic combination in the prediction of human behavior and health-related outcomes (Grove et al., 2000). The consistency with which analytical decision making has been shown to out-predict holistic practices has led some to conclude that this trend is among the most well-established of all findings in the behavioral sciences (Grove & Meehl, 1994; Grove et al., 2000; Highhouse, 2008).

**Professional Resistance**

With research strongly supporting the use of objective data collection methods and analytical data combination techniques, experts recommend that practitioners of employee selection curtail their use of subjective and holistic decision-making practices (e.g., Gatewood & Feild, 2001; Highhouse, 2008). However, many professionals continue to rely on these approaches (Buckley et al., 2000; Dipboye, 1994; Terpstra, 1996; Terpstra & Rozell, 1997; Lievens, Highhouse, & De Corte, 2005). For example, an international survey of selection practices found that only 35% of U.S. companies reported using the same fixed list of job-related interview questions for each applicant (Ryan et al., 1999). Likewise, a survey of individual assessment practitioners found that just 15% of these professionals agree that their interviews follow a strict standardized format (Ryan & Sackett, 1987). Instead, employment interviews tend to be formatted around applicants with no standardized follow-up questions, and their scoring tends to be global evaluations with no formal use of rating scales (van der Zee et al., 2002). Concerning data combination, only a small percentage of assessors reported using a purely analytical approach. Instead, most relied on pure judgment or some combination of judgment and analysis (Ryan & Sackett, 1987). Holistic data combination has even been called a, “hallmark of the individual assessment practice” (Prien, Shippmann, & Prien, 2003, p. 123).
A variety of explanations have been offered for why professionals generally resist using objective data collection methods and analytical data combination techniques. In an effort to organize these explanations, a broad conceptual model has been developed that distinguishes between organization-related and user-related factors (Dipboye, 1994; 1997; Lievens & De Paepe, 2004). Organization-related factors include things like company politics, organizational cultures, and procedural norms. User-related factors, on the other hand, address personal aspects of the decision maker that influence his or her approach to selection (Dipboye, 1994; 1997). Although this model was originally developed to organize the factors that influence practitioners’ resistance to objective data collection methods, it also provides a useful framework for organizing the factors proposed to influence practitioners’ resistance to analytical data combination techniques.

Organization-related factors. The organization-related factors that have been offered to explain practitioners’ resistance to objective data collection methods center on the idea that using these assessments is incongruent with certain organizational philosophies or objectives (Kossek, 1989). For example, it is not uncommon for organizations to view the employment interview as both a selection assessment and as a recruitment device (Barber, Hollenbeck, Tower, & Phillips, 1994; Dipboye, 1997; Rynes, 1989). In these instances, employers may feel that structured interviews and paper-and-pencil assessments impede social functioning and hinder their organization’s ability to recruit top talent (Harris & Eder, 1999). Other organization-related factors that help explain professionals’ resistance to objective data collection methods are highlighted in the results of a survey conducted by Terpstra and Rozell (1997). HR professionals cited internal politics, lack of top management support, fear of harming organizational images,
and legal concerns as reasons for not using objective methods of assessment (i.e., structured interviews, cognitive ability tests, weighted application blanks).

Although the organization-related factors offered to explain practitioners’ decision-making practices have typically addressed data collection, Johns (1993) suggested that the same factors that impede organizational innovation also influence the adoption of technically meritorious personnel practices like analytical data combination. These factors include environmental threats, politics, imitation processes, and government regulations. An affirmative action case brought against the University of Michigan (Gratz v. Bollinger, 2003) provides an example of how government regulation can influence the data combination practices used by organizations. As part of their selection system, the University of Michigan was using an analytical approach to data combination that awarded points to applicants based on, among other things, a person’s minority status. Preferring a personal case-by-case analysis of each applicant, the U.S. Supreme Court ruled that the university’s enrollment goals must be achieved through use of individualized, holistic selection procedures (Highhouse & Kostek, 2010; McGaghie & Kreiter, 2005).

User-related factors. A variety of user-related factors have been offered to explain professionals’ resistance to objective data collection methods and analytical data combination techniques. Examples of these factors include: a lack of knowledge about effective practice (e.g., Rynes, Colbert, & Brown, 2002), preparation concerns (e.g., Lievens & De Paepe, 2004), the desire to establish personal contact with applicants (Anderson, 1992; Harris & Eder, 1999), incongruence with practitioners’ professional identities (e.g., Meehl, 1986), and belief in expert intuition (e.g., Ruscio, 2003). Each of these explanations is discussed next in greater detail.
Gaps that exist between the science and practice of industrial-organizational psychology are often credited to an ineffective transfer of knowledge from academic researchers to practitioners (e.g., Cascio, 2008). Accordingly, a factor that has been proposed to influence practitioners’ resistance to objective data collection methods and analytical data combination techniques in employee selection is a lack of knowledge about effective practice (Grove & Meehl, 1996; Highhouse, 2008; Meehl, 1986). Research has identified multiple noteworthy discrepancies between practitioners’ beliefs about employee selection and the results of empirical research. For example, a survey of 201 HR executives found that these professionals generally believe that traditional unstructured interviews are better predictors of job performance than a variety of objective assessments with greater demonstrated predictive validity (e.g., structured interviews, intelligence tests; Terpstra, 1996). Likewise, a survey of nearly 1,000 Society for Human Resource Management (SHRM) members found that these professionals held a variety of inaccurate beliefs about the usefulness of intelligence tests and personality measures for the purpose of employee selection (Rynes et al., 2002). Although these findings support the idea that practitioners may lack knowledge about the effectiveness of data collection methods, the majority of HR professionals surveyed were able to correctly identify that the unstructured interview is not the most valid method of assessment (Rynes et al., 2002). Highhouse (2008) noted that it is possible that practitioners are aware of the research that has been conducted on the effectiveness of employee selection practices, but they simply do not believe that these findings apply to their own unique situations.

A second user-related factor that has been proposed to influence practitioners’ use of objective data collection methods in employee selection is preparation concerns (Harris & Eder, 1999; Lievens & De Paepe, 2004). Harris and Eder (1999) suggested that practitioners resist
using structured interviews because these assessments require more preparation than unstructured interviews. In order to properly develop a structured interview, a job analysis must be conducted, a list of job-related interview questions must be developed, and detailed scoring guidelines must be established; all of which require time and effort (Huffcutt & Woehr, 1999). Although research supports the idea that practitioners are less likely to structure their employment interviews when they attach importance to the ease of preparation (Lievens & De Paepe, 2004), other objective forms of assessment, like standardized tests, require relatively little preparation from their users.

The desire to establish personal contact with applicants has also been proposed to influence practitioners’ use of data collection methods (Anderson, 1992; Harris & Eder, 1999). Buckley and colleagues (2000), for example, suggested that unstructured interviews remain a cornerstone of assessment because no other method of data collection provides practitioners the same amount of personal contact with applicants. The social dimension of the unstructured interview is especially relevant when it is also being used as a recruitment device. This dimension includes establishing informal, personal contact with interviewees, having two-way communication, and making the interviewee feel comfortable (Anderson, 1992; Lievens & De Paepe, 2004). Research suggests that applicants assign a great deal of importance to the social dimension of interviews (Hysong & Dipboye, 1999; Kohn & Dipboye, 1998). Likewise, practitioners who are concerned with establishing informal contact with applicants are less likely to structure their employment interviews (Lievens & De Paepe, 2004).

In an effort to help explain practitioners’ continued preference for holistic data combination, Meehl (1986) provided a list of psychosocial factors that he believed contributed to this practice. Although these factors were originally intended to help explain the decision-
making practices of clinicians, they apply equally well to practitioners of employee selection. Meehl suggested that holistic decision making is an integral part of practitioners’ professional identities. He proposed that practitioners generally identify with the theory behind holistic decision making, and that they believe this approach is more ethical and less dehumanizing than using analytical techniques. Meehl also noted that professional decision makers recognize that their worth is contingent on their ability to make accurate predictions using intuition. If they were to concede that more accurate predictions could be made using simple linear combinations of predictors, then they may risk losing their jobs. Meehl termed this factor, “fear of technological unemployment” (Grove & Meehl, 1996, p. 24). Research supports the idea that professional decision makers are expected to use intuition. For example, people tend to derogate physicians who use diagnostic aids, describing them as less professional, competent, and thorough than those who rely on holistic judgment (Arkes, Shaffer, & Medow, 2007). Research also suggests that using analytical techniques in employee selection is generally viewed as less professional, congenial, and comprehensive than using holistic approaches (Diab, Pui, Yankelevich, & Highhouse, 2011).

Belief in “expert intuition” has also been proposed to influence practitioners’ use of holistic data combination (Highhouse, 2008). Although research has demonstrated that experience does not improve the accuracy of predictions made by professionals (Camerer & Johnson, 1991; Dawes, Faust, & Meehl, 1989; Grove et al., 2000; Sherden, 1998), those who rely on holistic judgment commonly defend this practice by suggesting that it allows them to (a) identify idiosyncrasies in candidates’ profiles that make them inappropriate to hire (Jeanneret & Silzer, 1998) and (b) interpret complex configurations of traits not recognized by analytical data combination (Prien et al., 2003). Research suggests, however, that such idiosyncrasies account
for inconsequential gains in prediction (Camerer & Johnson, 1991; Dawes, 1971) and that consideration of trait interactions does not meaningfully benefit prediction (Camerer & Johnson, 1991; Dawes, 1971).

A Needs-Based Investigation into User Resistance

The use of objective data collection methods and analytical data combination techniques for the purpose of employee selection is well-supported by research (e.g., Conway et al., 1995; Huffcutt & Arthur, 1994; Schmidt & Hunter, 1998; Wollowick & McNamara, 1969). Nevertheless, the unstructured interview remains a cornerstone of assessment (Buckley et al., 2000) and few practitioners use analytical techniques to combine data (Ryan & Sackett, 1987). Although a variety of factors have been offered to explain practitioners’ resistance to objective data collection methods and analytical data combination techniques, little research has investigated why decision makers are reluctant to adopt these practices (Anderson, 2005; Highhouse, 2008). Highhouse (2008) suggested an important first step toward understanding practitioners’ resistance to objective and analytical decision-making practices is to study implicit, broadly held beliefs about decision making in selection.

Dipboye (1997) speculated that one reason practitioners may prefer using unstructured rather than structured interviews is that the unstructured interview provides more fulfillment for practitioners’ psychological needs for autonomy and power than its structured counterpart. Providing some support for this assertion, research suggests that practitioners generally value having discretion over the questions they ask to applicants and the scoring of their responses (Dipboye & Jackson, 1999), and that the more concerned they are about having discretion over these practices the less likely they are to use highly structured interviews (Lievens & De Paepe, 2004). It is possible that practitioners may prefer holistic data combination for the same reasons
given the amount of structure analytical data combination techniques impose on their users. Several noteworthy theories of motivation recognize need fulfillment as a primary determinant of human behavior (e.g., Deci & Ryan, 2000; Hull, 1943; Maslow, 1943; McClelland, 1985; Murray, 1938). Therefore, in order to better understand practitioners’ resistance to objective and analytical decision-making practices, this study investigates the effect employee selection practices have on decision makers’ perceptions of need fulfillment potential, and how these perceptions affect their intentions to use the practices to make hiring decisions. The various approaches to decision making will be operationalized in this study as follows. The unstructured employment interview will represent subjective data collection and the structured employment interview will represent objective data collection. The use of expert judgment (i.e., intuition) will represent holistic data combination and the use of a computer program will represent analytical data combination.

