

## DECISION-MAKING STYLE: THE DEVELOPMENT AND ASSESSMENT OF A NEW MEASURE

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A multistage, four sample study was conducted to develop a conceptually consistent and psychometrically sound measure of decision-making style. Construct definitions were developed from prior theory, and items were written to assess rational, avoidant, intuitive, and dependent decision-making styles. A series of principal-axis factor analyses with varimax rotation and subsequent item analyses were conducted to develop four conceptually distinct scales with acceptable internal consistency (alpha ranging from .68 to .94) and a stable factor structure. In the process of scale development, a fifth style (spontaneous) was identified. Tests for independence among the five decision-making style scales and concurrent validity analyses were conducted. Finally, discussion of the new instrument with reference to the extant literature is provided.

Whereas substantial theorizing and empirical research has focused on aspects of the decision task and decision situation that influence decision outcomes, relatively less empirical attention has been paid to characteristics of the decision maker that might influence decision outcomes. The present study is concerned with a characteristic that has received some attention in the career development and vocational behavior literature while receiving relatively less attention in the decision-making literature: *decision-making style*. Decision-making style has been defined as "a habitual pattern individuals use in decision making" (Driver, 1979) or individuals' characteristic mode of

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perceiving and responding to decision-making tasks (Harren, 1979). Driver, Brousseau, and Hunsaker (1990) posited that decision-making style is defined by the amount of information gathered and the number of alternatives considered when making a decision, although others suggest that it refers to differences in the way individuals make sense of the data they gather (Hunt, Krzytofiak, Meindl, & Yousry, 1989; McKenney & Keen, 1974; Mitroff, 1983).

Researchers interested in decision style research have been hindered by the lack of a generally available, psychometrically sound instrument for measuring decision style. This study was conducted because theoretical progress is impossible without adequate measures (Schwab, 1980). A multi-sample study to develop an appropriate measure was conducted, and relationships between the new decision-making style measure and relevant outcomes were examined.

### Item Development Process

Conceptually consistent theoretical definitions of the various decision styles were first developed focusing on behaviors rather than traits or characteristics (cf. Nunnally, 1978). These theoretical definitions are needed to assess scale content validity. Definitions were sought that were compatible with existing theory on decision style, as summarized in the following section.

#### *Theoretical Construct Definitions*

A number of decision-making style researchers focus on the manner in which individuals gather and process information. For example, McKenney and Keen (1974) suggested that individuals bring habit and strategic modes of thinking to bear on the tasks of organizing information in their environments and processing information. In the information-gathering stage of decision making, individuals either rely on concepts and previously established cognitive categorizations to filter data (perceptives), or focus on the details of the stimulus itself, independent of their precepts (receptives). In the information-processing stage, decision makers either structure the problem in terms of a method likely to lead to solution (systematics) or use a strategy of iterative solution testing or trial and error (intuitives).

Although not specifically focusing on decision-making style, Mitroff (1983) proposed that *cognitive* style is the manner in which individuals take in data from the outside world and make decisions based on the data. On the data collection dimension, individuals are either sensing types (data-sensitive) or intuitive types who rely on a holistic approach (data-filterers). On the decision-making dimension, individuals are either logical thinking types or feeling types.

Hunt et al. (1989) reduced the number of styles to two—analytics and intuitives—based on evidence suggesting that the data-gathering and the decision-making dimensions are not independent (e.g., Behling, Gifford, & Tolliver, 1980). Keen (1973) found that systematic information gatherers are thinking information evaluators, whereas intuitive information gatherers are feeling information evaluators. Thus “the majority of individuals would be classified as consistently analytic or consistently intuitive in both information gathering and information evaluation” (Hunt et al., 1989, p. 125).

Driver (1979) and Driver et al. (1990) proposed that decision-making style is a learned habit and that the key differences among styles involve the amount of information considered during a decision and the number of alternatives identified when reaching decisions. Driver et al. postulated that individuals have a primary decision style and a secondary style.

