

Time Perspective in Vocational Maturity and Career Decision Making

MARK L. SAVICKAS

Behavioral Sciences Program, Northeastern Ohio Universities College of Medicine

S. MARC SILLING

Counseling and Testing Center, The University of Akron

AND

STEVEN SCHWARTZ

Career Development Office, Marietta College

This study investigated the hypothesis that time perspective is a component in vocational maturity and career decision making. Ninety-seven college freshmen responded to two measures of time perspective and seven measures selected to represent attitudinal vocational maturity, cognitive vocational maturity, and career decision making. The nine variables were intercorrelated and the resulting matrix was subjected to alpha factor analysis. Three factors were extracted and titled Attitudinal Vocational Maturity, Cognitive Vocational Maturity, and Career Decision Making. As predicted, time perspective was a component in the Attitudinal Vocational Maturity and Career Decision-Making factors. The results supported the hypothesis and specifically linked time perspective to planfulness and degree of indecision. © 1984 Academic Press, Inc.

An individual's perspective on time determines how relevant the future is to current behavior and choices. Accordingly, time perspective is a prime variable in vocational maturity and career decision making (Super & Hall, 1978). Models of vocational maturity include time perspective as a variable (Ginzberg, Ginsburg, Axelrad, & Herma, 1951) or incorporate it into variables such as planfulness (Super & Overstreet, 1960), involvement (Crites, 1965), or awareness (Harren, 1979). Models of career decision

Send requests for reprints to Mark L. Savickas, Behavioral Sciences Program, Northeastern Ohio Universities College of Medicine, Rootstown, OH 44272.

making include time perspective as an implicit variable in expectancy, anticipation, estimation, or subjective probability of future success (Jepsen & Dilley, 1974). Although models of vocational maturity and career decision making contain time perspective as a prime variable, few studies have investigated career time perspective.

Two studies that have addressed the part of time perspective in vocational maturity and career decision making did so only indirectly. Both studies reported that time perspective emerged from statistical analyses as the underlying structure or organizing influence operating on behavioral indices of vocational maturity and career decision making. The Career Pattern Study (Super & Overstreet, 1960) measured 138 ninth-grade boys on 27 indices of vocational maturity. Factor analysis of the 27 indices extracted planfulness as a major factor along with three different time segments as lesser factors (i.e., short view ahead, intermediate view ahead, and long view ahead). As a group, the four factors formed "planfulness or time perspective" and constituted vocational maturity in ninth-grade boys. Subsequently, Super (1974) formulated a developmental model of vocational maturity that contained "planfulness or time perspective" as a basic dimension or second-order factor subsuming the first-order factors of distant future, intermediate future, and present. In an updated version of his model, Super (1983) refined his view of planfulness. He now sees it as including three components: autonomy, time perspective, and self-esteem.

In the other study, Jepsen (1974a) measured 116 eleventh-grade students on 32 indices of vocational decision making. Cluster analysis of the 32 indices extracted four clusters. The clusters grouped career decision-making behaviors according to time segments: planning activity cluster (present), senior courses cluster (immediate future), posthigh school plans cluster (intermediate future), and long-range plans cluster (10 years in the future). Jepsen used these clusters to identify 12 vocational decision-making strategy types or "patterns inherent in the way adolescents organize information about themselves and vocational options" (1974b, p. 18). The statistical and logical analyses reported by both Super and Jepsen depict time perspective as an important component in vocational maturity and career decision making.

The present study explored the relationship of time perspective to the three major process dimensions (Crites, 1976, 1983) in career development: attitudinal vocational maturity, cognitive vocational maturity, and career decision making. Research has shown that measures of attitudinal vocational maturity correlate to measures of career decision making in the .40–.59 range and correlate to measures of cognitive vocational maturity in the .30–.49 range, whereas measures of cognitive vocational maturity do not relate to measures of career decision making (Barak, Carney, & Archibald,

1975; Healy, 1974; Holland, Gottfredson, & Nafziger, 1975; Holland & Holland, 1977; Jepsen & Prediger, 1981; Walsh & Hanle, 1975). These links between the career dimensions provided the basis for forming a hypothesis about the relationship of time perspective to the dimensions and structure underlying career process variables.