**Self-Determination Theory**

Self-determination theory is a needs-based theory of motivation that has been called, “the most ambitious contribution to… the rebirth of motivational research” (Hennessey, 2000, p. 293). Its tenets have been supported in a variety of contexts (e.g., Deci, Eghrari, Patrick, & Leone, 1994; Grolnick & Ryan, 1989; Williams & Deci, 1996) including organizational settings (e.g., Baard, Deci, & Ryan, 2004; Deci, Connell, & Ryan, 1989; Deci, Ryan, Gagne, Leone, Usunov, & Kornazheva, 2001; Greguras & Diefendorff, 2009). Self-determination theory is grounded in the organismic perspective of human motivation (Angyal, 1941; Goldstein, 1939; Rogers, 1961; Werner, 1957), which suggests that people are inherently motivated to develop their capacities, to connect with other people, and to engage in interesting activities (Deci & Ryan, 2000). This perspective also suggests that environments that do not support these growth
initiatives easily derail people’s inherent motivation (Sheldon, Turban, Brown, Barrick, & Judge, 2003).

According to self-determination theory, the key to understanding and predicting motivation is awareness of the extent to which people experience fulfillment for three basic psychological needs in the contexts that surround behavior (Deci & Ryan, 2000; Sheldon et al., 2003). These needs include: competence (i.e., the need to understand one’s behavior and feel effective or skillful), relatedness (i.e., the need to feel connected with others), and autonomy (i.e., the need to experience one’s own behavior as volitional; Deci & Ryan, 2000; Ryan & Deci, 2000; Sheldon et al., 2003; Vansteenkiste, Neyrinck, Niemiec, Soenens, De Witte, & Van den Broeck, 2007). Self-determination theory defines needs as, “innate psychological nutriments that are essential for ongoing psychological growth, integrity, and well-being” (Deci & Ryan, 2000, p. 229). Unlike other need-based theories of motivation, the needs highlighted in self-determination theory are not hierarchically arranged (e.g., Maslow, 1943) nor are they considered to vary in need-strength among people (e.g., McClelland, 1965). Instead, everyone is believed to require all three types of experiences to an approximately equal extent (Deci & Ryan, 2000; Sheldon et al., 2003).

In contrast to theories that view motivation as a singular construct (e.g., Bandura, 1996; Locke & Latham, 1990), self-determination theory suggests that people experience different types of motivation ranging from controlled to self-determined (Deci & Ryan, 2000; Gagne & Deci, 2005). Controlled motivation is regulated (i.e., initiated and maintained) by external commands or contingent rewards. A worker whose task performance is primarily based on the desire to be paid or to avoid punishment, for example, is experiencing controlled motivation. Aspects of a person’s self-concept, on the other hand, regulate self-determined motivation. This
type of motivation is associated with the desire to act in accordance with one’s own personal interests, values, and beliefs. A worker who performs a task because he or she finds it inherently interesting, identifies with the value of the behavior, or believes that it is an integral part of who they are as a professional is experiencing self-determined motivation.

According to self-determination theory, the type of motivation a person experiences to perform a behavior is contingent on his or her beliefs about that behavior’s potential to fulfill basic psychological needs (see Figure 1; Deci & Ryan, 1985; Standage, Duda, & Ntoumanis, 2003; Vallerand & Losier, 1999). Self-determination theory suggests that the contexts surrounding behaviors differ in the fulfillment they provide for people’s competence, relatedness, and autonomy needs. Some contexts provide more fulfillment of these needs than others. Because people are naturally driven to satisfy their basic psychological needs, they experience a greater amount of inherent (i.e., self-determined) motivation to perform behaviors in contexts that are perceived to have the potential to fulfill them. According to the general causal model posited by self-determination theory, the effect a behavior’s context has on a person’s motivation to perform that behavior is mediated by the person’s perception of the behavior’s potential to fulfill his or her competence, relatedness, and autonomy needs. The fulfillment of self-determination theory needs has been shown to relate to a number of positive outcomes including: greater behavioral intentions (Standage et al., 2003; Vallerand & Losier, 1999); more interest, performance, persistence, and creativity in behavior (Sheldon, Ryan, Rawsthorne, & Ilardi, 1997); heightened work engagement (Deci et al., 2001), affective organizational commitment, and job performance (Greguras & Diefendorff, 2009); as well as enhanced vitality (Nix, Ryan, Manly, & Deci, 1999), self-esteem (Deci & Ryan, 1995), and general well-being (Ryan, Deci, & Grolnick, 1995).
Self-Determination Theory & Resistance to Structured Selection Practices

Self-determination theory suggests that people’s behavior is meaningfully related to the fulfillment of their competence, relatedness, and autonomy needs. People are more likely to volitionally perform a behavior when they believe that doing so will fulfill these three basic psychological needs (Deci & Ryan, 2000; Sheldon et al., 2003; Standage et al., 2003). Need fulfillment has been offered as a potential explanation for why certain employee selection practices are used more frequently than others (Dipboye, 1997). However, no study has yet investigated how employee selection practices effect decision makers’ perceptions of need fulfillment potential, or the effect perceptions of need fulfillment potential have on decision makers’ intentions to use employee selection practices to make hiring decisions. Therefore, the relationships outlined by self-determination theory’s general causal model (see Figure 2) were tested using a two-study randomized experimental design. Study 1 investigated the effects data collection methods and data combination techniques have on decision makers’ perceptions of need fulfillment potential. Study 2 examined the effects perceptions of need fulfillment potential have on decision makers’ intentions to use employee selection practices. Experimentation has been recommended as an especially potent way to examine causal mediation (Spencer, Zanna, & Fong, 2005; Stone-Romero & Rosopa, 2008; 2010).

Competence. Competence needs are fulfilled by behaviors that make a person feel effective and skillful (Deci & Ryan, 2000; Skinner, 1995; Sheldon et al., 2003; White, 1959). In order to feel effective, a person must have confidence in his or her ability to successfully perform a task (Skinner, 1995; White, 1959). Judgment and decision-making research suggests that people’s confidence in their ability to make accurate predictions depends on the amount of information they possess (Hall, Ariss, & Todorov, 2007; Schwartz, 2004). Having more
information tends to increase confidence, even when the accuracy of predictions is unaffected (Arkes et al., 1986; Gill, Swann, & Silvera, 1998; Oskamp, 1965). In employee selection, the amount of information practitioners are able to consider about applicants depends on the decision-making practices they use. Unstructured interviews, for example, provide information about job-related attributes like abilities, aptitudes, and personality traits, as well as information about non-job-related attributes like applicants’ age, race, gender, weight, attractiveness, disability status, verbal and non-verbal presentation styles, values, interests, and personal goals (Arthur, Bell, Villado, & Doverspike, 2006; Buckley et al., 2000; Judge, Higgins, & Cable, 2000). Although a considerable amount of job-related information can be obtained through use of more standardized methods, these methods are unlikely to provide practitioners with information about the host of non-job-related attributes that research suggests they value.

Practitioners are also able to base their predictions on more information when they use expert judgment to combine data than when they use a computerized approach. Computerized approaches to data combination typically involve the linear combination of only a few key pieces of information (Gatewood & Feild, 2001). The combination of predictor information using expert judgment, on the other hand, has been described as involving, “massive amounts of data” (Ruscio, 2003, p. 38). Those who advocate using expert judgment in decision making claim it is important to properly contextualize every piece of information known about a person. They believe this practice allows them to consider interactions that may exist among attributes (Prien et al., 2003) and to be mindful of idiosyncratic cues (Jeanneret & Silzer, 1998). However, it also requires them to collect and process a great deal of information.

Research suggests that practitioners of employee selection have greater confidence in unstructured interviews and the use of expert judgment to combine predictor information than
they do in structured interviews and the use of computer programs to combine predictor information. This is consistent with the idea that decision makers’ confidence is positively related to the amount of information they possess. Terpstra (1996), for example, found that HR executives rated the unstructured interview as more predictive of future job performance than a variety of objective assessments including structured interviews, specific aptitude tests, and general cognitive ability tests. In a follow-up survey, Terpstra and Rozell (1997) found that the most popular reason given by practitioners for not using objective assessments, like structured interviews or cognitive ability tests, was that they questioned the usefulness of these measures. Practitioners’ confidence in the unstructured interview is further highlighted by the results of a policy capturing study conducted by Lievens and colleagues (2005). This study found that competencies assessed via unstructured interview consistently had a greater influence on managers’ hiring decisions than those assessed through objective methods (e.g., paper-and-pencil measures). This trend persisted regardless of the competency assessed. Concerning data combination, Diab and colleagues (2011) found that a sample of working Americans faced with an employee selection decision generally believed that holistic data combination was a more useful and professional way to make this decision than analytical data combination2.

In addition to feelings of effectiveness, competence needs are also fulfilled by behaviors that make a person feel skillful (e.g., Deci & Ryan, 2000). Competence is achieved by using one’s skills to succeed at challenging tasks (Deci et al., 2001; Skinner, 1995; White, 1959). Consequently, behaviors that provide people with the opportunity to master new skills tend to be particularly supportive of their competence needs (Sheldon et al., 2003). For the task of

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2 A different pattern of results was found in the non-U.S. sample. No significant difference was found between the perceived usefulness of holistic and analytical data combination techniques, and analytical data combination was only seen as significantly more unprofessional when an interview, rather than a test, was used to collect data.
employee selection, the amount of skill required to perform the behaviors associated with the
data collection and data combination functions of decision making meaningfully differ between
unstructured and structured interviews as well as judgment-based and computer-based
techniques. Whereas both structured interviews and computerized data combination techniques
are designed to remove human judgment from the decision-making process, reliance on human
judgment defines both unstructured interviews and the use of expert judgment to combine data
(Meehl, 1954; Ruscio, 2003; Gatewood & Feild, 2001).

Speculating about why practitioners prefer unstructured interviews, Dipboye (1997)
suggested that they may view structuring the employment interview (i.e., reducing subjectivity)
as, “deskilling the task and reducing it to a boring, monotonous exercise” (p. 466). The same
could be said for other objective methods of assessment, such as paper-and-pencil measures, that
reduce practitioners’ role in the data collection process to that of a proctor. Structured interviews
do not challenge practitioners to develop applicant-specific lines of questioning or to subjectively
judge applicants’ standings on attributes of interest. A similar reduction in challenge
accompanies the shift from judgment-based to computer-based data combination. Because
computerized data combination is characterized by the use of formulas that dictate what
information is to be considered about each applicant and how that information is to be combined
(Gatewood & Feild, 2001; Meehl, 1954), this approach to decision making requires relatively
little skill from practitioners. The use of expert judgment to combine data, on the other hand,
requires decision makers to identify what information is important to consider about each
applicant and to determine how this information should be most appropriately combined to form
an overall evaluation of that person (Gatewood & Feild, 2001; Highhouse, 2008; Meehl, 1954;
Ruscio, 2003). Because unstructured interviews and judgment-based decision-making practices
present more of a challenge to practitioners, using these practices to make employment decisions should make practitioners feel more skillful than their structured and computer-based counterparts.

To review, competence needs are fulfilled by behaviors that make a person feel effective and skillful (Deci & Ryan, 2000; Skinner, 1995; Sheldon et al., 2003; White, 1959). Judgment and decision-making research suggests that people are generally more confident in their decision making when they have more rather than less information on which to base their predictions (Schwarz, 2004). The constraints imposed on practitioners by structured interviews and computerized data combination limit the information they have available to make predictions. Unstructured interviews and the use of expert judgment to combine data, on the other hand, allow practitioners to base their predictions on a much wider range of information (Gatewood & Feild, 2001; Meehl, 1954; Ruscio, 2003). Consistent with the amount of information they provide, research suggests that unstructured interviews (e.g., Terpstra, 1996) and the use of expert judgment (e.g., Diab et al., under review) are generally believed to be more effective employee selection practices than structured interviews and computerized data combination. Data collection methods and data combination techniques also differ with regard to the amount of skill they require from decision makers. Unlike unstructured interviews that challenge decision makers to identify and assess important aspects of an applicant’s profile, structured interviews are designed to remove human judgment from the assessment process. A similar reduction in judgment accompanies the shift from expertise to computerized data combination. The linear models used in computerized data combination determine what information is considered about applicants and how this information is combined. Based on the amount of skill they require and people’s confidence in their effectiveness, unstructured interviews and the use
of expert judgment to combine data are expected to provide more fulfillment for decision makers’ competence needs than their objective and analytical counterparts.