Finally, Harren (1979) proposed a model of career decision-making style. Three styles were identified: dependent, rational, and intuitive. Dependent decision makers project responsibility for decisions onto others. In contrast, both rational and intuitive decision makers assume personal responsibility for decisions affecting them. Furthermore, the rational decision maker takes a deliberate and logical approach. The intuitive decision maker uses an internal hunch that decisions are basically right and makes decisions relatively quickly, without the deliberation typical of a rational decision maker. Phillips, Paziienza, and Ferrin (1984) found that rational and dependent decision makers were likely to approach (rather than avoid) problems, but that dependent decision makers did so with little confidence in their problem-solving abilities. Individuals using rational or intuitive strategies reported greater confidence in approaching problems, but a diminished sense of personal control. These findings support the notion that a fourth decision style exists—avoidance of decision making.

Drawing on the theory presented, decision-making style is defined here as the learned, habitual response pattern exhibited by an individual when confronted with a decision situation. It is not a personality trait, but a habit-based propensity to react in a certain way in a specific decision context. Whereas personality traits have long been embroiled in the cross-situational consistency argument opened by Mischel (1968), the decision-style literature generally acknowledges that situations can affect the choice of decision style.

Four decision styles were identified from prior theorizing and empirical research and defined in behavioral terms: (a) rational decision-making style is characterized by a thorough search for and logical evaluation of alternatives, (b) intuitive decision-making style is characterized by a reliance on hunches and feelings, (c) dependent decision-making style is characterized by a search for advice and direction from others, and (d) avoidant decision-making style is characterized by attempts to avoid decision making.

### *Item Generation and Scale Development*

Behaviorally phrased items were developed using these conceptual definitions. Items were worded originally for a study on career transitions (see Bruce, 1991). A total of 37 items were developed and administered to one sample. Items then were modified to expand the domain from career decisions to all important decisions and the instrument was reduced to 25 items. The revised items were then administered to three other independent samples.

### *Samples*

Subjects from four populations participated in this research. The initial research instrument was evaluated on the first sample, and subsequent samples were used to constructively replicate the results, refine the research instrument, and evaluate validity.

Sample 1 consisted of 1,441 male military officers. The typical respondent was 33 years old, held a bachelor's degree, was married, and had been in military service for 9.8 years. Sample 2 consisted of 84 MBA students at a large midwestern university. The typical respondent in the second sample was 25 years old, was employed full-time and was a student part-time, and had been employed for 2.3 years. Of the subjects in this second sample, 56% were men and 44% were women. Sample 3 consisted of 229 upper-level undergraduate business students at a large midwestern university. The typical respondent in the third sample was 22 years old, was a full-time student, and had less than 2 years of full-time employment experience. Of the subjects in this third sample, 61% were men and 39% were women. Sample 4 consisted of 189 engineers and technicians from the central research and development (R&D) facility of a U.S. industrial firm. The typical respondent was 42 years old and had been employed in the R&D facility for 15.7 years. Of these subjects, 21% held a 2-year college degree, 24% held a bachelor's degree, 20% held a master's degree, and 21% held a doctoral degree. Ninety-two percent were male.

Surveys were administered to participants in their natural settings (work or classroom) either by mail or in person. Participation was voluntary; participants were encouraged to answer as honestly as possible, and they were assured that their answers would remain confidential.

### *Measures and Reasons for Their Inclusion*

*Decision-making style.* The items in the decision-making style measure developed as previously described are presented in Table 1. For all samples, the following heading was used: "Listed below are statements describing how individuals go about making *important decisions*. Please indicate whether

you agree or disagree with each statement.” Responses were made on a 5-point scale ranging from *strongly disagree* to *strongly agree*.

*Control orientation.* Two similar measures of control orientation were used in testing concurrent validity. These consisted of Pearlin, Menaghan, Lieberman, and Mullan’s (1981) 5-item measure of *mastery* and a 10-item *locus of control* measure (Gurin, Gurin, & Morrison, 1978). The notion of rationality in decision making suggests a deliberate, logical style of decision making. Individuals with internal control orientations would likely use a rational style, attempting to control their destiny. An external orientation, or the belief that one’s fate is not self-controlled, is likely to be associated with dependent decision making, where responsibility for decisions are projected onto others. Furthermore, the avoidant decision-making style may result, in part, from a lack of confidence in one’s decision-making ability, similar to the external’s belief in lack of control over life events. The mastery scale was administered to the military officers and the locus of control measure to the students. Cronbach’s alpha for mastery in Sample 1 was .76. Cronbach’s alphas for locus of control in Samples 2 and 3 were .66 and .78, respectively.

