SITUATIONAL JUDGMENT TEST: A MEASUREMENT OF JUDGMENT?

Shuang-Yueh Pui

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Committee:

Margaret E. Brooks, Advisor

Milton D. Hakel

J. Devin McAuley

ABSTRACT

Margaret E. Brooks, Advisor

Situational Judgment Tests (SJTs) are commonly used selection tools in personnel selection. These tests provide respondents with job-related situations and ask them to select the most appropriate behavioral response option. There are two common types of instructions on SJTs: effectiveness instructions (e.g., rate the effectiveness) and would do instructions (e.g., rate the likelihood you would perform). This thesis examined whether components of judgment (analytic and intuitive) underlie SJTs beyond measures of typical individual difference variables, cognitive ability and personality. This thesis also investigated whether there is an interaction between instructions and components of judgment on SJT scores. Results found that judgment did account for additional variances in SJT scores beyond the typical individual differences variables: cognitive ability and personality traits. However, there is a negative relation between intuitive judgment and SJT scores that is accounting for the incremental variance. Results also found an interaction between instructions and components of judgment on SJT scores, providing evidence that different instructions influence the two components of judgment differently when responding to SJTs. These findings imply that judgment components may underlie SJTs and that different instructions could have different influences on SJT responses.

I dedicate this thesis to my parents, who have supported me in my endeavors.

I love you both very much.

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CHAPTER I: INTRODUCTION

In the past fifteen years, Situational Judgment Tests (SJTs) have increased in popularity. They have been used mostly in research and in practice for personnel selection. Situational judgment tests have been defined as assessments or predictor tools designed to measure judgment in work-related situations and to predict performance (McDaniel, Morgeson, Finnegan, Campion, & Braverman, 2001; McDaniel & Nguyen, 2001; Weekley & Ployhart, 2006). SJTs are tests or selection methods that present “low fidelity simulations” that occur on the job and ask applicants how they would or should respond to them (Motowidlo, Hooper, & Jackson, 2006; Motowidlo, Dunnette, & Carter, 1990; Ployhart & Ehrhart, 2003). The following SJT item is from a College Student Performance SJT:

Your grade for a particular class is based on three exams, with no class attendance requirement. All of the homework requirements for the class are posted on the professor's Web site. What would you do?

- A. Attend class for as long as you feel that it is helping your grades.
- B. Do all the homework but only go to some of the lectures. It's the exams that count.
- C. Go to all the classes anyway. The professor may say something important.
- D. Skip classes, but if you did poorly on the first exam, start going to classes.
- E. There is no need to go to classes. Just get the homework done, and pass the exams.

(Oswald, Schmitt, Kim, Ramsay, & Gillespie, 2004, p. 205)

The increase in popularity of SJTs can be attributed to several positive characteristics. Besides the face validity that SJTs provide, SJTs have been found to predict job performance (Chan & Schmitt, 2002). Not only can SJTs have validity approaching the validities that could be obtained by cognitive ability tests (mean predictive validity on job performance = .26, estimated

population validity = .34; McDaniel et al., 2001), but they also exhibit less racial adverse impact than cognitive ability tests (Clevenger, Pereira, Wiechmann, Schmitt, & Harvey, 2001; Hough, Oswald, & Ployhart, 2001; Motowidlo & Tippins, 1993; Oswald, Schmitt, Kim, Ramsay, & Gillespie, 2004; Pulakos & Schmitt, 1996; Weekley & Jones, 1999). This is important because researchers and practitioners are continually seeking valid tests resulting in less adverse impact.

SJTs have been shown to have relationships with a number of important, job-related constructs including cognitive ability tests ($r = .36$), job knowledge ($r = .05$), agreeableness ($r = .25$), conscientiousness ($r = .26$), emotional stability ($r = .31$), extroversion ($r = .06$), and openness ($r = .09$) (McDaniel et al., 2001; McDaniel & Nguyen, 2001). In all of these cases, SJT measures account for variances in job performance beyond that accounted for by cognitive ability, personality, or job knowledge (Chan & Schmitt, 2002; McDaniel et al., 2001; McDaniel & Nguyen, 2001; Schmitt & Chan, 2006). Further investigation of the theoretical underpinnings of SJTs could provide researchers and practitioners with better validity evidence, and this is the focus of this study.

This paper begins with the various characteristics of SJT items and scoring methods of SJTs, specifically focusing on the two categories of response instructions in SJTs (i.e., Effectiveness and Would Do). Then, the paper presents the argument dominating the literature – whether SJTs are a selection method (similar to assessment centers) or a measure of a specific construct (similar to cognitive ability tests). Because SJTs could be measuring components of judgment in different content areas, this paper suggests that SJTs could be some combination of both a selection method and a measure of a construct. Surprisingly, the current literature on SJTs has not questioned whether SJTs may or may not be measuring judgment components. It would be interesting to examine whether SJTs actually do measure some component of judgment.

Hence, this paper discusses the notion that judgment components could be the underlying construct(s) measured by SJTs. Finally, this paper proposes a research design to empirically test the notion of SJTs as a measure of a judgment construct.

Characteristics of SJT Items and Scoring Methods of SJTs

In an SJT, an applicant is typically presented with a variety of job-related situations. Situations in SJTs are generated from job analyses or critical incidents and thus, are tied either to tasks or knowledge, skills, and abilities (KSAs) inherent in these jobs. SJT formats vary widely on characteristics of SJT items, such as fidelity, item length, item complexity, item comprehensibility, nested/un-nested stems, nature of responses, and response instructions (McDaniel & Nguyen, 2001). SJT formats also vary in ways to score SJT items (McDaniel & Nguyen, 2001).

Item stems can vary in terms of their fidelity; fidelity refers to the extent to which the administration of the work-related situations is similar to how they would be encountered in a work setting (McDaniel & Nguyen, 2001). Most SJTs are administered in a paper-and-pencil format (e.g., Motowidlo et al., 1990; Lievens & Coetsier, 2002; Weekley & Jones, 1999), although SJTs could be video-based (e.g., Chan & Schmitt, 1997; Lievens & Coetsier, 2002; Lievens, Buyse, & Sackett, 2005; Olson-Buchanan, Drasgow, Moberg, Mead, Keenan, & Donovan, 1998; Pulakos & Schmitt, 1996; Weekley & Jones, 1999) or more recently, computer-based and web-based (e.g., Olson-Buchanan et al., 1998; Ployhart, Weekley, Holtz, & F., 2003; Potosky & Bobko, 2004). Video-presented SJTs have higher fidelity than the paper-and-pencil SJTs (McDaniel & Nguyen, 2001). Further, video-based SJTs have been found to result in more favorable reactions in respondents and smaller racial differences (reduced adverse impact; Chan

& Schmitt, 1997; Pulakos & Schmitt, 1996). Potosky and Bobko (2004) showed that participants enjoyed taking the web-based tests more than the paper-and-pencil tests.

SJT items can also vary in length, complexity, and comprehensibility. Some items present short description of situations while others present detailed descriptions. In terms of complexity, some SJT items present simple scenarios while others present more complex scenarios. It is reasonable to argue that the complexity of the situations presented relates to the length of the items because more words are necessary to describe complex situations compared to simple situations (McDaniel & Nguyen, 2001). In terms of comprehensibility (operationalized using readability formulas), some SJT situations are easier to understand the meaning and importance than other SJT situations. Length, complexity, and comprehensibility of SJT items are interrelated to each another (McDaniel & Nguyen, 2001). Further, McDaniel and Nguyen suggested that the three characteristics could affect the cognitive loading of SJT items. Horgen (2004) found that differences in job-specificity of SJTs, operationalized by increasing item length, complexity, and comprehensibility have little effect on the criterion-related validities of SJTs.

Some SJTs present situational items nested in other situational items. For example, Aon Consulting developed some situational items that present an overall situation followed by subordinate situations (McDaniel & Nguyen, 2001). More commonly, SJTs present items where the situations are not nested within each other. That is, each item presents a new situation followed by a number of possible behavioral responses.

Item responses are usually presented in a written format and are relatively short. There are a variety of ways to instruct applicants to respond. One way is to ask applicants to choose the behavioral option they would most likely and/or least likely use. Another way is to ask them to

choose the best and/or the worst behavioral option. Applicants could also be instructed to rate the effectiveness of each behavioral option on a Likert-style scale. Finally, applicants could be instructed to rate how likely they are to perform each behavioral option on a Likert-style scale.

The two categories these response instructions fall into are knowledge response instruction and behavioral tendency response instruction (McDaniel & Nguyen, 2001). Knowledge response instructions (e.g., best/worst, and rate on effectiveness) tap into the respondent's knowledge about the effectiveness of behavioral responses, while behavioral tendency response instructions (e.g., most/least likely, and rate on likelihood to perform) ask respondents to report their behavioral intentions.