*Hypothesis 1a:* Decision makers will perceive the unstructured interview as having more potential to fulfill their competence needs than the structured interview.

*Hypothesis 1b:* Decision makers will perceive expert judgment as having more potential to fulfill their competence needs than computerized data combination.

*Relatedness.* Relatedness refers to the need to feel connected with others (Deci & Ryan, 2000; Sheldon et al., 2003). This need if fulfilled by behaviors that involve personal contact and allow for the display of care and concern for others’ thoughts and feelings (Baumeister & Leary, 1995; Deci et al., 2001). Employment interviews have a social dimension that is missing from more objective methods of assessment (e.g., standardized tests). This social dimension involves establishing personal contact with applicants, engaging in two-way communication, and making applicants feel comfortable during the assessment process (Anderson, 1992; Lievens & De Paepe, 2004). Although both structured and unstructured interviews have a social dimension, research suggests that practitioners who value establishing personal, informal relationships with applicants are more likely to use unstructured rather than structured interviews (Lievens & De Paepe, 2004). Perhaps this is because unstructured interviews provide more two-way communication and a higher quality of interaction with applicants than structured interviews (Dipboye, 1997).

Many organizations consider the employment interview to be both an assessment method and a recruitment device (Harris & Eder, 1999; Rynes, 1989). In these instances, the social dimension of interviews is especially relevant (Rynes, 1989). Research suggests that applicants assign a great deal of importance to the social dimension of employment interviews, and that
they prefer unstructured interviews because these assessments allow practitioners to display the attentiveness, warmth, and support they desire during the assessment process (Alderfer & McCord, 1970; Dipboye, 1992; Kohn & Dipboye, 1998; Latham & Finnegan, 1993). In addition to providing applicants with a more pleasant assessment experience, Dipboye (1997) commented that many practitioners believe that using unstructured interviews helps applicants make better employment decisions. This is because unstructured interviews allow practitioners to give applicants realistic job previews and they provide applicants with the opportunity to ask questions about their “fit” with the employing organization. More objective data collection methods do not afford these opportunities during the assessment process.

To review, employment interviews, especially unstructured employment interviews, have a social dimension that is not found in more objective methods of assessment. This social dimension allows for personal contact and informal two-way communication with applicants during the assessment process (Anderson, 1992). In addition to providing the warmth and support that applicants desire (e.g., Alderfer & McCord, 1970), it is possible that practitioners believe they are helping applicants make better employment decisions by using unstructured interviews (Dipboye, 1997). Because relatedness needs are fulfilled by behaviors that provide personal contact and allow for the display of concern and care for others thoughts and feelings (Baumeister & Leary, 1995; Deci et al., 2001), it is expected that unstructured interviews provide more fulfillment of this need than structured interviews. However, because the data combination function of employee selection does not involve personal contact with applicants, the use of these techniques is not expected to influence the fulfillment of decision makers’ relatedness needs.
Hypothesis 2: Decision makers will perceive the unstructured interview as having more potential to fulfill their relatedness needs than the structured interview.

Autonomy. Autonomy refers to the freedom to behave in accordance with one’s sense of self (Deci & Ryan, 2000; Sheldon et al., 2003). Autonomy needs are fulfilled when people experience choice and have control over their own behavior (deCharms, 1968; Deci, 1975; Deci et al., 2001; Ryan & Deci, 2000). The amount of choice and control that practitioners experience in employee selection depends on their use of data collection and data combination practices. Both objective data collection methods and analytical data combination techniques are designed to limit the influence practitioners have over selection decisions. Unstructured interviews and the use of expert judgment to combine data, on the other hand, give practitioners considerably more discretion over this process (Gatewood & Feild, 2001; Meehl, 1954).

Research suggests that practitioners of employee selection hold idiosyncratic beliefs about job requirements and ideal applicants (Anderson & Shackleton, 1990; Hakel & Schuh, 1971; Rowe, 1984), and that they have confidence in their ability to “read between the lines” to assess applicants’ true character (Bretz, Rynes, & Gerhart 1993; Dipboye & Jackson, 1999; Lievens & De Paepe, 2004). With unstructured interviews, practitioners are free to let their intuition guide the data collection process. For example, practitioners’ idiosyncratic beliefs about employment have been shown to influence their behavior during unstructured interviews (Dougherty, Turban, & Callender, 1994; Phillips & Dipboye, 1989; Judge et al., 2000) as well as their subjective assessments of person-organization fit (Adkins, Russell, & Werbel, 1994; Ferris & Judge, 1991). Structured interviews, on the other hand, use standardized formats and well-defined rating scales to limit the control practitioners have over the data collection process (Dipboye, 1997). For example, highly-structured interviews require practitioners to ask the same
questions in the same order to every applicant, questions are exclusively based on the results of formal job analyses, and anchored rating scales are used to promote consistency in evaluation across applicants and interviewers (Campion, Pursell, & Brown, 1988). Dipboye (1997) suggested that this level of standardization may frustrate practitioners’ need for autonomy, and research has demonstrated that practitioners’ use of unstructured employment interviews is related to their concern for having discretion over the data collection process (Lievens & De Paepe, 2004).

Computerized data combination techniques also offer practitioners less choice and control over the data combination process than does use of expert judgment. For example, Sawyer (1966) suggested that one way to distinguish between analytical and holistic data combination is to ask the question: Is the practitioner involved? If the answer is yes, then the process is not purely analytical. Meehl (1954) similarly suggested that a defining feature of proper analytical data combination is that there is no juggling, inferring, or weighting done by the practitioner. Instead, formulas dictate what information is to be considered about applicants and how that information is to be combined to form overall evaluations. The use of expert judgment to combine data, on the other hand, allows practitioners to choose the information they consider about each applicant and provides them with control over how this information is coalesced to form overall evaluations.

To review, autonomy needs are fulfilled when people experience choice and have control over their own behavior (deCharms, 1968; Deci, 1975). Unstructured interviews allow practitioners to conduct assessments in ways that are aligned with their own idiosyncratic beliefs about job requirements and to base evaluations on their own idiosyncratic beliefs about ideal applicants. Structured interviews, on the other hand, limit the control practitioners have over the
data collection process by using standardized assessment formats and well-defined ratings scales 
(Campion et al, 1988; Dipboye, 1997). Using expert judgment to combine data also provides
practitioners with more control over the decision-making process than computerized data
combination techniques. When expert judgment is used, practitioners choose what information
to consider about each applicant and how this information is combined to form overall
evaluations. Computerized data combination, on the other hand, requires practitioners to
consider the same information about each applicant and combine it in the same way across all
applicants. Based on the amount of choice and control they provide to decision makers,
unstructured interviews and the use of expert judgment to combine data are expected to provide
more fulfillment for decision makers’ autonomy needs than their objective and analytical
counterparts.

*Hypothesis 3a:* Decision makers will perceive the unstructured interview as having more
potential to fulfill their autonomy needs than the structured interview.

*Hypothesis 3b:* Decision makers will perceive expert judgment as having more
potential to fulfill their autonomy needs than computerized data combination.

*Collection x Combination Interaction.* Employee selection involves two primary
functions, data collection and data combination. Within each of these functions, hypotheses have
been made concerning the extent to which decision makers’ basic psychological needs are
fulfilled by various approaches to decision making. Unstructured interviews have been
hypothesized to be more fulfilling of decision makers’ competence, relatedness, and autonomy
needs than structured interviews (i.e., hypotheses: 1a, 2, 3a) and the use of expert judgment to
combine data has been hypothesized to be more fulfilling of decision makers’ competence and
autonomy needs than computerized data combination (i.e., hypotheses: 1b, 3b). However,
because selection systems involve the use of both data collection methods and data combination techniques, the extent to which they fulfill decision makers’ basic psychological needs should depend on the specific combination of decision-making practices that are used. For example, selection systems that use “pure judgment” are expected to provide the most overall fulfillment for decision makers’ basic psychological needs because subjective data collection methods and holistic data combination techniques are hypothesized to provide more need support than other approaches to data collection and data combination. Likewise, selection systems that use the “pure statistical” approach to decision making are expected to provide the least amount of fulfillment for decision makers’ needs because objective data collection methods and analytical data combination techniques are hypothesized to provide less need support than other data collection and data combination practices. Therefore, the extent to which selection systems fulfill decision makers’ basic psychological needs is hypothesized to depend on the combination of data collection methods and data combination techniques that are used to make employment decisions.

**Hypothesis 4:** Decision makers’ perceptions of need fulfillment potential will be affected by the combination of data collection and data combination practices used to make hiring decisions, such that the pure judgment approach will be perceived as having the most need fulfillment potential and the pure statistical approach perceived as having the least need fulfillment potential.

**Need Fulfillment & Use Intentions.** The general causal model presented by self-determination theory (see Figure 1) suggests that people are more likely to volitionally engage in a behavior when they believe that the context surrounding the behavior has the potential to fulfill their competence, relatedness, and autonomy needs. The more people experience support for the
fulfillment of these needs in the contexts that surround behaviors the more likely they are to volitionally perform those behaviors (Deci & Ryan, 2000; Sheldon et al., 2003). Self-determination theory, therefore, posits that the effect a behavior’s context has on a person’s motivation to perform that behavior is mediated by the person’s perceptions of the behavior’s potential to fulfill his or her basic psychological needs (e.g., Standage et al., 2003). Applied to employee selection, the tenets of self-determination theory suggest that people are more likely to use particular decision-making practices when they believe that doing so has the potential to fulfill their competence, relatedness, and autonomy needs. In line with these tenets, decision makers are expected to have greater intentions to use employee selection practices that are perceived as having high, rather than low, potential to fulfill their self-determination theory needs.

Hypothesis 5: Decision makers’ intentions to use a structured interview and computerized data combination in employee selection will be affected by the amount of need fulfillment potential these practices are perceived to provide.

Two randomized experimental studies were conducted to test the hypothesized effects outlined in Figure 2. In the first study, the type of data collection method and the type of data combination technique used to make employee selection decisions were experimentally manipulated to evaluate the effect these practices have on decision makers’ perceptions of fulfillment potential for competence, relatedness, and autonomy needs. In the second study, the type of data collection method (i.e., structured interview) and the type of data combination technique (i.e., computerized data combination) used to make employee selection decisions were held constant. However, by altering the amount of support these practices provide for the fulfillment of users’ basic psychological needs, decision makers’ perceptions of need fulfillment
potential were experimentally manipulated to evaluate the effect these perceptions have on their use intentions. Spencer, Zanna, and Fong (2005) suggest that this type of experimental-causal-chain design is often better suited to test a mediated psychological relationship than the correlational approach proposed by Baron and Kenny (1986) because it utilizes the power of experiments to demonstrate causality. Likewise, Stone-Romero and Rosopa (2010) suggest that experimental research is the most appropriate strategy for testing assumed mediation models because random assignment equates groups probabilistically on all measured and unmeasured variables, it satisfies the temporal precedence required for making inferences about causality, and it provides all of the information needed to test models that posit both direct and indirect effects of independent variables on dependent variables.