*Occupational group.* Individuals select particular environments on the basis of congruence between personal style and perceptions, and so it was expected that differences in decision-making style would be found among the groups in this study. Because the military environment is highly structured, and decision making is likely to be constrained under norms of rationality, it was hypothesized that military officers would be higher on rational decision-making style than would the students, and lower on avoidant, intuitive, and spontaneous decision-making styles. Similarly, it was expected that individuals working in R&D positions, where technical proficiency and analytic thought are necessary, would be higher than the students on rational decision making.

*Innovative behavior and innovativeness.* Innovative behavior and innovativeness measured the degree to which individuals were involved in both the generation and implementation of new ideas. The assessment of both variables was made by the managers of the R&D employees in Study 4 using a 5-point Likert-type response scale. Innovative behavior was a composite of the ratings of five behaviors related to innovativeness (e.g., searches out new technologies, promotes and champions new ideas), and had a Cronbach’s alpha of .87. Innovativeness was a single item in which managers were asked to rate the overall innovativeness of each subordinate using a 5-point Likert-type response scale.

Innovative behavior and innovativeness were used to investigate the external validity of the decision-making style construct. These particular variables were selected because decision-making style has been linked to innovativeness in the literature (e.g., Woodman, Sawyer, & Griffin, 1993).

Campbell (1960) modeled creativity as a part of the general process by which people acquire new knowledge, and suggested that the process is based on trial-and-error learning. Thus it is suggested that the rational decision maker's focus on logic, order, and systematic analysis limits the boundaries on problem formulation. In contrast, the intuitive decision maker, being data sensitive and focusing on an intuitive sense of "rightness" about decisions, is likely to be more open to alternatives in problem formulation. The dependent decision maker is likely to lack confidence in developing alternative problem formulations. Thus dependent decision-making style is hypothesized to be negatively related to innovative behavior.

### *Analytical Procedure*

Factor analysis (principal axis factoring with varimax rotation) was used to assess the dimensionality of the decision-making style instrument. The reliability of the factor structure was then confirmed by replication with two independent samples. Validity was assessed using correlations and ANOVAs across a variety of measures (some from different sources). The results of these procedures were used to evaluate the reliability and validity of this new measure.

## Results

### *Initial Item Selection Study*

A factor analysis of the 37 items developed during the construct definition stage was conducted on the data from Sample 1, the military officers. Principal axis factoring was used as the extraction method, and the initial unrotated factor solution yielded seven factors with eigenvalues over 1. Evaluation of Cattell's scree plot led to a decision to retain five factors (contrary to a priori expectations of four factors). This five-factor solution was then subjected to a varimax rotation. The five-factor solution using 32 items with loadings above .40 explained 45% of the total variance. The first four factors had been hypothesized (i.e., rational, intuitive, dependent, and avoidant). However, a fifth factor emerged with two items loading above the critical point, suggesting that a fifth decision-making style exists. Examination of the item content of these two items revealed that they were related to spontaneity, or the amount of time devoted to decision making. A spontaneous decision maker has a sense of immediacy and a desire to get through the decision-making process as soon as possible.

### *Constructive Replication*

Because spontaneity was identified in Sample 1 as a possible style, six items were written to tap this dimension. Also, the wording of all items was

changed to allow the measure to be used in decision contexts other than that of career decisions. The resultant 43 items were administered to the MBA sample (Sample 2) and the undergraduate sample (Sample 3).

Separate factor analyses of the data from Samples 2 and 3 were conducted. In both cases, the same five-factor solution as that found in Sample 1 emerged when the 37 items loading over .40 were retained. The total variance explained by the 37 items was 54% and 48% in Samples 2 and 3, respectively.