Ployhart and Ehrhart (2003) categorized response instructions into 'effectiveness' instructions (e.g., should do, most/least effective, best/worst response, rate effectiveness of response) and 'would do' instructions (e.g., would do, most/least likely to perform, have done, rate on likelihood to perform). Effectiveness instructions reflect knowledge of what to do (also known as knowledge instructions by McDaniel & Nguyen, 2001), while would do instructions reflect a person's behavioral intentions (also known as behavioral tendencies instructions by McDaniel & Nguyen, 2001). Effectiveness instructions were found to have lower criterion-related validity for college GPA ($r = .04$ to $.16$) compared to would do instructions ($r = .30$ to $.40$; with 'Would Most/Least Likely Do' having the highest validity; Ployhart & Ehrhart, 2003). Some researchers have suggested that different instructions could be better suited to measure different criteria (e.g., effectiveness instructions might be most effective to assess job knowledge) (Nguyen, Biderman, & McDaniel, 2005; Ployhart & Ehrhart, 2003).

There are also two common approaches to scoring SJT items. The first scoring option, the more typical of the two, involves gathering responses by subject matter experts on SJT items

(rational keys). The second scoring option involves empirically derived keys, similar to the biodata approach. Paullin (2003) found that the empirical approach could be a viable alternative for developing a scoring key for SJTs.

Selection Method, or Measure of a Construct?

A current argument in the SJT literature is whether the SJT is a selection method (like assessment centers) or a measure of a construct. Most research on SJTs has focused on SJTs as a *selection method* used to predict job performance, while there is less research dealing with the underlying construct(s) measured by SJTs (*measure of a construct*). The selection method approach (i.e., discussing the validity of selection methods rather than the validity of the constructs measured by those selection methods) is easier because an investigation of the construct underlying SJTs would have to begin with a theory of an underlying construct. However, treating SJTs as a selection method has not helped us gain an understanding of the reason why SJTs are predictive of job performance (Schmitt & Chan, 2006).

Researchers in this area have spent a lot of energy on the method versus construct debate. The method side of the argument proposes that SJTs, similar to the interview, is a selection method because it can be used to measure a variety of constructs (Chan & Schmitt, 1997; McDaniel & Nguyen, 2001; Weekley & Jones, 1999). Researchers agreeing with the method side of the argument cite studies (including a meta-analysis) that have found varying criterion-related validities across content domains (e.g., McDaniel et al., 2001; McDaniel & Nguyen, 2001; Weekley & Jones, 1999). The dominance of this approach over the construct approach has resulted in little attention being paid to potential constructs underlying SJTs until recently.

The construct side of the argument proposes that all SJTs, regardless of the test content, measure a general underlying construct (e.g., judgment). Schmitt and Chan (2006) found that

cognitive ability and personality measures accounted for small variances in SJT scores and thus, there are large variances not accounted for by these measures. Schmitt and Chan proposed that the variances not accounted for could be attributed to a general underlying construct independent of the typical individual difference variables (i.e., cognitive ability and personality traits). They argued that SJTs may have an element of both method and construct. If SJTs are both a selection method and a measure of a construct, we could find validities varying by content, but there may be some underlying construct as well. It is important to explore whether there is an underlying construct because it would help us to understand how SJTs function, which now is not well understood.

This research explores Schmitt and Chan's (2006) contention that an underlying construct, distinct from established constructs, could be accounting for the variances in SJTs. SJTs have been defined as an assessment designed to measure *judgment* in work-related situations (McDaniel et al., 2001; McDaniel & Nguyen, 2001; Weekley & Ployhart, 2006). Thus far, no studies have explicitly investigated if these tests are, in fact, measuring some kind of judgment construct. Unlike other types of established tests such as the Wonderlic Personnel Test (measuring cognitive ability) or the International Personality Item Pool scale (measuring personality traits), there is no single SJT measuring a situational judgment construct. This research tests the idea that there may be SJT-type items that measure judgment components inherent in all types of SJTs. The notion implicit in their title and definition suggests that SJTs are measuring judgment; however, to date no one has empirically explored this possibility. Further, in neither empirical research nor selection practice has the notion that SJTs are a measure of judgment ability been seriously considered.

Is There Judgment in SJTs?

Researchers have recently proposed several ideas about potential dominant constructs assessed by SJTs, such as judgment (Brooks & Highhouse, 2006), practical intelligence (Chan & Schmitt, 2002; Stemler & Sternberg, 2006), and procedural knowledge (Motowidlo et al., 2006). McDaniel and colleagues (2001) noted that the George Washington Social Intelligence Test was one of the earliest SJTs used. One of its subtests, Judgment in Social Situations, was developed to measure judgment (Moss, 1926, in McDaniel et al., 2001). Later, SJTs were used in World War II to assess judgment in soldiers (Northrop, 1989, in McDaniel et al., 2001). An investigation of SJT-type items must begin with an investigation of whether a judgment construct underlies the test scores.

This section reviews Brooks and Highhouse's (2006) notion of SJTs measuring judgment components. So far, there are no known direct empirical investigations of this potential construct underlying SJT-type items. The purpose of this research is to attempt to empirically investigate this proposition.

Some researchers have suggested that SJT measures are highly related to general intelligence and often factorially complex (McDaniel & Nguyen, 2001; McDaniel & Whetzel, 2005; Weekley & Ployhart, 2006). Therefore, it is important to have a theoretical basis of a construct in our effort towards the identification of a coherent theory. As a first step toward this goal, I propose that Brooks and Highhouse's (2006) notion of situational judgment could be used to explain some of the variances accounted for in SJT-type item scores that are unrelated to the typical psychological domains (e.g., cognitive ability and personality traits).

SJTs are typically designed from job analyses or critical incidents. Although the content of the SJTs do vary, all of them require components of judgment, both to assess the situation and

to choose a response (Brooks & Highhouse, 2006). The basic assumption of this notion of situational judgment is that judgment is an individual difference ability that could be the underlying construct that SJT-type items measure.

Judgment can be defined as “the human ability to infer, estimate, and predict the character of events” (Hastie & Dawes, 2001, p. 48). Judgment ability varies across individuals and is important in decision making, typically in uncertain conditions. In the judgment and decision making literature, judgment involves presenting individuals with incomplete and fallible cues, examining how they make inferences of those cues, as well as examining how they estimate and make probability judgments of events. When individuals are inferring and evaluating these incomplete cues, they have to weigh these cues in order to overcome indecision (Hogarth, 2001). Individuals have the capacity to integrate these fallible cues in order to make a judgment and/or decision (Hammond, 1996). These cognitive processes could occur analytically (using logical, step-by-step process) and/or intuitively (using quick, gut-feeling process; Hammond, 1996), suggesting that judgment has two components.

In the next section, I review relevant judgment and decision making literature to examine the link between the basic processes of judgment and the current applied concept of situational judgment.

Quasi-Rationality. Research in judgment and decision making can be classified into two approaches of scientific endeavor, namely, Edwards’ (1954) emphasis on the rationality of human judgment – the coherence metatheory of judgment and decision making, and Hammond’s (1955) emphasis on the accuracy of judgment – the correspondence metatheory of judgment and decision making (Hammond, 1996).

Edwards (1954) proposed that the rationality of human judgment under uncertainty could be empirically tested, specifically using Bayes' theorem. It was Edwards' proposal that marked the beginning of the coherence theory of truth, which could be tested using logic and mathematical formulas (Hammond, 1996). The goal of this theory is to "describe and explain the process by which a person's judgments achieve logical, mathematical, or statistical rationality" (Hammond, 1996, p. 95).

The second endeavor of judgment and decision making research began the use of the correspondence theory of truth, which focuses on "the correspondence of ideas with facts, rather than on the coherence of ideas with ideas" (Hammond, 1996, p. 4). The goal of the correspondence theory of truth is to describe and explain the process individuals use to achieve empirical accuracy (Hammond, 1996). In short, the correspondence metatheory of judgment and decision making relates to the *accuracy* of judgments, while the coherence metatheory of judgment and decision making relates to the consistencies and *rationality* of judgments (Hammond, 1996).

Historically, research programs in judgment and decision making were dominated by the coherence metatheory – the rationality of human judgment (e.g., Dawes, 1998; Keren, 1996; Shafir & LeBoeuf, 2002; Tversky & Kahneman, 1974). Such research focuses on violations of the normative principles of rationality (see Manktelow, 1999; Johnson-Laird, 1999), heuristics and biases in judgment under uncertainty (see Tversky & Kahneman, 1974), anomalies of decision making (see Dawes, 1998), and the tension between normative and descriptive perspectives of behavioral decision making (see Keren, 1996).

Although less attention has been paid to the correspondence metatheory, scientific research should seek both coherence and correspondence theories of truth because they are

complementary theories, such that different conditions would induce different employment of theories (Hammond, 1996). Further, rationality does not necessarily imply accuracy and vice versa (Hammond, 1996). Hammond (1996) provided an example that best explains this. He stated that for those who believe every word in the Bible to be true, it would be rational for them to also believe that the world is flat. It was Galileo who created tension between truth based on coherence (rationality) and truth based on correspondence (accuracy) when he provided empirical facts that the world is not flat.