STUDY 1

Sample

Amazon’s Mechanical Turk (MTurk) was used to recruit a sample of n = 296 working American men and women from over 30 occupations. Participants received a base-rate compensation of 35 cents for taking part in the study, and were given a bonus payment of 15 cents if they carefully read (i.e., as indicated by appropriately responding to prompts) and completed the entire survey. The sample was primarily female (66%) and Caucasian (75%), with an average age of 32 years and average job tenure of 5 years. Although relatively few participants reported having formal training in human resource management (12%) or employee selection (24%), most participants reported having experience making hiring decisions (72%).

Design and Procedure

Study 1 used a 2 data collection (structured vs. unstructured) x 2 data combination (computer vs. judgment) between-subjects factorial design. Participants were randomly assigned
to 1 of 4 study conditions where they were presented, via an online survey, with a hypothetical hiring scenario and given instructions for how to identify the most qualified applicant for the job. Each scenario used the same introduction:

Imagine yourself in the following situation. You have just received a promotion at work, and the company has asked you to hire someone to fill your old position. They have given you a description of the approach they would like you to use to identify the most appropriate applicant for the job and want to know what you think about this process.

The instructions given to participants for how to identify the most qualified applicant, however, varied according to the conditions of the study, as shown in Table 2.

Participants assigned to the objective data collection condition reviewed a selection system that uses a structured interview to assess applicants. The description of this interview, as shown in the bottom half of Table 2, is consistent with Level 4 of Huffcutt and Arthur’s (1994) taxonomy of interview question standardization. Participants assigned to the subjective data collection condition reviewed a selection system that uses an unstructured interview to assess applicants. The description of this interview, as shown in the top half of Table 2, is consistent with Level 1 of Huffcutt and Arthur’s (1994) taxonomy of interview question standardization. Participants assigned to the analytical data combination condition reviewed a selection system that uses a computer program to combine predictor information into overall applicant evaluations. The description of this technique is shown in the right-hand column of Table 2. Participants assigned to the holistic data combination condition reviewed a selection system that relies on the decision maker to examine predictor information and use his or her own expert judgment to determine overall applicant evaluations. The description of this technique is shown in the left-hand column of Table 2. After participants reviewed the instructions given by the
organization for how to identify the most qualified applicant, they then completed an online survey that assessed their perceptions of need fulfillment potential and their intentions to use the outlined process to make future hiring decisions (see Appendix A for print screen captures of the online survey).

Measures

Unless otherwise indicated, participants responded to all survey items using a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree). Scale reliabilities and correlations are presented in Table 3, and replications of these measures are presented in Appendix B.

Manipulation check. To assess whether or not the approaches to employee selection presented by the conditions of this study were viewed as different in ways that were intended, participants responded to two items at the end of the experimental session: “The interview portion of the hiring process seems very structured,” and “The way in which interview scores are combined to form overall evaluations seems very formal and mechanical.”

Perceived need fulfillment potential. Three scales, one for each basic psychological need outlined by self-determination theory, were created to measure perceptions of need fulfillment potential associated with using a particular approach to employee selection. Each scale consisted of 6 items. An example item from the competence scale is, “Using this approach to hire my replacement would make me feel useful.” An example item from the relatedness scale is, “This approach to hiring would allow me to get to know the applicant personally.” An example item from the autonomy scale is, “Hiring my replacement in this way would give me a sense of control.”

Use intentions. A three-item scale asked participants to indicate the extent to which they agree with statements that describe their intentions to use the presented approach to employee
selection to make future hiring decisions. An example item from this scale is, “I would choose to use this approach to make future hiring decisions.”

**Demographics.** Participants completed a brief demographics measure. This measure collected information about participants’ age, sex, citizenship status, education level, occupation, job title, job tenure, experience making hiring decisions, and whether or not they have received training in human resource management or employee selection. The demographics measure did not use 5-point Likert scales to measure responses.

**Results and Discussion**

*Manipulation Check*

Independent samples t-tests were conducted to examine the effects of the manipulations used in this study. Results indicate that participants viewed the structured interview as more “structured” than the unstructured interview, \( t_{(294)} = 15.17, p < .05, d = 1.72 \), and the computerized data combination technique as more “formal and mechanical” than the use of expert judgment, \( t_{(294)} = 4.84, p < .05, d = .56 \). As intended, these findings suggest that participants considered the structured interview to be a more objective method of assessment than the unstructured interview and the computerized data combination technique to be more of an analytical approach to decision making than the use of expert judgment.

*Factor Analysis*

An exploratory factor analysis was conducted to examine the underlying structure of the measure designed to assess decision makers’ perceptions of need fulfillment potential. This analysis used principle axis factoring with Oblimin rotation. Four criteria were used to determine the appropriate number of factors to retain: eigenvalues, variance, scree plot, and residuals (i.e., differences between observed and reproduced correlations). Although the
measure was designed to assess perceptions of fulfillment potential for three distinct psychological needs, the initial analysis retained only two factors with eigenvalues greater than one. The first factor accounted for 72% of the total variance and included all six items intended to assess perceived potential to fulfill competence needs as well as four items intended to assess perceived potential to fulfill autonomy needs. The second factor accounted for 10% of the total variance and included all six items intended to assess perceived potential to fulfill relatedness needs as well as two items intended to assess perceived potential to fulfill autonomy needs. However, a soft bending “knee” on the scree plot and 21 (13%) non-redundant residuals with absolute values greater than .05 indicated that retaining three factors should be investigated (Mertler & Vannatta, 2005). Therefore, principle axis factoring was conducted to retain three factors with Oblimin rotation. The inclusion of this third factor increased the model fit as it reduced the number of residuals exceeding the .05 criteria to zero. The third factor had an eigenvalue of .74 and accounted for an additional 4% of the total variance. All six items intended to assess perceived potential to fulfill autonomy needs loaded onto Factor 1, all six items intended to assess perceived potential to fulfill relatedness needs loaded onto Factor 2, and all six items intended to assess perceived potential to fulfill competence needs loaded onto Factor 3. These factors were named Autonomy, Relatedness, and Competence respectively.

A series of confirmatory factor analyses was conducted to substantiate the factor structure suggested by the results of the exploratory factor analysis. When developing a survey measure, Hinkin (1998) recommended that an independent sample be used to compute the item variance-covariance matrix for confirmatory factor analysis. Therefore, data from Study 2 (n = 259), which used the measure as a manipulation check, was used to conduct these analyses. A three-factor model with the latent constructs Autonomy, Relatedness, and Competence indicated by
their respective scale items was first tested. Although results suggest this three-factor model was not well supported by sample data ($\chi^2 = 388.31, p < .01, RMSEA = .09, GFI = .86, AIC = 466.31$), subsequent analyses indicate that this model fit the data better than a two-factor model with the latent constructs *Autonomy-Competence* and *Relatedness* indicated by their respective scale items ($\chi^2 = 1555.13, p < .01, RMSEA = .20, GFI = .60, AIC = 1629.13$) or a one-factor model with the latent construct *Psychological needs* indicated by all of the items on the measure, $\chi^2 = 2580.84, p < .01, RMSEA = .26, GFI = .47, AIC = 2652.84$. In an effort to improve the fit of the three-factor model, modification indices and parameter estimates as well as covariance and residual matrices were examined. Because the number of scale items retained at this stage was sufficiently large (i.e., six items per need fulfillment scale) and the unidimensionality of the individual scales had been previously established by the exploratory factor analysis, the decision to remove the three worst performing items from each need fulfillment scale was made.\(^3\) The removal of these items, as shown in Figure 3, resulted in a more parsimonious three-factor model with acceptable data-to-model fit, $\chi^2 = 28.09, p = .26, RMSEA = .03, GFI = .98, AIC = 70.09$.

**Multivariate Analysis of Variance**

A two-way MANOVA was conducted to determine how participants’ perceptions of need fulfillment potential were affected by the data collection methods and data combination techniques used to make employee selection decisions. A MANOVA was performed in lieu of three separate ANOVAs because the competence, relatedness, and autonomy scales of the need fulfillment measure were highly correlated with one another. MANOVA results indicate that both data collection method (Wilks’ $\lambda = .33, F_{(3, 290)} = 194.39, p < .05, \eta^2 = .67$) and data combination technique (Wilks’ $\lambda = .94, F_{(3, 290)} = 5.85, p < .05, \eta^2 = .06$) significantly affected

\(^3\) See Appendix B for information on the items removed from the perceived need fulfillment potential measure.
the combined dependent variable of perceived potential to fulfill self-determination theory needs. The interaction term, however, was not statistically significant. Three univariate ANOVAs were conducted as follow-up tests. Main effect results, as shown in Table 4, indicate that the unstructured interview was perceived as having significantly more potential to fulfill competence ($F_{(1, 292)} = 99.61, p < .05, \eta^2 = .25$), relatedness ($F_{(1, 292)} = 576.54, p < .05, \eta^2 = .66$), and autonomy ($F_{(1, 292)} = 205.08, p < .05, \eta^2 = .41$) needs than the structured interview. These results provide support for Hypotheses 1a, 2, and 3a respectively. Likewise, main effect results indicate that use of expert judgment to combine data was perceived as having significantly more potential to fulfill competence ($F_{(1, 292)} = 4.68, p < .05, \eta^2 = .02$) and autonomy ($F_{(1, 292)} = 12.69, p < .05, \eta^2 = .04$) needs than computerized data combination. These results provide support for Hypotheses 1b and 3b respectively. For each approach to employee selection, mean levels of perceived need fulfillment potential are provided in Figures 4, 5, and 6. Hypothesis 4, which proposed that data collection methods and data combination techniques would interact to affect decision makers’ perceptions of need fulfillment potential, was not empirically supported.

Discussion

Study 1 examined how decision makers’ perceptions of need fulfillment potential were affected by the type of data collection method and type of data combination technique used to make employee selection decisions. Results suggest that decision makers perceived greater fulfillment potential for competence, relatedness, and autonomy needs when unstructured rather than structured interviews were used to gather information about applicants. Likewise, decision makers perceived greater fulfillment potential for competence and autonomy needs when expert judgment rather than computerized data combination was used to determine overall applicant evaluations. These findings support the relationships outlined in the first half of the proposed
mediation model (i.e., IVs → Mediators). Study 2 was conducted to examine the effect perceptions of need fulfillment potential have on decision makers’ intentions to use employee selection practices.

STUDY 2

Study 2 investigated the relationships outlined in the second half of the proposed mediation model. The type of data collection method (i.e., structured interview) and the type of data combination technique (i.e., computerized data combination) used to make hiring decisions were held constant across study conditions. The selection method’s potential to fulfill needs, however, was experimentally manipulated by varying the degree to which human judgment was involved. This methodology allowed us to examine modifications to objective and analytical decision-making practices that may improve their acceptance among practitioners while maintaining a level of standardization that is commensurate with best practices in employee selection (e.g., Kuncel, 2008). The tenets of self-determination theory (e.g., Deci & Ryan, 2000) suggest that people should perceive standardized decision-making practices that rely on comparatively more human judgment as having more potential to fulfill competence and autonomy needs than standardized decision-making practices that rely on comparatively less human judgment.

Sample

Amazon’s Mechanical Turk (MTurk) was used to recruit a sample of n = 259 working American men and women from over 30 occupations. MTurk does not allow its users to complete a task twice. Therefore, in order to prevent people who participated in Study 1 from participating in Study 2, the same task listing that was used to recruit participants for Study 1 was modified and reused to recruit participants for Study 2. Participants received a base-rate
compensation of 35 cents for taking part in the study, and were given a bonus payment of 15 cents if they carefully read (i.e., as indicated by appropriately responding to prompts) and completed the entire survey. Participants were primarily female (61%) and Caucasian (77%), with an average age of 32 years and average job tenure of 5 years. Relatively few participants reported having formal training in human resource management (13%) or employee selection (21%). However, the majority of respondents reported having experience making hiring decisions (70%).