This study investigated the hypothesis that time perspective is a component in attitudinal vocational maturity and career decision making but not in cognitive vocational maturity. This hypothesis coincided with the view that time perspective is a part of career decision making (Jepsen, 1974a) and of attitudinal vocational maturity, particularly planfulness (Super, 1983). Time perspective was predicted not to be a part of cognitive vocational maturity because cognitive vocational maturity variables are resources that affect career choice content but do not stimulate the career choice process (Barak et al., 1975). Figure 1 portrays the hypothesis. The circles in Fig. 1 represent the career dimensions and the arrows indicate significant relationships. The boxes beneath the circles identify the observed variables selected to represent the dimensions or latent variables. These observed variables were taken from Super's (1983) model of vocational maturity and Holland's research on career decision making (Holland & Holland, 1977).

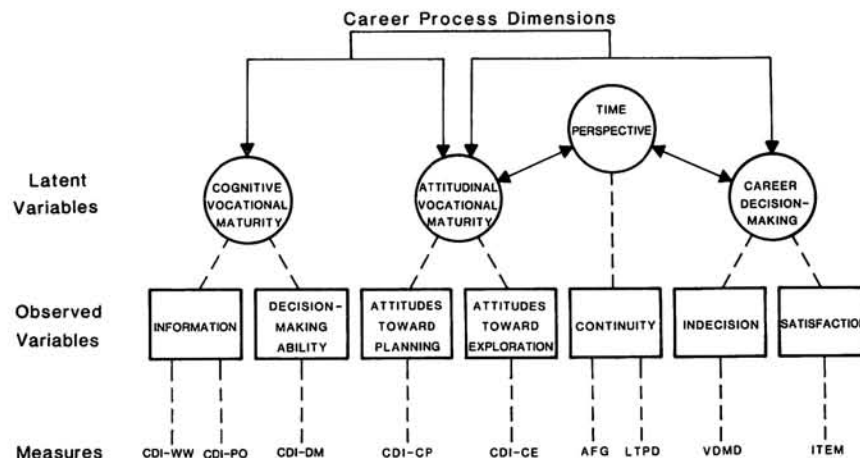


FIG. 1. Hypothesized relationship between time perspective and career process dimensions. Abbreviations stand for the Career Development Inventory World-of-Work scale (CDI-WW), Knowledge of Preferred Occupation scale (CDI-PO), Decision-Making scale (CDI-DM), Career Planning scale (CDI-CP), and Career Exploration scale (CDI-CE), and for the Achievability of Future Goals scale (AFG), the Long-Term Personal Direction scale (LTPD), the Vocational Decision-Making Difficulty scale (VDMD), and a satisfaction with career choice question (ITEM).

METHOD

Measurement of the Variables

Each dimension or latent variable in the present study was "multiply operationalized" (Cook & Campbell, 1979) with two observed variables. This section describes the measures used to assess the observed variables.

Time perspective. About 30 measures of time perspective have been reported, but they have insufficient normative data and validity evidence. To resolve the problem of choosing an instrument from a group that lacks adequate operational definition and consistent linguistic explication, Madison (1984) conducted a study to identify the best available measure of time perspective. He extracted one major factor and three minor factors from 31 time perspective measures. The major factor was sense of continuity between the present and future. The best measures of continuity were the Long-Term Personal Direction Scale (Wessman, 1973) and the Achievability of Future Goals Scale (Heimberg, 1961).

The present study used both the Long-Term Personal Direction Scale (LTPD) and the Achievability of Future Goals Scale (AFG) to measure continuity. The LTPD measured sense of continuity as well as motivation for and commitment to long-term goals. The students rated the 20 LTPD items on a 7-point Likert scale. For the sample in the present study α reliability for the LTPD was .87. The AFG measured optimism that present behavior can be organized to achieve future goals. The students rated the eight AFG items on a 7-point Likert scale. For the sample in the present study α reliability for the AFG was .69.