This research focuses on the correspondence theory rather than the coherence theory because it seeks to describe and explain the process individuals use to achieve accuracy in judgment and decision making. Correspondence theorists aim to examine how an individual's judgments correspond to a specific state of the world (Hammond, 1996). Hammond (1955) drew from the classical theory of perception (Brunswik, 1952), which posits that individuals make perceptions by weighing incomplete cues, into the correspondence view of judgment and decision making. Brunswik presented a model of intuitive cognition (the "lens model"), in which the principal idea was that perception of the physical world was derived from multiple fallible indicators. Individuals focus on these fallible indicators, and integrate them (with little awareness) in order to make accurate perception about that physical world (Brunswik, 1952; in Hammond, 1996). This lack of awareness of how people integrate information is what makes the process intuitive (Hammond, 1996).

According to the correspondence theory, individuals deal with irreducible uncertainty, a state with multiple fallible indicators, by using both *analytic* and *intuitive* modes of thinking in order to make judgments (Hammond, 1996). Similarly, Epstein's (1994) Cognitive-Experiential Self-Theory (CEST) suggested that there are two forms of thinking styles or information-

processing systems – the rational system (similar to the analytic mode of thinking) and the experiential system (similar to the intuitive mode of thinking). To be consistent in this paper, analytic thinking and intuitive thinking will be the terms used to refer to both Hammond's and Epstein's thinking styles (i.e., rational thinking and experiential thinking). Hammond (1996) defined *analytic* thinking as a “step-by-step, conscious, logically defensible process” and *intuitive* thinking as “a cognitive process that somehow produces an answer, solution, or idea without the use of a conscious, logically, defensible, step-by-step process” (p. 60). Intuitive thinking is also defined as “the intellectual technique of arriving at plausible but tentative formulations without going through the analytic steps by which such formulations would be found to be valid or invalid conclusions” (Bruner, 1961, p.782).

Hammond's (1996) cognitive continuum theory defines judgment, termed *quasi-rationality*, as the ability in people to effectively use intuition and analysis in making judgments. Most human beings use quasi-rationality, that is, both intuitive and analytic components when making judgments. According to the CEST, the two modes of thinking operate synchronously so that people only think of them as one process when they are actually separate (Epstein, 1994; Epstein, Pacini, Denes-Raj, & Heier, 1996; Pacini & Epstein, 1999).

Relating quasi-rationality to SJTs, individuals presented with an SJT item (consisting of a situation and several behavioral responses) are typically presented with incomplete and fallible cues, and asked to make judgments based on integration of their inferences and weighting of those cues. SJT items can be thought of as task conditions whereby individuals would have to respond using both modes of thinking. Indeed, Brooks and Highhouse (2006) proposed that SJTs could be a selection method that is measuring Hammond's notion of quasi-rationality. Specifically, they proposed that SJTs could be tapping into quasi-rationality, and that the

combination of intuition and analysis may be what sets the construct of judgment apart from cognitive ability, which likely taps only the analytic component. Therefore, I propose that individual differences in judgment (analysis and intuition) should account for variance in performance on SJTs beyond what is accounted for by other typical individual difference measures, like cognitive ability measures and personality inventories.

Measuring Quasi-rationality in Judgment. The notion of judgment (or quasi-rationality) as an individual difference variable has rarely been investigated by judgment and decision making researchers. In order to review the research program about this notion, judgment and decision making researchers would have to turn to the cognitive psychology and personality psychology literature (e.g., Epstein, 1994). From the CEST perspective, Epstein (1994; Epstein et al., 1996; Pacini & Epstein, 1999) viewed judgment within the context of a global theory of personality, in which there are individual differences in analytic and intuitive thinking styles. While individual differences in analytic thinking have been extensively researched (see review in Cacioppo, Petty, Feinstein, Jarvis, & Blair, 1996), there is little research conducted on individual differences in the intuitive mode of processing (e.g., Burns & D’Zurilla, 1999; Pacini & Epstein, 1999). This section reviews some of the existing measures/scales that assess quasi-rationality.

One of the first psychologists to suggest the notion of intuition as a valid mode of thinking was Carl Jung (1926, in Brooks & Highhouse, 2006). Unfortunately, studies investigating analysis-intuition modes of thinking did not emerge until the 1950s (Brunswik, 1952). Further, the notion of measuring and testing quasi-rationality in the cognitive continuum theory is even more recent (Epstein, 1994; Hammond, 1996). There are several scales in the literature that could potentially be used to measure the analytic-intuition components in quasi-rationality: (1) the Myers-Briggs Type Indicator (MBTI; Briggs & Myers, 1976), (2) the

Perceived Modes of Processing Inventory (PMPI; Burns & D’Zurilla, 1999), (3) the Cognitive Style Index (CSI; Allinson & Hayes, 1996), (4) the Rational-Experiential Inventory (REI; Epstein et al., 1996; Pacini & Epstein, 1999), and (5) the Decision-Making Style (DMS; Scott & Bruce, 1995).

MBTI. The first measure is the two bipolar dimensions in the Myers-Briggs Type Indicator (MBTI) – perception (ranging from thinking to feeling), and judgment (ranging from sensing to intuiting) (Briggs & Myers, 1976). The MBTI has been applied extensively in clinical and small sample studies. Some researchers question the utility of the MBTI in non-clinical type of research because of how long and time consuming it is to administer (Allinson & Hayes, 1996).

PMPI. The second measure is the Perceived Modes of Processing Inventory (PMPI; Burns & D’Zurilla, 1999), a test constructed by modeling after the original Rational-Experiential Inventory (REI) scale (Epstein et al., 1996), which provides scales of analytic and intuitive processing related to coping with stress. The PMPI was constructed to assess individuals’ awareness and perception of their dominant mode of information processing in stress and coping situations. The exploratory and confirmatory factor analyses of the PMPI revealed three different perceived processing styles: (1) rational processing, (2) emotional processing, and (3) automatic processing. The rational processing factor corresponds to Epstein’s (1994) analytic processing construct. The intuitive items formed two different factors, with items describing a reliance on feelings and emotions loading on the emotional processing factor and items describing focus on the speed and efficiency of processing loading on the automatic processing factor.

Several plausible explanations could be offered for why the items did not conform into the longstanding, theoretical two modes of processing. One of which is that the PMPI was developed to assess individuals’ awareness of their mode of processing about coping with stress,

which one could argue is a more specific construct compared to Epstein's (1994) CEST. Essentially, the PMPI and the REI could be measuring slightly different but overlapping constructs. Another plausible explanation could be that the PMPI was developed out of the original REI scale (Epstein et al., 1996), which was later argued to have several limitations (Pacini & Epstein, 1999). A scale developed from a compromised scale could influence researchers to have results that are uninterpretable.

CSI. The third measure is the Cognitive Style Index (CSI; Allinson & Hayes, 1996), developed to measure the analytic-intuition cognitive style, specifically for use with managers and professionals. Allinson and Hayes view the analytic-intuition cognitive style as a continuum. Unlike Epstein and associates (1996), Allinson and Hayes found that the exploratory factor analysis of the CSI to yield a one factor solution. The CSI consists of 38 items with 21 of them indicating an analysis orientation and 17 of the items indicating intuition (α ranging from .84 to .92 for several samples). The test-retest coefficient was .90. The CSI is scored on a trichotomous true-uncertain-false response mode. This type of response option provided individuals who wished to indicate genuine uncertainty a central category. A score of 2 would be assigned for a response of true (analysis cognitive style), 1 for uncertain, and 0 for false (intuition cognitive style). The nearer an individual's total CSI score is to the maximum of 76, the more analytical the respondent, and the nearer the total score to the minimum of zero, the more intuitive the respondent.

REI. The fourth measure is the Rational-Experiential Inventory (REI; Epstein et al., 1996). Epstein and his colleagues emphasized the evolutionary nature of intuitive cognitive processes (which he called 'experiential') compared to rational, analytical cognition (Epstein, 1985). Epstein's CEST proposes that individuals use two parallel, interactive systems to process

information: an analytic system and an intuitive system. The analytic system is conceptually similar to Hammond, (1996) analytic mode of thinking in quasi-rationality. The intuitive system is conceptually similar to Hammond's intuitive mode of thinking in quasi-rationality.

In the new version of the REI (Pacini & Epstein, 1999), the original 31-item REI scale (Epstein et al., 1996) was modified in order to address some limitations. This new, 40-item REI (Pacini & Epstein, 1999) comprises two scales, Rationality and Experientiality, and is further sorted into ability and engagement categories to form four REI subscales (10 items each): Rational Ability, Rational Engagement, Experiential Ability, and Experiential Engagement. Rational Ability refers "to reports of a high level of ability to think logically and analytically" (Pacini & Epstein, 1999, p. 974). Rational Engagement refers "to reliance on and enjoyment of thinking in an analytical, logical manner" (p. 974). Experiential Ability refers "to reports of a high level of ability with respect to one's intuitive impressions and feelings" (p. 974). Experiential Engagement refers "to reliance on and enjoyment of feelings and intuitions in making decisions" (p. 974). The scale reliabilities were comparable to each other (Rationality, $\alpha = .90$; Experientiality, $\alpha = .87$). The correlation between both the scales was nonsignificant and exploratory factor analysis yielded a two-factor solution (Rationality and Experientiality).