### *Refining the Scales: Parsimony*

Examining the content and factor structure of the 37 retained items suggested that there would be little change in factor structure, scale domain sampling adequacy, or internal consistency if the number of items in the scale was further reduced. Item analysis (i.e., iteratively removing items and evaluating changes in internal consistency and factor loadings) was conducted to reduce the scale to 25 items. Subsequently, factor analysis was conducted on data for the 25 items from each of the three samples. Table 1 presents results of these factor analyses across the three samples. Because the five-item spontaneous subscale was created after data collection for the military sample, a 20-item measure using only four scales is presented for Sample 1.

The pattern of loadings was very similar across all three samples. In all but one case (Item 41 in Sample 2), each item loaded on only one factor. The total item variance explained by the 20-item measure in Sample 1 was 50%, and the total item variance explained by the 25-item measure was 63% and 58% in Samples 2 and 3, respectively. Each of the five scales of the final 25-item version of the General Decision-Making Style (GDMS) instrument, labeled Rational, Intuitive, Dependent, Spontaneous, and Avoidant, contained five items.

### *Item and Scale Examination and Assessment Process*

The process of validating a measure never ends (Nunnally, 1978; Schwab, 1980). A measure is continuously validated as data become available to support its use for the particular purpose for which it was designed. The initial psychometric adequacy of the new decision-making style measure was explored through analysis of scale dependence and concurrent validity. The results from all four samples are presented and summarized in this section.

*Assessment of scale independence.* Although the five decision-making styles are conceptualized as independent, Driver et al. (1990) noted that

Table 1  
Factor Analytic Results<sup>a</sup>

Items	Factor loadings														
	Sample 1					Sample 2					Sample 3				
	1	2	3	4		1	2	3	4	5	1	2	3	4	5
I double-check my information sources to be sure															
I have the right facts before making decisions.	-.18	<u>.63</u>	-.09	.02		.11	-.08	-.05	<u>.53</u>	.05	-.17	-.04	-.12	.04	<u>.54</u>
I make decisions in a logical and systematic way.	-.16	<u>.73</u>	-.15	.02		-.15	-.18	-.16	<u>.61</u>	.20	-.05	-.16	-.09	.03	<u>.73</u>
My decision making requires careful thought.	-.10	<u>.76</u>	-.09	.07		-.08	.01	-.06	<u>.73</u>	.32	-.06	-.24	-.08	.02	<u>.73</u>
When making a decision, I consider various options in terms of a specific goal.	-.25	<u>.52</u>	-.10	.09		-.24	-.03	.16	<u>.75</u>	-.10	-.10	-.10	.01	-.08	<u>.58</u>
When making decisions, I rely upon my instincts.	.07	-.09	<u>.76</u>	-.07		.06	.19	<u>.82</u>	.06	.09	.02	.12	<u>.72</u>	.01	-.20
When I make decisions, I tend to rely on my intuition.	.09	-.14	<u>.75</u>	-.04		.11	.16	<u>.72</u>	-.25	.08	.02	.12	<u>.74</u>	-.04	-.11
I generally make decisions that feel right to me.	.01	-.02	<u>.51</u>	.10		.10	.18	<u>.69</u>	.17	.11	-.03	.11	<u>.70</u>	.05	.11
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.	.13	-.18	<u>.49</u>	.01		.13	.25	<u>.49</u>	-.04	-.12	.07	.13	<u>.57</u>	.15	-.11
When I make a decision, I trust my inner feelings and reactions.	.04	-.04	<u>.69</u>	.02		-.04	.15	<u>.79</u>	-.04	-.02	-.04	.08	<u>.72</u>	-.00	-.09
I often need the assistance of other people when making important decisions.	.09	.03	-.05	<u>.66</u>		.11	-.03	-.10	.18	<u>.74</u>	.28	.03	-.02	<u>.71</u>	.03
I rarely make important decisions without consulting other people.	-.07	.15	.04	<u>.61</u>		.01	-.09	-.05	.03	<u>.79</u>	.10	-.12	-.14	<u>.67</u>	-.09
If I have the support of others, it is easier for me to make important decisions.	.12	.02	.05	<u>.51</u>		.19	-.03	.07	.34	<u>.66</u>	.20	-.03	.09	<u>.57</u>	-.01