Design and Procedure

This study used a 2 potential for need fulfillment from structured interview (low vs. high) by 2 potential for need fulfillment from attribute weighting (low vs. high) between-subjects factorial design. Participants were randomly assigned to 1 of 4 study conditions where they were presented, via an online survey, with a hypothetical hiring scenario and given instructions for how to identify the most qualified applicant for the job. Each scenario used the same introduction:

Imagine yourself in the following situation. You have just received a promotion at work, and the company has asked you to hire someone to fill your old position. They have given you a description of the approach they would like you to use to identify the most appropriate applicant for the job and want to know what you think about this process.

The instructions given to participants for how to identify the most qualified applicant, however, varied according to the conditions of the study, as shown in Table 5.

Participants assigned to the condition with a low potential for need fulfillment from the structured interview reviewed a selection system that uses the same structured interview to assess applicants as that used in Study 1. As shown in the bottom half of Table 5, this assessment gives
interviewers no control over the attributes evaluated by the interview or the questions asked to applicants. Participants assigned to the condition with a high potential for need fulfillment from the structured interview reviewed a selection system that uses the same standardized interview format but, as shown in the top half of Table 5, allows interviewers to determine which attributes are evaluated by the interview and what questions are asked to applicants. Participants assigned to the condition with a low potential for need fulfillment from attribute weighting reviewed a selection system that uses a computer program to combine predictor information. As shown in the right-hand column of Table 5, interviewers in this condition have no control over how attributes are weighted during the calculation of overall applicant evaluations. Participants assigned to the condition with a high potential for need fulfillment provided from attribute weighting also reviewed a selection system that uses a computer program to combine prediction information. However, as shown in the left-hand column of Table 5, interviewers in this condition could determine how attributes are weighted during the calculation of overall applicant evaluations. After participants reviewed the instructions given by the organization for how to identify the most qualified applicant, they then completed an online survey that measured their perceptions of the selection systems’ potential to fulfill self-determination theory needs (manipulation check) and their intentions to use the outlined process to make future hiring decisions (see Appendix C for print screen captures of the online survey).

Measures

Unless otherwise indicated, participants responded to all survey items using a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree). Scale reliabilities and correlations are presented in Table 6.
Manipulation check. The measure used to assess perceptions of need fulfillment potential in Study 1 was used as a manipulation check in Study 2. When using a randomized experimental design to test for mediation, Stone-Romero and Rosopa (2010) suggested it is important to demonstrate that the mediators measured in Study 1 are equivalent to the mediators manipulated in Study 2 for construct validity purposes.

Use intentions. The same scale used to measure participants’ use intentions in Study 1 was also used to evaluate participants’ use intentions in this study.

Demographics. Participants completed the same demographics measure as that used in Study 1.

Results and Discussion

Manipulation Check

Independent samples t-tests were first conducted to examine the effects manipulation of the independent variables had on participants’ perceptions of need fulfillment potential for competence and autonomy needs. Results suggest that participants perceived greater fulfillment potential for competence \( (t\(_{257}\) = 1.96, \( p = .05, d = .24) \) and autonomy \( (t\(_{257}\) = 1.99, \( p < .05, d = .25) \) needs when they, rather than the organization, chose the attributes assessed by the interview and the questions asked to applicants. Likewise, participants perceived greater fulfillment potential for competence \( (t\(_{257}\) = 2.12, \( p < .05, d = .27) \) and autonomy \( (t\(_{257}\) = 3.16, \( p < .05, d = .40) \) needs when their own personal views, rather than the views of the organization, were used to combine interview scores into overall applicant evaluations. Consequently, the data collection and data combination conditions that required comparatively more human judgment were perceived as having significantly more potential to fulfill competence and autonomy needs than the study conditions involving comparatively less human judgment.
Analysis of Variance

A univariate ANOVA was conducted to examine how decision makers’ intentions to use employee selection practices were affected by manipulation of the perceived need fulfillment potential provided by these practices. As shown in Table 7, neither the amount of perceived need fulfillment potential provided by the structured interview ($F_{(1, 258)} = .02, p = .90$) nor the amount of perceived need fulfillment potential provided by the computerized data combination technique ($F_{(1, 258)} = 2.96, p = .09$) had a statistically significant effect on participants’ intentions to use the practices in employee selection. Consequently, the results of this analysis do not support Hypothesis 5, which proposed that decision makers’ intentions to use a structured interview and computerized data combination in employee selection would be affected by the amount of need fulfillment potential the practices were perceived to provide.

Additional Analyses

The results of Study 2 do not support the relationships outlined in the second half of the proposed mediation model (perceived need fulfillment $\rightarrow$ use intentions). However, a review of descriptive statistics suggests that neither manipulation of the data collection method nor manipulation of the data combination technique resulted in mean levels of perceived need fulfillment potential that surpassed the midpoint of the response scale (i.e., 3; see Figures 7 and 8). Consequently, weak manipulations may have been responsible for the null finding.

To investigate whether individual differences in perceived need fulfillment potential influenced decision makers’ intentions to use employee selection practices, decision makers’ use intentions were simultaneously regressed onto their perceptions of need fulfillment potential for competence, relatedness, and autonomy needs. Results suggest that decision makers’ perceptions of need fulfillment potential for all three self-determination theory needs were
positively related to their intentions to use employee selection practices to make hiring decisions (see analysis 4, step 2 of Table 8). Because the scales of the perceived need fulfillment measure were highly correlated with one another, dominance analyses were conducted to evaluate the relative contribution each perception of need fulfillment potential had on the total predictable variance in decision makers’ use intentions (see Tables 8, 9, 10). This procedure compares the relative importance of predictors in multiple regression by examining the $R^2$ values for all possible subset models (Azen & Budescu, 2003; Tonidandel & LeBreton, 2010). Results suggest that perceived potential to fulfill competence needs accounted for 14% of the variance in decision makers’ use intentions, perceived potential to fulfill relatedness needs accounted for 17% of the variance in decision makers’ use intentions, and perceived potential to fulfill autonomy needs accounted for 20% of the variance in decision makers’ use intentions. These findings suggest that (a) people differ in the extent to which they perceive the same selection practice as need fulfilling, and (b) these individual differences predict substantial variance in use intentions.

GENERAL DISCUSSION

The data collection methods and data combination techniques used in employee selection are classified according to the amount of human judgment they involve (e.g., Gatewood & Feild, 2001). Subjective data collection methods primarily rely on human judgment to gather information about applicants, whereas objective data collection methods are designed to limit the influence human judgment has on the assessment process. Holistic data combination techniques primarily rely on human judgment to coalesce information about applicants into overall applicant evaluations, whereas analytical data combination techniques remove human judgment from the evaluation process. Although research strongly supports the use of objective data collection
methods (Conway et al., 1995; Schmidt & Hunter, 1998) and analytical data combination techniques (Highhouse & Kostek, 2010; Wollowick & McNamara, 1969) for the purpose of employee selection, these practices remain underutilized by practitioners (Ryan et al., 1999; Ryan & Sackett, 1987; Terpstra & Rozell, 1997).

Working from the tenets of self-determination theory (e.g., Deci & Ryan, 2000), it was hypothesized that employee selection practices affect practitioners’ perceptions of need fulfillment potential, and that practitioners’ perceptions of need fulfillment potential affect their intentions to use employee selection practices to make hiring decisions. The proposed mediation model was tested using a two-study randomized experimental design. Study 1 tested the hypothesis that employee selection practices affect practitioners’ perceptions of need fulfillment potential. Results suggest that decision makers perceived the unstructured interview as having significantly more potential to fulfill their competence, relatedness, and autonomy needs than the structured interview, and expert judgment as having significantly more potential to fulfill their competence and autonomy needs than computerized data combination. These results provide support for the relationships outlined in the first half of the proposed mediation model. Study 2 tested the hypothesis that practitioners’ perceptions of need fulfillment potential affect their intentions to use employee selection practices to make hiring decisions. While decision makers perceived the structured interview and computerized data combination technique presented in the high need-fulfillment conditions as having significantly more potential to fulfill their competence and autonomy needs than the structured interview and computerized data combination technique presented in the low need-fulfillment conditions, manipulation of need fulfillment potential did not significantly affect decision makers’ intentions to use the practices to make hiring decisions.
Consequently, the results of Study 2 did not support the relationships outlined in the second half of the proposed mediation model.

Although manipulation of the need fulfillment potential provided by employee selection practices in Study 2 did not significantly affect decision makers’ intentions to use the practices to make hiring decisions, follow-up analyses suggest that decision makers’ use intentions were meaningfully related to their perceptions of fulfillment potential for all three self-determination theory needs. Positive relationships were found between decision makers’ perceptions of fulfillment potential for competence, relatedness, and autonomy needs and their intentions to use the employee selection practices to make hiring decisions, and dominance analyses suggest that perceptions of need fulfillment potential for each self-determination theory need accounted for a substantial portion of the observed variance in use intentions. These results provide partial support for the relationships outlined in the second half of the proposed mediation model and suggest that people differ in the extent to which they perceive the same employee selection practice as potentially need fulfilling.

Demographic characteristics were examined in an effort to better understand why participants differed in the extent to which they perceived the same employee selection practices as potentially need fulfilling. Results suggest that participants’ perceptions of fulfillment potential were not significantly related to their age, level of education, job tenure, or experience making hiring decisions for any self-determination theory need. Likewise, perceptions of need fulfillment potential did not significantly vary by sex, race, whether or not participants received formal HR training, training in employee selection, or were required to make hiring decisions as part of their job. Although participants’ perceptions of need fulfillment potential were not significantly influenced by any of the demographic characteristics measured in Study 2, it is
possible that other individual differences that were not measured in the study influenced these perceptions. For example, self-determination theory suggests that people differ with regard to their general causality orientations. People who are autonomy oriented generally tend to experience social contexts as autonomy supportive, whereas people who are control oriented tend to experience social contexts as controlling (Deci & Ryan, 1985; Gagne & Deci, 2005). It is possible that participants with an autonomy orientation perceived the standardized employee selection practices as having more potential to fulfill their autonomy needs than participants with a controlled orientation. Also, empirical personality theorists like McClelland (1965) proposed that needs vary in strength as a function of learning. It is possible that differences in need strength influenced participants’ perceptions of need fulfillment potential. For example, McClelland’s (1985) need for affiliation refers to a person’s desire to associate with other people in a social context and to provide them with guidance and support. It is possible that participants with high need for affiliation perceived the standardized employee selection practices as having less potential to fulfill their relatedness needs than participants with low need for affiliation.

Identifying individual differences that affect decision makers’ perceptions of the need fulfillment potential would contribute to our understanding of the factors that underlie practitioners’ resistance to objective data collection methods and analytical data combination techniques in employee selection, and would provide insight into the type of person who may be most appropriate for making employee selection decisions.

A methodological explanation for why manipulation of the need fulfillment potential provided by employee selection practices in Study 2 did not affect decision makers’ intentions to use the practices to make hiring decisions is the modest magnitude of the effects these manipulations had on decision makers’ perceptions of need fulfillment potential. While
Manipulations had statistically significant effects on decision makers’ perceptions of fulfillment potential for competence and autonomy needs, descriptive statistics indicate that these perceptions never surpassed the midpoint of the response scale in any study condition. Likewise, perceptions of fulfillment potential for relatedness needs also never surpassed the midpoint of the response scale in any study condition (see Figure 9); a finding that is not surprising given the use of a standardized data collection method and manipulations that focused exclusively on creating variance in perceptions of fulfillment potential for competence and autonomy needs. Consequently, decision makers did not “agree” that any of the approaches to employee selection presented in Study 2 had the potential to fulfill any of their self-determination theory needs. Therefore, consistently low levels of perceived need fulfillment potential across study conditions is a likely explanation for the null finding in Study 2.