DMS. The fifth measure is the Decision-Making Style (DMS; Scott & Bruce, 1995). Decision-making styles are differences in individual learned response patterns when facing a decision situation. Two of the five subscales in the DMS measures are Rational decision-making style and Intuitive decision-making style. Rational decision-making is the logical and analytical thinking process, which is conceptually similar to Hammond's (1996) analytic mode of thinking in quasi-rationality. Intuitive decision-making is the process that uses hunches and feelings and thus, conceptually similar to Hammond's intuitive mode of thinking in quasi-rationality. The Rational

subscale of the DMS consists of 4 items and the Intuitive subscale consists of 5 items. The two subscales obtained good average internal consistencies (Rational, $\alpha = .81$; Intuitive, $\alpha = .81$). The average correlation between both the subscales was negative ($r = -.19$) and exploratory factor analyses yielded a two-factor solution (Rational and Intuitive).

In terms of measuring quasi-rationality, the DMS scale (Scott & Bruce, 1995) was used (instead of the PMPI, CSI, or REI scales) because the DMS scale is a more established scale and it conceptualizes the two modes of thinking as independently and interactively influencing behavior. Although the PMPI were developed from items in the original 31-item REI scale (Epstein et al., 1996), factor analyses revealed three modes of perceived processing styles and not the theoretical two modes of thinking. On the other hand, the CSI views the modes of thinking on a continuum, based on the notion that individuals could use analytic or intuitive thinking, but not both analytic and intuitive thinking. The current research tests the notion that individuals high on both analytic thinking and intuitive thinking are more likely to have higher SJT scores; thus separate scores for analytic and intuitive thinking is more consistent with both the theoretical and measurement approaches of the current research. Instead of the REI scale, the DMS was used because it has better scale properties. Specifically, factor analysis of the DMS produced a cleaner factor solution while the two-factor solution for the REI is obtained only when the statistical program was asked to extract two factors (in this study).

Are Response Instructions Related to Quasi-rationality? Recent research efforts in SJTs have suggested that different response instructions could be measuring different constructs (McDaniel & Nguyen, 2001; Nguyen et al., 2005; Ployhart & Ehrhart, 2003). As mentioned earlier in the paper, the two categories of response instructions examined in this study are effectiveness response instruction and would do response instruction. Effectiveness response

instructions could ask respondents to choose the most/least effective behavioral response, or to rate the effectiveness of behavioral responses. Similarly, would do response instructions could ask respondents to choose the behavioral response that they are most/least likely to perform, or to rate the likelihood that they would perform a behavior.

The empirical evidence that led researchers to suggest that different response instructions could be measuring different constructs was that effectiveness response instructions have been found to have lower criterion-related validity for college GPA ($r =$ ranging from .04 to .16) compared to would do response instructions ($r =$ ranging from .30 to .40; Ployhart & Ehrhart, 2003). Specifically, researchers suggested that effectiveness response instructions could be tapping into the respondents' job knowledge while would do instructions could be measuring respondents' behavioral intentions (McDaniel & Nguyen, 2001; Nguyen et al., 2005; Ployhart & Ehrhart, 2003). Further, one could argue that the different response instructions elicit individuals to use different aspects of quasi-rationality when responding to SJT items. For instance, asking respondents what the most effective behavior (an effectiveness response instruction) in a situation might elicit them to respond using their knowledge - analytically thinking about what they think is most effective. Thus, one would expect that the effectiveness response instructions to be more related to analytic thinking than to intuitive thinking. On the other hand, if respondents were asked what they are likely to do (a would do instruction) in a situation might respond according to the behavior they are most likely to perform, hence relying more on their intuition.

The expected differences in responses to the two response instructions could be explained using the compatibility principle (Slovic, Griffin, & Tversky, 1990). This principle states that "the weight of a stimulus attribute is enhanced by its compatibility with the response" (Slovic et

al., 1990, p. 5). In other words, judgments are frequently obtained by focusing on the attributes of the stimulus that help us to formulate a response. The rationale for this principle is that noncompatibility between the stimulus and the response requires individuals to exert additional mental effort. This suggests that the analytic mode of thinking will be weighed more heavily and is more compatible when selecting an effectiveness response, whereas the intuitive mode of thinking is more compatible when selecting a would do response. One would expect that the would do instructions to be more related to intuitive thinking and effectiveness to be more related to analytic thinking.

Present Investigation and Hypotheses

The purpose of the present investigation is to extend research on the construct that could be underlying SJTs. Although researchers have proposed several ideas about potential constructs assessed by SJTs (e.g., judgment, practical intelligence, and procedural knowledge), there is very little empirical investigation examining whether SJTs are related to them. Since SJTs are labeled and often defined as a selection method that is measuring judgment (McDaniel et al., 2001; McDaniel & Nguyen, 2001; Weekley & Ployhart, 2006), it is reasonable to examine whether components of a judgment construct is underlying SJTs. Like Brooks and Highhouse (2006) suggest, this study hypothesizes that SJTs would relate to judgment - quasi-rationality, which is the ability to effectively use intuition and analysis in making good judgments (Hammond, 1996). In other words, people high on analytic thinking as well as people high on intuitive thinking would be more likely to obtain high SJT scores.

Several findings suggests that a construct, independent of the typical individual difference variables, could be underlying SJT-type items because SJTs were found to account for incremental validity in job performance above and beyond cognitive ability and personality

measures (Chan & Schmitt, 2002; McDaniel et al., 2001; McDaniel & Nguyen, 2001; Schmitt & Chan, 2006). In addition, Brooks and Highhouse (2006) proposed that SJTs could be tapping into the intuition element of quasi-rationality, and that intuition may be what sets the construct of judgment apart from cognitive ability. If quasi-rationality is underlying SJT-type items, then a measure of quasi-rationality (e.g., the DMS scale) should account for additional variances in SJT scores above and beyond personality and cognitive ability. Therefore, the following hypothesis is offered:

Hypothesis 1:

DMS scores will account for incremental variance in SJT scores beyond scores on personality and cognitive ability measures.

In addition to the main hypothesis of this study, it would be interesting to examine the notion that different response instructions elicit different aspects of quasi-rationality, resulting in different responses to SJTs. Studies that found different response instructions to have different levels of criterion-related validity (Ployhart & Ehrhart, 2003) led researchers to suggest that effectiveness and would do response instructions could be tapping into different constructs, and that those constructs could relate differently to quasi-rationality. To this point, one could argue that asking respondents to respond based on their knowledge of effectiveness could elicit the analytic mode of thinking while asking respondents the likelihood of their behavior could elicit the intuitive mode of thinking. Based on the compatibility principle, it is hypothesized that the analytic mode of thinking (measured by the Rational subscale in the DMS) would be more compatible when selecting an effectiveness response, whereas the intuitive mode of thinking (measured by the Intuitive subscale in the DMS) would be more compatible when selecting a would do response. To put it differently, high analytic people (those scoring high on the Rational

subscale) would most likely have higher SJT scores when asked to provide effectiveness responses than would do responses. On the other hand, high intuitive people (those scoring high on the Intuitive subscale) would tend to have higher SJT scores when asked to provide would do responses than effectiveness responses. Therefore, the following exploratory hypothesis is offered:

Hypothesis 2:

There is an interaction between DMS and response instructions, such that individuals high on Rational have higher effectiveness SJT scores than would do SJT scores and those high on Intuitive have higher would do SJT scores than effectiveness SJT scores.

CHAPTER II: METHODS

Participants

215 undergraduate college students (52.4 % females, 37.4 % males) from a Midwestern university participated in this study. Students were recruited from introductory psychology courses and given extra credit for their participation. Introduction psychology courses were chosen because of the wide range of student ability in college performance. Among the students who participated, there were 68.9 % Caucasians, 14.1 % African Americans, 3.7 % Hispanic Americans, and 2.1 % Asian Americans. This sample consisted of 66.5 % freshmen, 18.0 % sophomores, 5.3 % juniors, and 1.6 % seniors.

Measures

SJT. The SJT used in this study is adapted from a 5-item measure developed to represent situations students encounter when studying for college courses (Ployhart & Ehrhart, 2003). Each item is made up of a scenario a student might face in college and four potential behavioral options. In order to increase the internal consistency of the SJT, 6 more study situations with the 4 corresponding behavioral options were developed. Five psychology graduate students (subject matter experts; SME's) independently provided their opinions of what they thought the most (or best) and least (or worst) effective behavioral options were for each situation. Their consensus on the behavioral options provided the scoring key for the 6 items. The SME's had an average of 78.30% agreement on the behavioral options. Behavioral options with less than 80 % agreement among the SME's were revised so that there is one best and one worst response. These items were then pilot tested on a separate sample of 98 undergraduate introductory psychology students. Items were further revised based on responses from the undergraduate sample of

students. Please refer to Appendix A for the adapted, 11-item measure. The first 5 situations are items from Ployhart and Ehrhart (2003) while the last 6 items were developed for this study.