(continued)



Table 1 Continued

Items	Factor loadings														
	Sample 1					Sample 2					Sample 3				
	1	2	3	4		1	2	3	4	5	1	2	3	4	5
I use the advice of other people in making my important decisions.	-.05	.09	.01	<u>.50</u>		-.12	-.01	.16	-.07	<u>.69</u>	.13	-.03	.12	<u>.62</u>	.02
I like to have someone to steer me in the right direction when I am faced with important decisions.	.20	-.12	.07	<u>.44</u>		.34	-.02	.05	.10	<u>.57</u>	.05	-.03	.08	<u>.70</u>	.05
I avoid making important decisions until the pressure is on.	<u>.82</u>	-.23	.09	.08		<u>.89</u>	.09	.11	.10	.05	<u>.84</u>	.07	-.02	.19	-.12
I postpone decision making whenever possible.	<u>.85</u>	-.18	.08	.06		<u>.94</u>	.05	.02	-.01	.03	<u>.87</u>	.04	.04	.16	-.11
I often procrastinate when it comes to making important decisions.	<u>.84</u>	-.18	.10	.09		<u>.82</u>	-.05	.14	-.23	.01	<u>.86</u>	.09	.03	.15	-.09
I generally make important decisions at the last minute.	<u>.80</u>	-.24	.10	.07		<u>.84</u>	.19	.11	-.03	.04	<u>.84</u>	.16	.02	.15	-.14
I put off making many decisions because thinking about them makes me uneasy.	<u>.77</u>	-.24	.07	.09		<u>.74</u>	-.03	-.02	-.19	.24	<u>.75</u>	.03	-.01	.22	-.14
I generally make snap decisions.						.21	<u>.87</u>	.16	-.05	-.04	.10	<u>.85</u>	.04	-.06	-.24
I often make decisions on the spur of the moment.						.15	<u>.78</u>	.22	-.30	.10	.15	<u>.72</u>	.18	-.03	-.22
I make quick decisions.						-.23	<u>.73</u>	.23	-.08	-.12	-.09	<u>.75</u>	.06	-.13	-.06
I often make impulsive decisions.						.10	<u>.70</u>	.22	-.39	-.11	.18	<u>.70</u>	.17	.01	-.24
When making decisions, I do what seems natural at the moment.						.02	<u>.66</u>	.42	.01	-.04	.06	<u>.58</u>	.29	-.02	-.09
Percentage variance explained	.18	.13	.11	.08		.17	.13	.12	.11	.11	.17	.12	.11	.10	.09

Note. The underlined numbers identify items that were retained for use in the subscale.

a. Sample 1 results based on four scales (without newly created spontaneity items).

individuals actually use primary styles as well as backup styles. Thus the intercorrelations among the five scales of the GDMS measure were examined for independence (see Table 2).

As can be seen, the scales were highly reliable in all four samples. Looking at the three scales for which data were available for all four samples, the pattern of correlations among the scales is very similar. Furthermore, although significant relationships exist between some of the decision-making style scales, the pattern of correlations suggests conceptual independence among the five scales.

*Content validity.* A scale has content validity if the items tap the construct of interest and are representative of the content area. Items were selected for use in the GDMS after an extensive search of both the theoretical and empirical research literature. All possible decision-making style types were identified from the literature, and items were written specifically to tap behaviors that prior literature suggested would indicate a particular style. The items were also examined by a number of independent researchers for the appropriateness of the behavior descriptions. Thus the scale has been judged to have face validity and logical content validity.