The tenets of Fishbein and Ajzen’s (1975) expectancy-value model of attitude formation and Ajzen’s (1991) theory of planned behavior provide a theoretical explanation for why need fulfillment potential did not significantly affect decision makers’ use intentions in Study 2. Together, these theories suggest that people’s perceptions have an indirect influence on their behavioral intentions. The expectancy-value model of attitude formation suggests that perceptions inform attitudes, and the theory of planned behavior suggests that attitudes, subjective norms (i.e., social pressures to either perform or not perform behaviors), and beliefs about behavioral control (i.e., the ease or difficulty of performing a behavior) all influence behavioral intentions. Consequently, decision makers’ intentions to use employee selection practices may have been influenced by a variety of factors other than perceptions of need fulfillment potential. For example, the hypothetical hiring scenario used in both Studies 1 and 2 placed participants in a situation where they had just been promoted and their company has
asked them to hire their replacement using a specific approach to employee selection. It is possible that participants’ intentions to use the practices presented in Study 2 to make future hiring decisions were affected by factors like their beliefs about valued others’ (e.g., union stewards’) opinions of these practices (i.e., subjective norms) and/or perceived difficulties associated with implementing a new approach to employee selection (i.e., organizational innovation; Johns, 1993).

Limitations and Future Directions

An important first step toward understanding practitioners’ resistance to using objective data collection methods and analytical data combination techniques is studying their broadly held beliefs about decision making in employee selection (Highhouse, 2008). The approaches to data collection and data combination used in Studies 1 and 2 represent only a few of the many practices employers can use to make hiring decisions. Likewise, perceptions of need fulfillment potential represent only one set of beliefs that may possibly influence practitioners’ acceptance of employee selection practices. In order to provide a more well rounded understanding of practitioners’ beliefs about decision making in employee selection, future research should include additional decision-making practices and investigate beliefs beyond perceptions of need fulfillment potential that may influence practitioners’ resistance to valid employee selection practices.

Kuncel (2008) suggested that the reasons underlying practitioners’ resistance to objective data collection methods may differ from the reasons underlying their resistance to analytical data combination techniques. For example, practitioners’ resistance to objective data collection methods may be influenced by their preference to base judgments on narrative stories rather than quantifiable data, while their resistance to analytical data combination techniques is influenced
by their faith in expert intuition. Together, the results of Studies 1 and 2 provide some support for this assertion. The results of Study 2 suggest that perceptions of fulfillment potential for all three self-determination theory needs significantly influence decision makers’ intentions to use employee selection practices. However, the results of Study 1 suggest that only the type of data collection method used to assess applicants and not the type of data combination technique used to create overall applicant evaluations affect decision makers’ perceptions of fulfillment potential for relatedness needs. Consequently, perceived fulfillment for relatedness needs appears to be a factor underlying practitioners’ resistance to objective data collection methods and not a factor underlying their resistance to analytical data combination techniques. Future research should continue to look for similarities and differences in the factors that underlie practitioners’ preferences for data collection methods and data combination techniques.

Consistently low levels of perceived need fulfillment potential across study conditions was offered as a methodological explanation for why need fulfillment potential did not significantly affect decision makers’ use intentions in Study 2. Neither manipulation of the data collection method nor manipulation of the data combination technique resulted in mean levels of perceived need fulfillment potential that surpassed the midpoint of the response scale. Consequently, participants did not “agree” that any of the approaches to employee selection presented in Study 2 had the potential to fulfill their competence, relatedness, and autonomy needs. Failure to create significant variance in decision makers’ perceptions of need fulfillment potential across Study 2 conditions may be attributable to several characteristics of the manipulations used. For instance, the amount of human judgment involved with a single standardized data collection method (structured interview) and a single standardized data combination technique (computer program) was manipulated rather than manipulating the type
of data collection method (objective or subjective) and type of data combination technique (analytical or holistic) used to make selection decisions. The results of Study 1 suggest that manipulating the type of data collection method and type of data combination technique used to make employee selection decisions can create significant variance in decision makers’ perceptions of fulfillment potential for all three self-determination theory needs. If this methodology was used in Study 2, significant differences in decision makers’ use intentions may have been observed; however, no information would have been provided about modifications to standardized decision-making practices that may increase their appeal to practitioners without compromising their psychometric properties. Future research should continue to pursue both of these objectives: (a) to examine the effect various approaches to employee selection have on decision makers’ use intentions, and (b) to investigate ways in which objective and analytical practices may be modified to improve their acceptance among practitioners without significantly compromising their psychometric properties.

A second characteristic of the manipulations used in Study 2 that may have attenuated their effect on decision makers’ perceptions of need fulfillment potential is the medium through which they were experienced. Participants read written descriptions of the employee selection practices and based their perceptions on these descriptions. Having participants physically perform the behaviors associated with the data collection and data combination practices may have resulted in greater perceived differences than were elicited from the written descriptions. For example, participants in the high need-fulfillment potential data collection condition may have felt like they had more control over the assessment process if they actually chose which attributes to evaluate with the interview and physically wrote the interview questions that addressed those attributes rather than simply reading a description of this process. Future
research should consider using alternative methodologies, especially those that enhance participant involvement in the decision-making process.

The idea that perceptions are distal predictors of intentions was offered as a theoretical explanation for why decision makers’ perceptions of need fulfillment potential did not significantly affect their use intentions in Study 2. Together, the expectancy-value model of attitude formation (Fishbein & Ajzen, 1975) and theory of planned behavior (Ajzen, 1991) suggest that perceptions affect intentions through attitude formation, and that attitudes are only one of three predictors of behavioral intentions. In addition to perceptions and attitudes, future research should also examine the influence subjective norms and beliefs about behavioral control have on practitioners’ intentions to use data collection methods and data combination techniques in employee selection. For example, it is possible that practitioners resist using objective and analytical employee selection practices because they believe that relying on these practices reduces the amount of credit they receive from coworkers for making successful hiring decisions (i.e., a subjective norm). This explanation is consistent with the psychosocial factor Meehl (1986) termed “fear of technological unemployment.” Or, perhaps practitioners’ resistance to objective and analytical employee selection practices is influenced by their beliefs about the difficulties associated with using these practices in their own unique organizational settings. Objective data collection methods and analytical data combination techniques, for example, bring transparency to the random error involved with predicting human behavior. This error is considerably less transparent when subjective and holistic practices are used (Einhorn, 1986). It is possible that practitioners are reluctant to use objective and analytical decision-making practices in employee selection because they know it would be difficult to convince employers that random error is inevitable in the prediction of applicants’ future job performance.
Conclusions

The factors underlying practitioners’ reluctance to use objective data collection methods and analytical data combination techniques in employee selection were investigated. Decision makers perceived greater potential fulfillment of their competence, relatedness, and autonomy needs when an unstructured rather than structured interview was used to assess applicants, and greater potential fulfillment of their competence and autonomy needs when expert judgment rather than computerized data combination was used to create overall applicant evaluations. Decision makers’ intentions to use employee selection practices were influenced by perceived fulfillment potential for all three self-determination theory needs. Kuncel (2008) suggested that, “we need to… create selection systems that preserve a strong element of human judgment while addressing limitations in human information processing” in order to facilitate practitioners’ use of objective and analytical employee selection practices (p. 343). Increasing the amount of human judgment involved with both a structured interview and computerized data combination had positive effects on decision makers’ perceptions of need fulfillment potential. Future research should continue to investigate the factors that underlie practitioners’ resistance to objective and analytical decision-making practices in hopes of identifying ways to promote their use in hiring.
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Table 1.

Methods for Collecting and Combining Predictor Data in Employee Selection

<table>
<thead>
<tr>
<th>Mode of Data Combination</th>
<th>Holistic</th>
<th>Analytical</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Subjective</td>
<td>Pure Judgment</td>
</tr>
<tr>
<td></td>
<td>Objective</td>
<td>Profile Interpretation</td>
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<tr>
<td></td>
<td>Combination</td>
<td>Judgmental Composite</td>
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Table 2.
Decision Strategy Manipulations Used in Study 1

<table>
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<tr>
<th>Mode of Data Combination</th>
<th>Expert Judgment</th>
<th>Computer Program</th>
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</thead>
<tbody>
<tr>
<td>Unstructured Interview</td>
<td>First, you will conduct an employment interview with each applicant. The format of this interview is not at all standardized. You decide which interview questions are asked to applicants. You may ask different interview questions to different applicants. You may ask applicants as many follow-up interview questions as you like. During the interview, you are free to engage in as much or as little &quot;small talk&quot; as you want with applicants, and you may answer any questions that applicants may wish to ask. When you finish interviewing an</td>
<td>First, you will conduct an employment interview with each applicant. The format of this interview is not at all standardized. You decide which interview questions are asked to applicants. You may ask different interview questions to different applicants. You may ask applicants as many follow-up interview questions as you like. During the interview, you are free to engage in as much or as little &quot;small talk&quot; as you want with applicants, and you may answer any questions that applicants may wish to ask. When you finish interviewing an</td>
</tr>
<tr>
<td>Computer Program</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
applicant, you will enter your interview scores into a computer spreadsheet. You will review these scores and use your own personal intuition to determine who is the most qualified applicant for the job.

First, you will conduct an employment interview with each applicant. The format of this interview is very standardized. You will not decide which interview questions are asked to applicants. You will be required to ask the same interview questions in the same order to each applicant. You may not ask applicants any follow-up interview questions. During the interview, you may not engage in any "small talk" with applicants, and you may not
answer any questions that applicants may wish to ask. When you finish interviewing an applicant, you will enter your interview scores into a computer spreadsheet. You will review these scores and use your own personal intuition to determine who is the most qualified applicant for the job.
Table 3.

Correlations Between the Primary Variables Involved in Study 1

<table>
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<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
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</thead>
<tbody>
<tr>
<td>1. Use Intentions</td>
<td>(.94)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Perceived Fulfillment Potential for Competence Needs</td>
<td>.75*</td>
<td>(.94)</td>
<td></td>
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<tr>
<td>3. Perceived Fulfillment Potential for Relatedness Needs</td>
<td>.69*</td>
<td>.67*</td>
<td>(.95)</td>
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<tr>
<td>4. Perceived Fulfillment Potential for Autonomy Needs</td>
<td>.73*</td>
<td>.79*</td>
<td>.79*</td>
<td>(.95)</td>
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*Note. Coefficient alphas are on the diagonals. * $p < .05$
Table 4.
Summary Table for Tests of Between-Subjects Effects in Study 1

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<tr>
<th>Source</th>
<th>Dependent Variable</th>
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<th>p</th>
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<td>.11</td>
<td>.16</td>
<td>.69</td>
<td>.00</td>
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<td>292</td>
<td>1.20</td>
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<td>.72</td>
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<td>292</td>
<td>1.16</td>
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<td></td>
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<tr>
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<td>296</td>
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</table>
Table 5.

Decision Strategy Manipulations Used in Study 2

<table>
<thead>
<tr>
<th>Need Fulfillment Potential for Attribute Weighting</th>
<th>Low</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>First, you will conduct an employment interview with each applicant. The organization has already designed this interview. They have chosen which characteristics the interview will assess and what questions will be asked to applicants. During the interview, you will be required to ask the same questions in the same order to each applicant, with no additional or follow-up questions allowed. Likewise, you may not engage in any “small talk” with applicants during the interview or answer any questions that applicants may wish to ask. After each interview, you will enter the applicant’s interview scores into a computer program.</td>
<td>First, you will conduct an employment interview with each applicant. The organization has already designed this interview. They have chosen which characteristics the interview will assess and what questions will be asked to applicants. During the interview, you will be required to ask the same questions in the same order to each applicant, with no additional or follow-up questions allowed. Likewise, you may not engage in any “small talk” with applicants during the interview or answer any questions that applicants may wish to ask. After each interview, you will enter the applicant’s interview scores into a computer program.</td>
</tr>
</tbody>
</table>
This program will mathematically combine the scores based on the organization’s view of which characteristics are the most important to consider. The characteristics that the organization believes are the most important to consider will have the greatest influence on applicants’ overall scores. The applicant who receives the highest overall score will be identified as the person who is the most qualified for the job.