Response instructions. In the current study, participants were randomly assigned to one of two conditions. In one condition, participants ($N = 103$) were asked to complete the SJT using the effectiveness response instructions, whereas participants ($N = 103$) in the second condition were asked to complete the SJT using the would do response instructions. Specifically, participants in the effectiveness condition were asked to *rate the effectiveness of each response* in that situation, while participants in the would do condition were asked to *rate the likelihood they would perform each response* in that situation. Participants were asked to rate each option on a 1 to 5 scale on either how effective they felt that behavioral option was (i.e., 1 = Very ineffective to 5 = Very effective) or how likely they would perform that behavioral option (i.e., 1 = Very unlikely to 5 = Very likely).

Scoring procedure. Maintaining Ployhart and Ehrhart's (2003) scoring method, the score for the best response were summed with the reverse of the score for the worst response. For example, if a participant rated the best response a 5 and the worst response a 1 for that situation, their final score would be a 10. The range of scores for each item is from 2 to 10, and the range of overall scores is from 22 to 110.

Scale properties. In this study, the internal consistency reliability (coefficient alpha) for this SJT was .61 (for effectiveness response instruction - rate the effectiveness) and .82 (for would do response instruction - rate the likelihood). In McDaniel and colleagues' (2001) meta-analysis, they reported alpha values of .43 to .94 (mean alpha values = .60). The internal consistencies found in this study were consistent with results from the meta-analysis.

Separate factor analyses using maximum likelihood extraction with Oblimin rotation were conducted for the effectiveness SJT and the would do SJT. In the effectiveness SJT results, evaluation of the eigenvalues and Scree plot showed that two general factors were extracted, accounting for 25.95 % of the variance. The first and second factor accounted for 14.35 % and 11.60 % of the variance, respectively. The two factors accounted for relatively small portion of the total variance. Examination of the factor loadings indicated that most of the “most effective” behavioral options loaded onto the first factor and most of the “least effective behavioral options loaded onto the second factor. Results from the would do SJT showed a different pattern. Evaluation of the eigenvalues showed that one general factor was extracted, accounting for 22.41 % of the variance. The second factor accounted for 9.66 % of the variance in responses. The Scree plot showed that a single dimension represents the data well. However, the percent of variance accounted for would be considered weak evidence for unidimensionality. The first factor accounted for only two times as much variance as the second, and a relatively small portion of the total variance. Examination of the factor loadings yielded no substantive interpretation.

Results from previous studies were more similar to the results found in the would do SJT than the effectiveness SJT. A study by Gillespie and colleagues (2002; in Schmitt & Chan, 2006) examined the factor analyses of SJT items that were written to represent 12 content areas. The confirmatory factor analysis of the SJT responses did not yield the hypothesized 12-factor model. Moreover, the exploratory factor analysis using the Scree criterion suggests that a single factor represents the data. However, the amount of variance accounted for by the first dimension was only 12% while the second dimension was 5%, adding up to the small percent of variance accounted for suggesting weak support for unidimensionality (see Schmitt & Chan, 2006).

Schmitt and Chan concluded that the examinations of the factor loadings in Gillespie and colleagues' (2002) study were not interpretable. These factor analysis results were similar to a previous study (Chan & Schmitt, 2002).

DMS. The Rational (4 items) and Intuitive (5 items) subscales of the Decision-Making Style (DMS; Scott & Bruce, 1995) were used to assess analytic and intuitive components of judgment, respectively (refer to Appendix C for the items). The scale is rated on a 5-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The internal consistencies (coefficient alpha) in this study were .72 for the Rational subscale and .81 for the Intuitive subscale. The Rational and Intuitive subscales had a negative correlation ($r = -.12$, *n.s.*). Further, factor analysis using maximum likelihood extraction with Oblimin rotation was conducted. The results show that two factors were extracted, accounting for 57.08% of variance in the responses. The factor loadings of the rotated matrix show that all the Intuitive items loaded on the first factor while all the Rational items loaded on the second factor. These results provided justification to combine the item scores into overall Rational and Intuitive subscale scores.

Wonderlic Personnel Test. The Wonderlic Personnel Test (Wonderlic, 2002) is a 12-minute timed paper-and-pencil test used to assess participants' cognitive ability. The 50-item test contains such content as word comparisons, number series, and analysis of geometric figures, in which the items increase in difficulty. The test-retest reliabilities of the Wonderlic Personnel Test ranged from .82 to .94, and the internal consistency (K-R 20) of the test was found to be .88 (Wonderlic, 2002).

Mini-IPIP. The 20-item Mini-IPIP (Donnellan, Oswald, Baird, & Lucas, 2006) is a shorter form of the 50-item International Personality Item Pool (IPIP, Goldberg, 1999) measure, which assesses the Big Five personality traits (refer to Donnellan et al., 2006 for the items for the

Mini-IPIP). The Mini-IPIP has four items for each of the Big Five traits, which are Extraversion (e.g., I am the life of the party), Agreeableness (e.g., I sympathize with other's feelings), Conscientiousness (e.g., I like order), Neuroticism (e.g., I get upset easily), and Intellect that is also sometimes referred to as Openness to Experience (e.g., I have difficulty understanding abstract ideas).

The 20-item Mini-IPIP (instead of the 50-item IPIP) was used due to the large number of measures that participants were asked to complete. The scales showed internal consistencies similar to Donnellan and associates' study (2006) for all five personality traits: Extraversion ($\alpha = .77$), Agreeableness ($\alpha = .56$), Conscientiousness ($\alpha = .71$), Neuroticism ($\alpha = .62$), and Intellect ($\alpha = .62$). A factor analysis using maximum likelihood extraction with Oblimin rotation was conducted. Evaluation of the eigenvalues and Scree plot indicated that five factors were extracted, accounting for 53.80 % of variance in the responses. Specifically, the first, second, third, forth, and fifth factor accounted for 14.70 %, 12.88 %, 10.12 %, 9.32 %, and 6.79 % of the variance, respectively. When we forced a five-factor solution, the factor loadings of the rotated matrix showed that all Agreeableness items loaded on the first factor, all Extraversion items loaded on the second factor, all Intellect items loaded on the third factor, all Conscientiousness items loaded on the forth factor, and all Neuroticism items loaded on the fifth factor.

Demographic and Criteria Information. Participants were asked to provide some information about themselves, such as sex, ethnicity, age, year in college, and major. Participants were also asked to provide their university identification number so that their responses to surveys conducted by the university's Office of Institutional Research (OIR) could be obtained as criteria for the SJT. Specifically, we were interested in participants' GPA, SAT/ACT scores,

hours spent studying per week, academic adjustment, social adjustment, and university involvement.

Procedure

Participants were randomly assigned to one of two conditions: (1) the effectiveness response condition or (2) the would do response condition. In both conditions, participants were given the SJT first to prevent test fatigue. After every participant in the session completed the SJT, they were administered the 12-minute timed Wonderlic Personnel Test. Then, they were asked to complete remaining measures (i.e., the DMS, the Mini-IPIP, and demographic information). Finally, participants were debriefed and extra credit was assigned to them.

Data Analyses

To test for Hypothesis 1 (DMS scores will account for incremental variance in SJT scores beyond scores on personality and cognitive ability measures), stepwise regression analysis was conducted in which the cognitive ability scores and the personality scores were entered as predictors of SJT scores in Step 1. In Step 2, DMS scores were included as a predictor of SJT scores in order to examine whether DMS scores account for significant variance in SJT scores above and beyond cognitive ability and personality scores.

For Hypothesis 2 (there is an interaction between DMS and response instructions, such that individuals high on Rational have higher effectiveness SJT scores than would do SJT scores and those high on Intuitive have higher would do SJT scores than effectiveness SJT scores), a median split was used to dummy code the Rational and Intuitive scores to identify people with high Rational and people with high Intuitive scores. A two-way ANOVA was conducted to test for an interaction effect between DMS (high Rational, high Intuitive) and response instructions (effectiveness response, would do response) on SJT scores.

CHAPTER III: RESULTS

Data Screening

Responses from 9 participants were deleted due to non-response for more than 75% of the data, resulting in a final sample size of 206. Data were examined for univariate outliers, linearity, homoscedasticity, normality, multivariate outliers, and collinearity. Evaluation of this information shows that the assumptions for further analyses were not seriously violated.

Correlations among Study Variables

The means, standard deviations, and intercorrelations for the variables measured for the response instruction conditions (combined and separately) are presented in Table 1. As shown in Table 1, some of the variables were significantly related to each other. In the combined results, SJT scores were significantly related to Rational ($r = .25$), Intuitive ($r = -.21$), Conscientiousness ($r = .27$), and Intellect ($r = .15$), but not significantly related to Cognitive ability ($r = -.08$), Extraversion ($r = -.07$), Agreeableness ($r = .08$), and Neuroticism ($r = .11$). Perhaps surprisingly, Cognitive ability was not significantly related to Rational ($r = -.02$) or Intuitive ($r = -.06$). Rational was found to significantly relate to Conscientiousness ($r = .34$), while Intuitive was significantly related to Extraversion ($r = .28$) and Agreeableness ($r = .16$). Implications of these correlations are discussed in more detail later in the paper.