*Concurrent validity analysis.* Analyses of variance were used to compare the mean scores for each scale across samples. The results of the ANOVAs and Scheffé's post hoc procedure (to determine which of the group means for each decision-making style were significantly different from the other group means) are in Table 3. Because the military officer sample was considerably larger than the other three samples, a random subsample ( $n = 250$ ) of Sample 1 was selected for use in these analyses. The results show significant differences among the groups on rational,  $F(3, 762) = 8.161, p < .001$ , avoidant,  $F(2, 565) = 46.22, p < .001$ , intuitive,  $F(3, 760) = 20.58, p < .001$ , and dependent,  $F(3, 760) = 4.31, p < .01$ , decision-making styles. The MBA and undergraduate student samples (the only samples to receive the spontaneity scale) were not significantly different on spontaneous decision-making style,  $F(1, 319) = .767, n.s.$

*Construct validity assessment.* To evaluate the construct validity of the GDMS, correlations were computed between each of the scales and control orientation for all of the samples except the R&D sample (see Table 2). Across all three samples, internally controlled individuals were more likely to employ a rational decision-making style and less likely to employ an avoidant decision-making style than were externally controlled individuals. The lack of a significant correlation between control and intuitive style in all three samples implies that internally controlled and externally controlled individuals are equally likely to use intuition in making important decisions. In both student samples, internally controlled individuals were less likely to be

Table 2

*Scale Intercorrelations and Zero-Order Correlations With Other Study Variables<sup>a</sup>*

	Rational				Intuitive			
	Sample				Sample			
	1	2	3	4	1	2	3	4
Rational	(.82)	(.79)	(.77)	(.85)				
Intuitive	-.25***	-.08	-.23***	-.19**	(.78)	(.84)	(.83)	(.79)
Dependent	.08**	.24*	-.05	.23***	.03	.05	.06	-.03
Avoidant	-.44***	-.17	-.27***	—	.21***	.13	.07	—
Spontaneous	—	-.29**	-.41***	—	—	.53***	.32***	—
Control								
Orientation	.22***	.36***	.21***	—	-.02	.00	-.12	—
Innovativeness	—	—	—	-.19**	—	—	—	.16*
Innovative								
Behavior	—	—	—	-.16*	—	—	—	—

*Note.* Cronbach's alpha estimates of internal consistency for control orientation were .76 for the mastery measure used in the military officer sample (Sample 1); .66 and .78 for the locus of control measure used in the MBA (Sample 2) and undergraduate sample (Sample 3), respectively. The *N*s were as follows: Sample 1—1,441; Sample 2—84; Sample 3—229; and Sample 4—189. Cronbach's alphas for the decision-style scales for each sample are in parentheses.

dependent on others in making decisions. However, in the military officer sample, the lack of a similar significant correlation suggests that both internally controlled and externally controlled officers were equally likely to rely on others when making decisions.

To evaluate the external validity of the GDMS, correlations were computed between the scales and both innovative behavior and innovativeness using data from the R&D sample only. Data from only three of the scales (rational, intuitive, and dependent) were available for this analysis (see Table 2). The measure of innovativeness was significantly correlated in the hypothesized direction with all three subscales. The composite measure of innovative behavior was significantly correlated in the hypothesized direction with two of the three subscales. These correlations indicate that innovativeness is less likely with either a rational or dependent decision-making style and is more likely with an intuitive decision-making style.

## Discussion

This study presents the development and preliminary validation of an instrument designed to assess decision-making style. Four decision styles postulated a priori from the literature emerged as independent styles in the military officer sample—rational, intuitive, dependent, and avoidant. In addition, a fifth style emerged, which we named *spontaneous*. The finding of five distinct decision-making styles was then replicated with two independent samples—undergraduate students and MBA students. Overall, test results for

Dependent				Avoidant			Spontaneous		
Sample				Sample			Sample		
1	2	3	4	1	2	3	1	2	3
(.68)	(.83)	(.80)	(.86)						
.16***	.20	.36***	—	(.93)	(.93)	(.94)			
—	-.09	-.06	—	—	.08	.19**	—	(.87)	(.87)
-.02	-.21*	-.34***	—	-.21***	-.21*	-.38***	—	-.16	-.15*
—	—	—	.23***	—	—	—	—	—	—
—	—	—	-.19	—	—	—	—	—	—

a. The GDMS included only the four a priori scales for Sample 1, the military officers. The GDMS included only three of the four scales of the decision-making style instrument for Sample 4, the engineers. Sample 4 did not complete the control orientation measure.