This program will mathematically combine the scores based on your own personal view of which characteristics are the most important to consider. The characteristics that you believe are the most important to consider will have the greatest influence on applicants’ overall scores. The applicant who receives the highest overall score will be identified as the person who is the most qualified for the job.

First, you will conduct an employment interview with each applicant. The organization has entrusted you to design this interview. You will determine which characteristics are assessed by the interview and what questions are asked to applicants. During the interview, you will be required to ask the same questions in the same order to each applicant, with no
additional or follow-up questions allowed. Likewise, you may not engage in any “small talk” with applicants during the interview or answer any questions that applicants may wish to ask. After each interview, you will enter the applicant’s interview scores into a computer program. This program will mathematically combine the scores based on the organization’s view of which characteristics are the most important to consider. The characteristics that the organization believes are the most important to consider will have the greatest influence on applicants’ overall scores. The applicant who receives the highest overall score will be identified as the person who is the most qualified for the job.
Table 6.

Correlations Between the Primary Variables Involved in Study 2

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Use Intentions</td>
<td></td>
<td></td>
<td></td>
<td>(.91)</td>
</tr>
<tr>
<td>2. Perceived Fulfillment Potential for Competence Needs</td>
<td>.64*</td>
<td></td>
<td>(.96)</td>
<td></td>
</tr>
<tr>
<td>3. Perceived Fulfillment Potential for Relatedness Needs</td>
<td>.68*</td>
<td>.59*</td>
<td>(.91)</td>
<td></td>
</tr>
<tr>
<td>4. Perceived Fulfillment Potential for Autonomy Needs</td>
<td>.66*</td>
<td>.76*</td>
<td>.63*</td>
<td>(.92)</td>
</tr>
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</table>

Note. Coefficient alphas are on the diagonals. * p < .05
Table 7.

Summary Table for Two-way ANOVA in Study 2: Use Intentions

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<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
<th>d</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Between Subjects</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Data Collection</td>
<td>.01</td>
<td>1</td>
<td>.01</td>
<td>.02</td>
<td>.90</td>
<td>.03</td>
</tr>
<tr>
<td>Data Combination</td>
<td>2.49</td>
<td>1</td>
<td>2.49</td>
<td>2.96</td>
<td>.09</td>
<td>.22</td>
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<tr>
<td>Data Collection x Data Combination</td>
<td>2.84</td>
<td>1</td>
<td>2.84</td>
<td>3.37</td>
<td>.07</td>
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<tr>
<td><strong>Within Subjects</strong></td>
<td>214.50</td>
<td>255</td>
<td>.84</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>985.78</td>
<td>259</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
Table 8.

Dominance Analysis: The Influence of Perceived Fulfillment Potential for Competence Needs on Use Intentions

<table>
<thead>
<tr>
<th>Analysis</th>
<th>Step</th>
<th>Predictor</th>
<th>$\beta$</th>
<th>$F$</th>
<th>$R^2$</th>
<th>$\Delta R^2$</th>
<th>Mean $\Delta R^2$</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>Competence</td>
<td>.63*</td>
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<td></td>
</tr>
<tr>
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<td>Autonomy</td>
<td>.71*</td>
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<td>.50</td>
<td></td>
<td></td>
</tr>
<tr>
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<td>2</td>
<td>Autonomy</td>
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<td>.53</td>
<td>.03</td>
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</tr>
<tr>
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<td></td>
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<td>.56</td>
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<tr>
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<td></td>
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<td></td>
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<td>Relatedness</td>
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<td>.59</td>
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<td></td>
<td></td>
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<td>.35*</td>
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<td></td>
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</tr>
<tr>
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<td>Competence</td>
<td>.21*</td>
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</tr>
</tbody>
</table>

Note. * $p < .05$
Table 9.
Dominance Analysis: The Influence of Perceived Fulfillment Potential for Relatedness Needs on Use Intentions

<table>
<thead>
<tr>
<th>Analysis</th>
<th>Step</th>
<th>Predictor</th>
<th>$\beta$</th>
<th>$F$</th>
<th>$R^2$</th>
<th>$\Delta R^2$</th>
<th>Mean $\Delta R^2$</th>
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<tbody>
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<td>1</td>
<td>Relatedness</td>
<td>.66*</td>
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<td>.44</td>
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<td>171.53</td>
<td>.40</td>
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</tr>
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</tr>
</tbody>
</table>

*Note.* *p* < .05
Table 10.

Dominance Analysis: The Influence of Perceived Fulfillment Potential for Autonomy Needs on Use Intentions

<table>
<thead>
<tr>
<th>Analysis</th>
<th>Step</th>
<th>Predictor</th>
<th>$\beta$</th>
<th>$F$</th>
<th>$R^2$</th>
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<td>1</td>
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<td>.50</td>
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<tr>
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<td>171.53</td>
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<td>145.70</td>
<td>.53</td>
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<td>Autonomy</td>
<td>.48*</td>
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<td>4</td>
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<td>150.01</td>
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<td>119.62</td>
<td>.59</td>
<td>.05</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>Autonomy</td>
<td>.35*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note. * $p < .05$
Figure 1. The general causal model proposed by self-determination theory
Figure 2. Self-determination theory’s general causal model applied to employee selection
\[ \chi^2 = 28.09, \quad p = .26, \quad \text{RMSEA} = .03, \quad \text{GFI} = .98, \quad \text{AIC} = 70.09 \]

Figure 3. CFA results with standardized estimates for the perceived need fulfillment potential measure.
Figure 4. Mean Scores for Perceived Potential to Fulfill Competence Needs in Study 1 Conditions
Figure 5. Mean Scores for Perceived Potential to Fulfill Relatedness Needs in Study 1 Conditions
Figure 6. Mean Scores for Perceived Potential to Fulfill Autonomy Needs in Study 1 Conditions
Figure 7. Mean Scores for Perceived Potential to Fulfill Competence Needs in Study 2 Conditions
Figure 8. Mean Scores for Perceived Potential to Fulfill Autonomy Needs in Study 2 Conditions
Figure 9. Mean Scores for Perceived Potential to Fulfill Relatedness Needs in Study 2 Conditions
APPENDIX A: PRINT SCREEN CAPTURES OF ONLINE SURVEY FOR STUDY 1

Hiring Scenario

Imagine yourself in the following situation:

You have just received a promotion at work, and the company has asked you to hire someone to fill your old position.

They have given you a description of the approach they would like you to use to identify the most appropriate applicant for the job and want to know what you think about this process.

Please read the description carefully and complete the survey that follows.

Structured Interview

First, you will conduct an employment interview with each applicant. The format of this interview is very standardized.

You will be required to ask the same interview questions in the same order to each applicant.

You may not ask applicants any follow-up interview questions.

During the interview, you may not engage in any “small talk” with applicants, and you may not answer any questions that applicants may wish to ask.
Unstructured Interview

Employee Selection Survey

First, you will conduct an employment interview with each applicant. The format of this interview is not at all standardized.

You decide which interview questions are asked to applicants.
You may ask different interview questions to different applicants.
You may ask applicants as many follow-up interview questions as you like.

During the interview, you are free to engage in as much or as little “small talk” as you want with applicants, and you may answer any questions that applicants may wish to ask.

Next

30%

Computerized Data Combination

Employee Selection Survey

When you finish interviewing an applicant, you will enter your interview scores into a computer program.

This program will use a mathematical formula to calculate an overall rating for that person.

The person who receives the highest overall rating will be identified as the applicant who is the most qualified for the job.

Next

40%
Holistic Data Combination

Employee Selection Survey

When you finish interviewing an applicant, you will enter your interview scores into a computer spreadsheet.

You will review these scores and use your own personal intuition to determine who is the most qualified applicant for the job.
Perceived Need Fulfillment Potential Measure

### Employee Selection Survey

Please indicate the extent to which you agree with the following statements.

1. Using this approach to hire my replacement would make me feel...

<table>
<thead>
<tr>
<th></th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>effective</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td>capable</td>
<td></td>
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<td></td>
<td></td>
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<td>useful</td>
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<td></td>
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<td>skilled</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>competent</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>accomplished</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. This approach to hiring would allow me to...

<table>
<thead>
<tr>
<th></th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>connect with the applicant</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>relate with the applicant</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>be friendly with the applicant</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>interact with the applicant</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>socialize with the applicant</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>get to know the applicant personally</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. Hiring my replacement in this way would give me a sense of...

<table>
<thead>
<tr>
<th></th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
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<tbody>
<tr>
<td>control</td>
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<td>influence</td>
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<td></td>
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<td>self-sufficiency</td>
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<tr>
<td>freedom</td>
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</table>
Manipulation Check

### Employee Selection Survey

5. Please indicate the extent to which you agree with the following statements.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>The interview portion of the hiring process seems very structured.</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
</tr>
<tr>
<td>To demonstrate that you are reading carefully, please report Neutral for this item.</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
</tr>
<tr>
<td>The way in which interview scores are combined to form overall evaluations seems very technical and mechanical.</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
</tr>
</tbody>
</table>
Demographics Measure

Employee Selection Survey

Please provide us with the following information about yourself.

6. I am a...
   - Male
   - Female

7. I am...
   - Please Select

8. Are you a U.S. Citizen?
   - Yes
   - No

9. How old are you (in years)?

10. Which of the following most accurately describes your occupation?
    - Please Select

11. Which of the following most accurately describes your job title?
    - Please Select

12. How long have you been in your current job (in years)?

13. How much experience do you have making hiring decisions?
    - Please Select

14. Which of the following best describes your level of education?
    - Please Select

15. Do you have any formal training in Human Resource Management?
    - Yes
    - No

16. Do you have any formal training in employee selection (i.e., hiring)?
    - Yes
    - No

17. Does your current job require you to make employee selection (i.e., hiring) decisions?
    - Yes
    - No

Submit
Last Page of Survey

<table>
<thead>
<tr>
<th>Employee Selection Survey</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thank you for taking our survey. Your response is very important to us.</td>
</tr>
<tr>
<td>To facilitate the approval of this HIT, please report the following in Mechanical Turk…</td>
</tr>
<tr>
<td>&quot;Dist&quot;</td>
</tr>
</tbody>
</table>

100%
## APPENDIX B: MEASURES

### Use Intentions

**Instructions:**
Please indicate the extent to which you agree with the following statements.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>If I were in charge, I would use this approach to make hiring decisions.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>If I could use a different approach to make hiring decisions, I would (R).</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I would choose to use this approach to make future hiring decisions.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
**Perceived Need Fulfillment Potential**

**Instructions:**
Please indicate the extent to which you agree with the following statements.

<table>
<thead>
<tr>
<th>Using this approach to hire my replacement would make me feel…</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>effective *</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>capable *</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>useful *</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>skillful</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>competent</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>accomplished</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| This approach to hiring would allow me to…                               | 1 2 3 4 5         |          |         |       |               |
| connect with the applicant                                               |                   |          |         |       |               |
| relate with the applicant                                                |                   |          |         |       |               |
| be friendly with the applicant *                                         | 1 2 3 4 5         |          |         |       |               |
| interact with the applicant *                                           | 1 2 3 4 5         |          |         |       |               |
| socialize with the applicant                                            | 1 2 3 4 5         |          |         |       |               |
| get to know the applicant personally *                                  | 1 2 3 4 5         |          |         |       |               |

| Hiring my replacement in this way would give me a sense of…             | 1 2 3 4 5         |          |         |       |               |
| control *                                                                |                   |          |         |       |               |
| choice                                                                   |                   |          |         |       |               |
| free will                                                                |                   |          |         |       |               |
| Influence *                                                              |                   |          |         |       |               |
| self-sufficiency *                                                       |                   |          |         |       |               |
| freedom                                                                  |                   |          |         |       |               |