Incremental Variance of DMS in SJT scores

Results from the stepwise regression analysis are presented in Table 2. The zero order correlations show a statistically significant positive correlation between SJT scores and Rational ($r = .25$), but show a statistically significant negative correlation between SJT scores and Intuitive ($r = -.21$). The results in Table 2 showed that DMS scores accounted for incremental variance in SJT scores above and beyond scores on cognitive ability and personality measures

(R^2 change = .06, $p < .01$). The standardized regression coefficient for Rational approached significance but was not significant ($\beta = .14$, $p = .06$). The standardized regression coefficient for Intuitive was significant but in the negative direction ($\beta = -.21$, $p < .01$). Thus, one of the two components of judgment did account for incremental variance beyond cognitive ability and personality, as predicted in hypothesis one but the relation was not in the expected direction.

Interaction of DMS and Response Instructions on SJT scores

This two-way ANOVA tested for the interaction between response instructions and DMS subscale scores on SJT scores. As can be seen in Table 3, there is a significant main effect for response instructions, such that the mean SJT scores for Effectiveness response instructions ($M = 93.25$, $SE = 1.26$) was significantly higher than mean SJT scores for Would do response instructions ($M = 74.30$, $SE = 1.24$). There is also a significant main effect for DMS subscale scores, such that people with high Rational scores ($M = 87.99$, $SE = 1.26$) had significantly higher means than people with high Intuitive scores ($M = 79.57$, $SE = 1.24$). There is also a significant interaction effect between response instructions and DMS subscale scores on SJT scores. Specifically, people had significantly higher Rational scores than Intuitive scores, but the magnitude of the difference in the would do condition ($t(49) = 4.31$, $p < .001$, $d = 1.23$) is larger than the magnitude of the difference in the effectiveness condition ($t(47) = 2.14$, $p < .05$, $d = 0.62$). Further, people in the effectiveness condition had significantly higher SJT scores than people in the would do condition, but the magnitude of the difference in Intuitive scores ($t(49) = 9.85$, $p < .001$, $d = 2.81$) was larger than the magnitude of the difference in Rational scores ($t(47) = 5.55$, $p < .001$, $d = 1.62$). Thus, there was a significant interaction of response instructions and DMS subscale scores on SJT scores, but the pattern of the interaction was not precisely as expected. Refer to Figure 1 for a graphic representation of these patterns of means.

Criterion-related validity

Additional participant information (e.g., GPA and SAT/ACT scores) was obtained from the university's Office of Institutional Research (OIR) by matching the university identification numbers from this study with university identification numbers in surveys from the OIR. It is important to note that not all participants in this study provided their university identification numbers. Similarly, not every participant in the OIR surveys provided their university identification numbers. Further, not every participant in this study responded to the surveys administered by the OIR. Due to these circumstances, the sample sizes for most of the criteria were less than 82.

In order to examine the criterion-related validity of this SJT, SJT scores were regressed on each criteria separately, specifically, GPA, SAT scores, ACT scores, academic adjustment, social adjustment, and university involvement. In addition, SJT scores were regressed on cognitive ability scores. Regression analyses on hours spent studying per week could not be conducted because of the small sample size ($N = 1$). The results show that SJT did not significantly predict any of the criteria; specifically, cognitive ability ($\beta = -.07$, $t(202) = -.92$, $p = .36$), GPA ($\beta = .06$, $t(159) = .78$, $p = .44$), SAT ($\beta = -.23$, $t(47) = -1.62$, $p = .11$), ACT ($\beta = -.08$, $t(144) = -.94$, $p = .35$), academic adjustment ($\beta = .12$, $t(57) = .92$, $p = .36$), social adjustment ($\beta = -.07$, $t(57) = -.56$, $p < .58$), and university involvement ($\beta = -.01$, $t(57) = -.05$, $p = .96$). To examine whether these non-significant findings were due to the small sample sizes, power analyses were conducted. The analyses indicated that a sample size of 395 would be needed to find a small effect with power of .80. This study did not have the sufficient sample size to examine the criterion-related validity of this SJT.

CHAPTER IV: DISCUSSION

SJTs have been labeled and defined as an assessment of judgment in work-related situations (McDaniel et al., 2001; McDaniel & Nguyen, 2001; Weekley & Ployhart, 2006), but they have not been treated as a measure of judgment. Researchers have typically treated SJTs as a selection method, as can be seen by the numerous criterion-related validity studies. Although treating SJTs as a selection method has served the personnel selection field well in some ways, it has not helped us gain an understanding of how SJTs function and why they are predictive of job performance (Schmitt & Chan, 2006). It is, therefore, an important next step for the present study to empirically investigate whether individual differences in judgment (i.e., analytic and intuitive thinking, two factors thought to be associated with human judgment) could underlie SJT scores. This study found that DMS scores did account for additional variances in SJT scores beyond the typical individual differences variables: cognitive ability and personality traits. However, there is a negative relation between intuitive decision-making that is accounting for the incremental variance. If SJTs measure good judgment, this study suggests that rational judgment is the more promising of the two decision-making styles we typically consider when we think about judgment. The finding that not using intuitive judgment is related to performance on SJTs and accounts for variance beyond cognitive ability and personality is an intriguing finding that should be further explored. The current study used an SJT designed around study skills. The next imperative step is to examine whether SJTs designed to measure other content areas (e.g., Integrity and Cross-Cultural Social Intelligence) also tap people's judgment. In other words, is there a judgment component that underlies all SJTs? Future research should examine this idea by replicating this interesting finding, using SJTs with different content. Future studies should also examine whether different measures of quasi-rationality would yield similar results to this study.

This study also examined the role of each component of judgment (analytic and intuitive) in SJT performance. This study found that intuitive thinking (assessed by Intuitive subscale of the DMS) was the judgment component that accounted for additional variances in SJT scores. Although this finding might seem consistent with the notion that the intuitive component of judgment might be what gives SJTs their unique predictive ability (Brooks & Highhouse, 2006), the direction of the relationship between intuitive thinking and SJTs was opposite from what was expected. Specifically, there is a negative relationship between intuitive thinking and SJT scores, such that higher intuitive thinking scores are related to lower SJT scores. This relationship held across both response conditions, but was particularly strong in the would do condition. Surprisingly, analytic thinking did not account for additional variances in SJT scores even though analytic thinking correlates positively with SJT scores. This could be because analytic thinking has a significant positive correlation with conscientiousness and both could share a large proportion of variance in SJT scores.

This study also tested the exploratory hypothesis regarding an interaction between response instructions and quasi-rationality on SJT scores. We expected that effectiveness instructions would be more compatible with, and would elicit, respondents' analytic thinking, whereas would do instructions would elicit intuitive thinking. The results provided partial support for this hypothesis. This study found an interaction between response instructions and quasi-rationality (i.e., high analytic vs. high intuitive) on SJT scores. High analytic people (those scoring high on Rational DMS) had significantly higher SJT scores than high intuitive people (those scoring high on Intuitive DMS) in the effectiveness condition, and in the would do condition; however the magnitude of these differences in the would do instructions was much larger than the magnitude of differences in the effectiveness instructions. This suggests that

intuitive thinking is driving the interaction. In other words, response instructions do not seem to matter much for people high in rational thinking. People high in intuitive thinking, however, perform much better on SJTs with effectiveness instructions than on SJTs with behavioral instructions.

Even though the pattern of results was not as expected, the interaction provides additional evidence that different response instructions can affect SJT scores. We are aware of no studies that inform the question of how different response instructions influence the two components of quasi-rationality. This study supports to the notion that different response instructions may measure different constructs (Nguyen et al., 2005; Ployhart & Ehrhart, 2003). Although analytic thinking did not account for additional variance in SJT scores, it is related to both kinds of response instructions. In fact, only analytic thinking was significantly related to SJT scores in both the effectiveness instructions and would do instructions. Intuitive thinking was only significantly related to SJT scores in the would do instructions.

Interestingly, high intuitive people in the would do instructions had the lowest SJT scores among the four groups of people. One possible explanation could be that when high intuitive people are asked to choose a response to what they would likely do, they are more likely to block their analytical processes. Perhaps, without analytic thinking, people would be less likely to stop and logically think about long-term consequences of their behaviors and would prefer behaviors with short-term pleasures. Therefore, if they were asked whether they would be more likely to reschedule plans with friends to study for an exam or to go out with friends, high intuitive people might be more likely to choose the latter option. This has important implications for future researchers developing SJTs because the type of response instructions influences the type of judgment component people use when providing responses. It could be that different response

instructions have different relationships with SJT scores because of the different judgment components elicited. Future research should examine whether different wording in response instructions primes people to use intuitive or analytic thinking. Future research could also explicitly examine whether judgment components moderate the relationship between response instructions and SJT scores.