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .

internal consistency and factor stability were excellent across these three samples. This is noteworthy because the military officer sample reported on career decision making, whereas the student samples reported on important decision making in general. Thus the fundamental typology of decision-making styles that emerged appears to be neither context nor problem specific.

Furthermore, the significant correlations between control orientation and the decision-making style scales support the proposition that decision-making style is reflective of individual cognitive style. In addition, the correlations found among the subscales of the GDMS support the notion that the decision-making styles are not mutually exclusive, and that individuals do not rely on a single decision-making style. The findings in this study indicate that individuals use a combination of decision-making styles in making important decisions (cf. Driver et al., 1990).

The negative correlation between rational and avoidant decision-making styles (in both the military officer and undergraduate student samples) supports the conclusion of Phillips et al. (1984) that rational decision makers tend to approach, rather than avoid, problems. However, in contrast to Phillips et al.'s (1984) conclusion that dependent decision makers were no less likely to avoid problems than were rational or intuitive decision makers, the present study found that dependent decision makers were more likely to avoid decision making. This outcome supports Harren's (1979) notion that dependent decision makers are relatively passive and seek to avoid decision making.

Table 3  
*Analyses of Variance of the Decision-Making Style Scales*

Scale	Mean <sup>a</sup>	SD	MS Between	df Between	MS Within	df Within	F
Rational							
Sample 1 <sup>b</sup>	4.158 <sub>i</sub>	.33					
Sample 2	3.918 <sub>ij</sub>	.570					
Sample 3	4.034	.566					
Sample 4	4.087 <sub>j</sub>	.530	2.449	3	.300	762	8.161***
Intuitive							
Sample 1	3.004 <sub>ij</sub>	.715					
Sample 2	3.490 <sub>i</sub>	.699					
Sample 3	3.429 <sub>j</sub>	.779					
Sample 4	3.193 <sub>ij</sub>	.726	10.671	3	.518	760	20.584***
Dependent							
Sample 1	3.275	.639					
Sample 2	3.232 <sub>i</sub>	.730					
Sample 3	3.235	.743					
Sample 4	3.452 <sub>i</sub>	.667	2.035	3	.472	760	4.311**
Avoidant <sup>c</sup>							
Sample 1	1.845 <sub>i</sub>	.648					
Sample 2	2.565 <sub>i</sub>	.971					
Sample 3	2.105 <sub>i</sub>	.868	31.741	2	.687	565	46.219***
Spontaneous <sup>d</sup>							
Sample 2	2.463	.899					
Sample 3	2.556	.793	.517	1	.674	319	.767

a. Means with the same subscript are significantly different from other groups at the .05 level using Scheffé's post hoc analysis (e.g., Rational: Sample 1 differs from Sample 2 and Sample 2 differs from Sample 4).

b. Samples are as follows: Sample 1—military officers; Sample 2—MBA students; Sample 3—undergraduate students; and Sample 4—engineers and technicians.

c. The avoidant scale was not administered to Sample 4.

d. The spontaneous scale was not administered to Samples 1 and 4.

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .

Construct validity was assessed using multiple sources of data. The results suggest that individuals who approach problems in a rational manner are less likely to be innovative. This finding provides support for prior conceptualizations of the influence of individual cognitive style on the process of innovation. Additional study is called for to determine how a rational decision style interferes with innovative behavior. Although current theorizing suggests that rationality limits the boundaries of alternative problem formulation, empirical evidence on this mechanism is scanty. The availability of a validated measure of decision-making style should aid this effort.

In summary, this study reports on the development of a measure of decision-making style that can be used across contexts and decision situations. This study also demonstrates that prior conceptualizations of decision-making style have been incomplete, failing to identify two additional decision-making styles—avoidant and spontaneous. The GDMS instrument provides the

means through which future empirical research and theoretical development may occur in this arena. Future research that explores in earnest the effects of previously learned decision strategies on the selection of current strategy is encouraged.

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