*Note. * Item removed from the scale based on the results of a confirmatory factor analysis
### Demographics

**Instructions**

Please provide us with the following information about yourself

<table>
<thead>
<tr>
<th>Item</th>
<th>Response Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am a…</td>
<td>Male&lt;br&gt;Female</td>
</tr>
<tr>
<td>I am…</td>
<td>Asian/Pacific Islander&lt;br&gt;Black/African-American&lt;br&gt;Caucasian&lt;br&gt;Hispanic&lt;br&gt;Native American/Alaska Native&lt;br&gt;Other/Multi-racial&lt;br&gt;Decline to respond</td>
</tr>
<tr>
<td>Are you a U.S. citizen?</td>
<td>Yes&lt;br&gt;No</td>
</tr>
<tr>
<td>How old are you (in years)?</td>
<td>Open response</td>
</tr>
<tr>
<td>Which of the following most accurately describes your occupation?</td>
<td>Accounting or financial&lt;br&gt;Administration support&lt;br&gt;Agriculture/forestry/fishing&lt;br&gt;Architecture&lt;br&gt;Art/entertainment&lt;br&gt;Banking&lt;br&gt;Biotechnology/pharmaceutical&lt;br&gt;Construction/mining/trades&lt;br&gt;Consulting&lt;br&gt;Costumer service&lt;br&gt;Education/training&lt;br&gt;Engineering/design&lt;br&gt;Employment placement&lt;br&gt;Government/policy&lt;br&gt;Health/safety&lt;br&gt;Hospitality/tourism&lt;br&gt;Installation/maintenance/repair&lt;br&gt;Insurance&lt;br&gt;Law enforcement/security&lt;br&gt;Legal&lt;br&gt;Library&lt;br&gt;Managerial&lt;br&gt;Marketing/merchandising&lt;br&gt;Military&lt;br&gt;Non-profit/social services&lt;br&gt;Personnel/human resources&lt;br&gt;Production&lt;br&gt;Research&lt;br&gt;Restaurant/food services&lt;br&gt;Retail/wholesale</td>
</tr>
<tr>
<td>Question</td>
<td>Options</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Which of the following most accurately describes your job title?</td>
<td>Unemployed, Self-employed, Entry-level, Assistant Manager, Manager, Executive</td>
</tr>
<tr>
<td>How long have you been in your current job (in years)?</td>
<td>Open response</td>
</tr>
<tr>
<td>How much experience do you have making hiring decisions?</td>
<td>None, Very little, A moderate amount, A lot</td>
</tr>
<tr>
<td>Which of the following most accurately describes your level of education?</td>
<td>Never completed high school, High school diploma, Trade/vocational degree, Bachelor’s degree, Master’s degree, Ph.D, Professional Degree (e.g., M.D.)</td>
</tr>
<tr>
<td>Do you have any formal training in human resource management?</td>
<td>Yes, No</td>
</tr>
<tr>
<td>Do you have any formal training in employee selection?</td>
<td>Yes, No</td>
</tr>
<tr>
<td>Does your current job require you to make employee selection (i.e., hiring) decisions?</td>
<td>Yes, No</td>
</tr>
</tbody>
</table>
APPENDIX C: PRINT SCREEN CAPTURES OF ONLINE SURVEY FOR STUDY 2

Hiring Scenario

Employee Selection Survey

Imagine yourself in the following situation.
You have just received a promotion at work, and the company has asked you to hire someone to fill your old position.
They have given you a description of the approach they would like you to use to identify the most appropriate applicant for the job and want to know what you think about this process.
Please read the description carefully and complete the survey that follows.

High Fulfillment Potential Structured Interview

Employee Selection Survey

First, you will conduct an employment interview with each applicant.
The organization has entrusted you to design this interview.
You will determine which characteristics are assessed by the interview and what questions are asked to applicants.

During the interview, you will be required to ask the same questions in the same order to each applicant, with no additional or follow-up questions allowed.
Likewise, you may not engage in any "small talk" with applicants during the interview or answer any questions that applicants may wish to ask.

Next
Low Fulfillment Potential Structured Interview

Employee Selection Survey

First, you will conduct an employment interview with each applicant. The organization has already designed this interview. They have chosen which characteristics the interview will assess and what questions will be asked to applicants.

During the interview, you will be required to ask the same questions in the same order to each applicant, with no additional or follow-up questions allowed. Likewise, you may not engage in any “small talk” with applicants during the interview or answer any questions that applicants may wish to ask.

High Fulfillment Potential Attribute Weighting

Employee Selection Survey

After each interview, you will enter the applicant’s interview scores into a computer that will mathematically combine the scores based on your own personal view of which characteristics are the most important to consider. The characteristics that you believe are the most important to consider will have the greatest influence on applicants’ overall scores.

The applicant who receives the highest overall score will be identified as the person who is the most qualified for the job.
Low Fulfillment Potential Attribute Weighting

After each interview, you will enter the applicant’s interview scores into a computer program. This program will mathematically combine the scores based on the organization’s view of which characteristics are the most important to consider. The characteristics that the organization believes are the most important to consider will have the greatest influence on applicants’ overall scores.

The applicant who receives the highest overall score will be identified as the person who is the most qualified for the job.

Use Intentions Measure

1. Please indicate the extent to which you agree with the following statements about the approach used to identify the most qualified applicant.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>If I were in charge, I would use this approach to make hiring decisions.</td>
<td>☐</td>
<td>☑</td>
<td>☑</td>
<td>☑</td>
<td>☑</td>
</tr>
<tr>
<td>To demonstrate that you are reading carefully, please report Neutral for this item.</td>
<td>☐</td>
<td>☑</td>
<td>☑</td>
<td>☑</td>
<td>☑</td>
</tr>
<tr>
<td>If I had a different approach to make hiring decisions, I would say,</td>
<td>☐</td>
<td>☑</td>
<td>☑</td>
<td>☑</td>
<td>☑</td>
</tr>
<tr>
<td>I would choose to use this approach to make future hiring decisions</td>
<td>☐</td>
<td>☑</td>
<td>☑</td>
<td>☑</td>
<td>☑</td>
</tr>
</tbody>
</table>
Perceived Need Fulfillment Potential Measure

### Employee Selection Survey

Please indicate the extent to which you agree with the following statements:

2. Using this approach to hire my replacement would make me feel...

<table>
<thead>
<tr>
<th></th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>affective</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>capable</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>useful</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>skillful</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>competent</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>accomplished</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. This approach to hiring would allow me to...

<table>
<thead>
<tr>
<th></th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>connect with the applicant</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>relate with the applicant</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>be friendly with the applicant</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>interact with the applicant</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>socialize with the applicant</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>get to know the applicant personally</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. Hiring my replacement in this way would give me a sense of...

<table>
<thead>
<tr>
<th></th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>control</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>choice</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>free will</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>influence</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>self-sufficiency</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>freedom</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Demographics Measure

#### Employee Selection Survey

Please provide us with the following information about yourself.

6. I am a...
   - [ ] Male
   - [ ] Female

7. I am...
   
   [ ] Please Select

8. Are you a U.S. Citizen?
   - [ ] Yes
   - [ ] No

9. How old are you (in years)?
   

10. Which of the following most accurately describes your occupation?
    
    [ ] Please Select

11. Which of the following most accurately describes your job title?
    
    [ ] Please Select

12. How long have you been in your current job (in years)?
    

13. How much experience do you have making hiring decisions?
    
    [ ] Please Select

14. Which of the following best describes your level of education?
    
    [ ] Please Select

15. Do you have any formal training in Human Resource Management?
    - [ ] Yes
    - [ ] No

16. Do you have any formal training in employee selection (i.e., hiring)?
    - [ ] Yes
    - [ ] No

17. Does your current job require you to make employee selection (i.e., hiring) decisions?
    - [ ] Yes
    - [ ] No
Thank you for taking our survey. Your response is very important to us.

To facilitate the approval of this HIT, please report the following in Mechanical Turk:

"Dx42"
APPENDIX D: HUMAN SUBJECTS REVIEW BOARD APPROVAL

May 3, 2011

TO: Kevin Nolan
Psychology

FROM: Hillary Harms, Ph.D.
HSRB Administrator

RE: HSRB Project No.: H11D246GX2

TITLE: Basic Psychological Need Fulfillment and User Resistance to Objective and Analytical Decision-Making Practices in Employee Selection

You have met the conditions for approval for your project involving human subjects. As of May 4, 2011, your project has been granted final approval by the Human Subjects Review Board (HSRB). This approval expires on April 28, 2012. You may proceed with subject recruitment and data collection.

The final approved version of the consent document(s) is attached. Consistent with federal OHRP guidance to IRBs, the consent document(s) bearing the HSRB approval/expiration date stamp is the only valid version and you must use copies of the date-stamped document(s) in obtaining consent from research subjects.

You are responsible to conduct the study as approved by the HSRB and to use only approved forms. If you seek to make any changes in your project activities or procedures, send a request for modifications to the HSRB via this office. Those changes must be approved by the HSRB prior to their implementation.

You have been approved to enroll 400 participants. If you want to enroll additional participants you must seek approval from the HSRB.

Good luck with your work. Let me know if this office or the HSRB can be of assistance as your project proceeds.

Comments/Modifications:
Please add text equivalent to the BGSU HSRB approval/expiration date stamp to the “footer” area of the electronic consent form (see attached for specific text).

c: Dr. Scott Highhouse

Research Category: EXEMPT #2
Basic Psychological Need Fulfillment and User Resistance to Objective and Analytical Decision-Making Practices in Employee Selection

Principal Investigator: Kevin Nolan, M.S.
Faculty Advisor: Dr. Scott Highhouse

By completing an online survey you have an opportunity to contribute to research investigating people’s beliefs about decision making in employee selection. The results of this study will be used to help researchers at Bowling Green State University better understand people’s beliefs about using certain employee selection practices to make hiring decisions. Please note that individuals must be at least 18 years old to participate in this study, and your decision to participate will not impact your grades, class standing, or relationship with the institution.

Completing this survey will take about 20 minutes. In exchange for your participation, you will be compensated $.25 through Amazon’s Mechanical Turk system. Please clear your browser cache and page history before accessing the survey for privacy purposes.

Only members of the research team, which include Dr. Scott Highhouse and Kevin Nolan, will have access to the information you provide. Your identity will remain anonymous through Amazon’s Mechanical Turk system and information collected from this study will be stored on a password protected computer. In no way will your responses ever be linked back to you.

Your participation in this study is completely voluntary. Completing this survey over the Internet implies consent. Those who do not wish to participate may exit at any time, without penalty. You have the right to refuse to answer any or all of the survey questions. The anticipated risks are no greater than those normally encountered in daily life. There may be no direct benefit to you, aside from the monetary compensation for your participation. However, this research will inform those who study employee selection.

If you have any questions about this survey, you can contact the principle investigator, Kevin Nolan. His phone number is (419) 372-2301 and his e-mail address is nolank@bgsu.edu. Likewise, you may contact the project advisor, Scott Highhouse. His phone number is (419) 372-8078 and his e-mail address is shighho@bgsu.edu. If you have any questions about this study or your rights as a research participant, you may contact the Chair of Bowling Green State University’s Human Subjects Review Board at (419) 372-7716 or hrbrb@bgsu.edu.

Thank you for your time!

Kevin P. Nolan, M.S.
Department of Psychology