Another plausible explanation for the pattern of the interaction could be that highly intuitive people are more impulsive. This may be particularly true of freshman students (the majority of this sample). If high intuitive people exhibit higher impulsivity, then they are less likely to think logically about behavioral consequences and more likely to make bad judgments in situations. Future studies could examine the relationship between intuitive thinking and impulsivity, and how impulsivity relates to SJT scores.

Although the validation of this revised SJT is not part of this study's main hypotheses, several criteria of college success were used to examine its criterion-related validity. This SJT was not found to relate to students' grade point average (GPA), SAT scores, ACT scores, academic adjustment, social adjustment, university involvement, and cognitive ability. However, it is premature to conclude that this SJT does not predict these criteria due to the lack of power in this study. Future research could further examine the criterion-related validity of this SJT with a larger sample size and with other relevant criteria, such as hours spent studying and study skills.

One limitation of the current study is that the investigation of the construct underlying an SJT was tested in one content domain - college study skills. Although a student sample is very appropriate for the purposes of this study, there may be questions about the generalizability of findings applied to an applicant setting. Respondents in applicant settings may have higher

motivation to perform well on an SJT. It is likely that with more validated SJTs that are related to appropriate criteria, even stronger results could be found in an applicant setting.

Another limitation of using a student sample, specifically freshmen, is that freshman students may not have developed the appropriate study skills and may be more likely to use intuitive thinking when making judgments. More experienced students with more developed study skills may be more likely to use analytic thinking when making judgments about college studying situations. Future research should examine whether upper-level college students are more likely to use analytic thinking and less likely to use intuitive thinking when making judgments.

In conclusion, this SJT seems to be measuring some component of human judgment. This interesting finding regarding the relationship between SJT and judgment components should be a cry for more research to further examine potential constructs underlying SJTs. In applying a theory of situational judgment to SJTs, we managed to take a closer look at the role analytic and intuitive components of judgment in SJTs. This approach to judgment also provided greater insight into the different influences response instructions have on SJT responses. This study has opened the door to further research aimed at understanding how SJTs function and what they measure, by linking the judgment and decision-making literature to the literature on SJTs.

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Table 1

Means, Standard Deviations, and Intercorrelations of Study Variables

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9
Both Conditions ^a											
1.SJT	3.80	0.47	(.84)								
2.Cognitive ability	25.96	5.79	-.08	(-)							
3.Extraversion	3.63	0.84	-.07	-.04	(.77)						
4.Agreeableness	4.08	0.58	.08	-.15*	.21*	(.56)					
5.Conscientiousness	3.41	0.82	.27*	-.19*	.01	.23*	(.71)				
6.Neuroticism	2.82	0.75	.11	-.03	-.10	.01	.07	(.62)			
7.Intellect	3.55	0.47	.15*	-.04	.07	.19*	-.02	-.04	(.62)		
8.Rational	3.66	0.61	.25*	-.02	.01	.09	.34*	.11	.11	(.72)	
9.Intuitive	3.52	0.64	-.21*	-.06	.28*	.16*	-.02	-.03	-.03	-.12	(.81)
Effectiveness Response Condition ^b											
1.SJT	4.21	0.52	(.61)								
2.Cognitive ability	26.24	6.01	-.01								
3.Extraversion	3.60	0.47	.05	-.20*							
4.Agreeableness	4.07	0.56	.12	-.21*	.24*						
5.Conscientiousness	3.46	0.84	.09	-.21*	.15	.23*					
6.Neuroticism	2.86	0.60	.06	.07	-.14	.10	.01				
7.Intellect	3.63	0.78	-.02	-.03	.02	.23*	.07	.09			
8.Rational	3.68	0.62	.21*	-.06	.07	.06	.17	.13	.17		
9.Intuitive	3.46	0.63	-.04	-.21*	.27*	.23*	.05	-.04	.09	-.12	

		Would do Response Condition ^c	
1.SJT	3.39	0.55	(.82)
2.Cognitive ability	25.67	5.57	-.25*
3.Extraversion	3.66	0.85	-.14
4.Agreeableness	4.09	0.57	.13
5.Conscientiousness	3.36	0.87	.42*
6.Neuroticism	2.78	0.73	.14
7.Intellect	3.48	0.51	.10
8.Rational	3.64	0.60	.38*
9.Intuitive	3.57	0.65	-.30*
			.12
			-.09
			.19
			-.17
			-.12
			.24*
			-.08
			.13
			-.09
			.17
			-.17
			.13
			.49*
			.09
			.05
			-.09
			-.11

Note. Coefficient alpha estimates of reliability are reported in parentheses on the diagonal.

* Significant correlations at $p < .05$. ^a $N = 206$. ^b $N = 103$. ^c $N = 103$.

Table 2

Hierarchical Regression Analysis of SJT Scores on Cognitive Ability, Personality Traits, and Quasi-rationality

Step	Variable	β	Partial r
1	Cognitive ability	-.04	-.04
	Extraversion	-.10	-.10
	Agreeableness	.02	.02
	Conscientiousness	.26**	.25**
	Neuroticism	.08	.08
	Intellect	.15*	.16*
	R^2	.11**	
2	Rational	.14	.14
	Intuitive	-.21**	-.21**
	R^2	.17**	
	ΔR^2	.06**	

Note. Regression coefficients are standardized values computed when all variables are entered in the equation. * $p < .05$. ** $p < .01$.

Table 3

Analysis of Variance for Response Instructions and Quasi-rationality
on mean SJT scores

Source	<i>df</i>	<i>F</i>	η	<i>p</i>
Response Instructions (R)	1	114.53**	.54	.00
Quasi-rationality (Q)	1	22.65**	.19	.00
R x Q	1	7.74**	.08	.01
Q within-group error	96	(78.17)		

Note. Value enclosed in parentheses represents mean square errors.

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

Figure 1

The Effect of Response Instructions and Quasi-rationality on SJT Scores

APPENDIX A

SITUATIONAL JUDGMENT TEST

Please read each scenario and behavior responses carefully. For every behavior response, **rate the effectiveness** of that behavior in handling that situation, even if you do not think you would actually behave in that manner. Please circle one response for all the options (A, B, C, and D).

1. It's your birthday, and your friends want to take you out tonight to celebrate. Unfortunately, you have an exam tomorrow morning at 9 AM that you haven't studied for yet.					
	Very ineffective	Somewhat ineffective	Neutral	Somewhat effective	Very effective
A. Go out with your friends and stay up the rest of the night studying.	1	2	3	4	5
B. Go out with your friends and worry about studying later.	1	2	3	4	5
C. Re-schedule with your friends so you can stay home and study.	1	2	3	4	5
D. Go out with your friends, but leave early so you can come home to study.	1	2	3	4	5

2. You are in a large lecture class where attendance is not mandatory. The class meets once a week. The class is not interesting, and all of the notes are provided on the web.					
	Very ineffective	Somewhat ineffective	Neutral	Somewhat effective	Very effective
A. Skip class all semester and just show up for the exams.	1	2	3	4	5
B. Attend class every other week.	1	2	3	4	5
C. Attend class every week.	1	2	3	4	5
D. Find a friend and take turns going to class.	1	2	3	4	5

3. You are working on a group project with three other people. One of the members of the group has rarely been showing up to group meetings. She had taken on a lot of responsibility early on in the project, but is not producing any results. The paper is to be graded for group effort, not individual performance.					
	Very ineffective	Somewhat ineffective	Neutral	Somewhat effective	Very effective
A. Go to the professor and report the problem group member.	1	2	3	4	5
B. Get together with the other two people and divide up the work to make sure it all gets done.	1	2	3	4	5
C. Get together with the other two people, do only the work you were originally supposed to do, and include a note when you turn the project in that explains why it is incomplete.	1	2	3	4	5
D. Confront the problem group member.	1	2	3	4	5

4. Your professor tells you that half of the exam will be based on the textbook, but you find the book very complicated and hard to understand. Your lecture notes are very clear and thorough.					
	Very ineffective	Somewhat ineffective	Neutral	Somewhat effective	Very effective
A. Skim the book and concentrate most of your studying on the notes.	1	2	3	4	5
B. Highlight the confusing parts of the book and then go ask the professor or T.A. to help you understand those parts.	1	2	3	4	5
C. Ask a friend or classmate to help you with the confusing parts of the book.	1	2	3	4	5
D. Skim your notes and spend most of your time studying the book so you can figure it out.	1	2	3	4	5

5. It's your favorite night to watch TV with your friends (from 8 PM until 11 PM), but you also have an exam the next morning.					
	Very ineffective	Somewhat ineffective	Neutral	Somewhat effective	Very effective
A. Study as much as you can during the shows and study the rest after the shows are over.	1	2	3	4	5
B. Enjoy watching the shows, then study as much as possible afterward.	1	2	3	4	5
C. Tape the shows with your VCR and study instead.	1	2	3	4	5
D. Take a break to watch one of the shows and spend the rest of the time studying.	1	2	3	4	5

6. You will be away all weekend on a class trip. The next Tuesday you will have a mid-term exam in your hardest class.					
	Very ineffective	Somewhat ineffective	Neutral	Somewhat effective	Very effective
A. Plan in advance so you can have your studying finished and enjoy your class trip.	1	2	3	4	5
B. Miss the class trip so that you can study for the test.	1	2	3	4	5
C. Ask the professor permission to make up the test.	1	2	3	4	5
D. Study when you think about it.	1	2	3	4	5

7. You have a research project due at the end of the semester. Your professor warns you not to wait until the last couple of weeks to start it as it will take time.					
	Very ineffective	Somewhat ineffective	Neutral	Somewhat effective	Very effective
A. Plan to start working on it early.	1	2	3	4	5
B. Work on the project with a classmate.	1	2	3	4	5
C. Set timelines for the project and get frequent feedback from the professor.	1	2	3	4	5

D. Plan your project early in the semester, then start working on it a week before the project is due.	1	2	3	4	5
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8. Your good friend is performing this Wednesday night at the same time as your three hour evening class. You really want to watch your friend perform.					
	Very ineffective	Somewhat ineffective	Neutral	Somewhat effective	Very effective
A. Go to class and leave halfway for your friend's performance.	1	2	3	4	5
B. Miss class to watch your friend.	1	2	3	4	5
C. Inform the instructor you will be missing class and ask if you can make up what you missed in class.	1	2	3	4	5
D. Ask your friend to give you a video of the performance to watch after class.	1	2	3	4	5

9. You are in a class that requires a scientific style of writing that you are not familiar with. You received a failing grade on your first paper even though you spent a lot of time preparing it. You realized that this class requires two more papers with the same writing style.					
	Very ineffective	Somewhat ineffective	Neutral	Somewhat effective	Very effective
A. Talk to the professor and commit to submitting your papers early so that you can receive feedback before turning them in.	1	2	3	4	5
B. Work on preparing your papers with help from a classmate who knows the writing style.	1	2	3	4	5
C. Continue writing your papers and hope to get better at writing by the end of the semester.	1	2	3	4	5
D. Write your papers as usual, but ask your roommate to correct the writing style errors before you hand them in.	1	2	3	4	5

10. People in your project group are not getting along. These conflicts are preventing progress on the project. Your group has two weeks before the class project presentation.					
	Very ineffective	Somewhat ineffective	Neutral	Somewhat effective	Very effective
A. Finish the project on your own.	1	2	3	4	5
B. Have one-to-one talks with everyone in the group and try to solve their problems.	1	2	3	4	5
C. Ask your professor to create an alternative individual project for you.	1	2	3	4	5
D. Set up a meeting with the group, and talk about ways they might be able to set aside their conflicts to work on completing the class project.	1	2	3	4	5

11. Your family is visiting you for the weekend and they are really looking forward to spending time with you. However, you have a paper due on Monday that you have not started.					
	Very ineffective	Somewhat ineffective	Neutral	Somewhat effective	Very effective
A. Carefully schedule time to spend with family and time to work on your paper.	1	2	3	4	5
B. Spend time with your family and stay up working on your paper after they leave.	1	2	3	4	5
C. Tell your family that you simply cannot spend time with them because you have a paper to work on.	1	2	3	4	5
D. Put less effort on this paper and decide to study harder for the next exam instead.	1	2	3	4	5

Please read each scenario and behavior responses carefully. For every behavior response, **rate the likelihood** that you would perform that behavior if that situation really occurred. Please circle one response for all the options (A, B, C, and D).

1. It's your birthday, and your friends want to take you out tonight to celebrate. Unfortunately, you have an exam tomorrow morning at 9 AM that you haven't studied for yet.					
	Very unlikely	Somewhat unlikely	Neutral	Somewhat likely	Very likely
A. Go out with your friends and stay up the rest of the night studying.	1	2	3	4	5
B. Go out with your friends and worry about studying later.	1	2	3	4	5
C. Re-schedule with your friends so you can stay home and study.	1	2	3	4	5
D. Go out with your friends, but leave early so you can come home to study.	1	2	3	4	5

2. You are in a large lecture class where attendance is not mandatory. The class meets once a week. The class is not interesting, and all of the notes are provided on the web.					
	Very unlikely	Somewhat unlikely	Neutral	Somewhat likely	Very likely
A. Skip class all semester and just show up for the exams.	1	2	3	4	5
B. Attend class every other week.	1	2	3	4	5
C. Attend class every week.	1	2	3	4	5
D. Find a friend and take turns going to class.	1	2	3	4	5

3. You are working on a group project with three other people. One of the members of the group has rarely been showing up to group meetings. She had taken on a lot of responsibility early on in the project, but is not producing any results. The paper is to be graded for group effort, not individual performance.					
	Very unlikely	Somewhat unlikely	Neutral	Somewhat likely	Very likely
A. Go to the professor and report the problem group member.	1	2	3	4	5
B. Get together with the other two people and divide up the work to make sure it all gets done.	1	2	3	4	5
C. Get together with the other two people, do only the work you were originally supposed to do, and include a note when you turn the project in that explains why it is incomplete.	1	2	3	4	5
D. Confront the problem group member.	1	2	3	4	5

4. Your professor tells you that half of the exam will be based on the textbook, but you find the book very complicated and hard to understand. Your lecture notes are very clear and thorough.					
	very unlikely	Somewhat unlikely	Neutral	Somewhat likely	Very likely
A. Skim the book and concentrate most of your studying on the notes.	1	2	3	4	5
B. Highlight the confusing parts of the book and then go ask the professor or T.A. to help you understand those parts.	1	2	3	4	5
C. Ask a friend or classmate to help you with the confusing parts of the book.	1	2	3	4	5
D. Skim your notes and spend most of your time studying the book so you can figure it out.	1	2	3	4	5

5. It's your favorite night to watch TV with your friends (from 8 PM until 11 PM), but you also have an exam the next morning.					
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7. You have a research project due at the end of the semester. Your professor warns you not to wait until the last couple of weeks to start it as it will take time.					
	very unlikely	Somewhat unlikely	Neutral	Somewhat likely	Very likely
A. Plan to start working on it early.	1	2	3	4	5
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C. Set timelines for the project and get frequent feedback from the professor.	1	2	3	4	5
D. Plan your project early in the semester, then start working on it a week before the project is due.	1	2	3	4	5

8. Your good friend is performing this Wednesday night at the same time as your three hour evening class. You really want to watch your friend perform.					
	Very unlikely	Somewhat unlikely	Neutral	Somewhat likely	Very likely
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B. Miss class to watch your friend.	1	2	3	4	5
C. Inform the instructor you will be missing class and ask if you can make up what you missed in class.	1	2	3	4	5
D. Ask your friend to give you a video of the performance to watch after class.	1	2	3	4	5

9. You are in a class that requires a scientific style of writing that you are not familiar with. You received a failing grade on your first paper even though you spent a lot of time preparing it. You realized that this class requires two more papers with the same writing style.					
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B. Work on preparing your papers with help from a classmate who knows the writing style.	1	2	3	4	5
C. Continue writing your papers and hope to get better at writing by the end of the semester.	1	2	3	4	5
D. Write your papers as usual, but ask your roommate to correct the writing style errors before you hand them in.	1	2	3	4	5

10. People in your project group are not getting along. These conflicts are preventing progress on the project. Your group has two weeks before the class project presentation.					
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B. Have one-to-one talks with everyone in the group and try to solve their problems.	1	2	3	4	5
C. Ask your professor create an alternative individual project for you.	1	2	3	4	5
D. Set up a meeting with the group, and talk about ways they might be able to set aside their conflicts to work on completing the class project.	1	2	3	4	5

11. Your family is visiting you for the weekend and they are really looking forward to spending time with you. However, you have a paper due on Monday that you have not started.					
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C. Tell your family that you simply cannot spend time with them because you have a paper to work on.	1	2	3	4	5
D. Put less effort on this paper and decide to study harder for the next exam instead.	1	2	3	4	5

APPENDIX B

ANALYTIC AND INTUITIVE DECISION-MAKING STYLE (DMS)

Listed below are statements describing how individuals go about making *important decisions*. Please indicate whether you agree or disagree with each statement.

	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
I double-check my information sources to be sure I have the right facts before making decisions.	1	2	3	4	5
I make decisions in a logical and systematic way.	1	2	3	4	5
My decision making requires careful thought.	1	2	3	4	5
When making a decision, I consider various options in terms of a specific goal.	1	2	3	4	5
When making decisions, I rely upon my instincts.	1	2	3	4	5
When I make decisions, I tend to rely on my intuition.	1	2	3	4	5
I generally make decisions that feel right to me.	1	2	3	4	5
When I make a decision, it is more important for me to feel the decision is right than to have a rational reason for it.	1	2	3	4	5
When I make a decision, I trust my inner feelings and reactions.	1	2	3	4	5