Although the LTPD and the AFG both measured sense of continuity between the present and future, they measured different response tendencies toward the future. The LTPD assessed the inclination to structure or map the future with events, whereas the AFG assessed the inclination to optimistically anticipate the future. The optimism and future structure aspects of the two continuity measures conform to the two distinct elements of career time perspective described by Ginzberg and Herma (1964). To distinguish the different dispositions toward the future assessed by these two continuity measures, the observed variables measured with the LTPD and the AFG were referred to as structured continuity and optimistic continuity, respectively.

Attitudinal vocational maturity. The vocational maturity variables were measured with the Career Development Inventory—College and University Form (CDI). The two observed variables in the attitudinal vocational maturity dimension, planfulness and exploratory attitudes, were measured with the Career Planning Scale (CP) and the Career Exploration Scale (CE) from the CDI. The Supplement to the User's Manual (Super, Thompson, Lindeman, Jordaan, & Myers, 1982) reported an α reliability of .91 for CP and .80 for CE.

Cognitive vocational maturity. Three observed variables in the cognitive vocational maturity dimension were measured with three scales from the CDI. Decision-making ability was measured with the Decision-Making Scale (DM) which was reported to have an α reliability of .62. Information about career development tasks and occupations was measured with the World-of-Work Scale (WW) which was reported to have an α reliability of .67. Knowledge about the occupational group preferred by a student was measured with the Knowledge of Preferred Occupation Scale (PO) which was reported to have an α reliability of .61. Knowledge of preferred occupation is the result of in-depth exploration and differs from world-of-work information and decision-making ability because of its specific focus. To some extent, knowledge of preferred occupation seems to be a function of looking ahead. Therefore, it should relate to time perspective even though it is conceptualized as an observed variable in the cognitive vocational maturity dimension.

Career decision making. Two observed variables in career decision making were assessed. Degree of indecision was measured with the Vocational Decision-Making Difficulty Scale (VDMD) which was devised by Holland, Gottfredson, and Nafziger (1973). The students responded true or false to 13 items dealing with lack of confidence about decision-making skill and lack of self- and occupational information. Higher scores indicated a greater degree of indecision. Holland and Holland (1977) reported KR-20 reliability coefficients of .86, .84, .78, and .63 for four samples of high school and college males and females. The KR-20 coefficient in the present sample was .68. Satisfaction with career choice was measured with a question taken from Holland et al. (1973). Students indicated on a 6-point scale how satisfied they were with their career choice. Empirical evidence has supported the validity of this item and the VDMD (Slaney, Palko-Nonemaker, & Alexander, 1981; Slaney, 1980; Holland & Holland, 1977; Holland et al., 1975).

Subjects and Procedures

Students were recruited from second-semester freshmen English classes at a small, private liberal arts college in the midwest. The total sample consisted of 61 white males and 36 females, which was the same ratio of males to females for the entire freshmen class. The sample size was adequate to meet the rule of thumb that factor analytic studies use at least a 10-to-1 cases-to-variables ratio and to exceed the minimum allowable 4-to-1 ratio needed for inference (Rummel, 1970).

Subjects were self-selected from a total of 166 students who were asked by the college's career counselor to participate in the study. Those students comprising the sample were given the inventories and shown how to record their answers. They responded to the inventories during the week and returned them to their English professor. The students

received a group interpretation of their test results from the career counselor.

Design and Analysis

Pearson product-moment correlation coefficients were computed between the variables to determine their relationships. Studies of sex differences in time perspective have reported equivocal findings (Cottle, 1976), but sex differences may moderate the relationship between time perspective and the career variables. Therefore, partial correlations between the time measures and career measures were computed to statistically control for the effects of sex. Where changes in significance occurred between the zero-order Pearson correlation and the analogous partial correlation, separate analyses for each sex were considered.

To test the hypothesis, the correlations between the nine observed variables were factor analyzed with the ALPHA option in the subprogram FACTOR of the Statistical Package for the Social Sciences (Nie, Hull, Jenkins, Steinbrenner, & Bent, 1975). Alpha factor analysis allowed investigation of the nature of the domain and the generalizability of the particular measurement procedures. A coefficient of generalizability was computed for each factor to indicate how well it represented a true factor in the content universe and if reliable generalizations could be made from the nonrandom sample of variables in the study to the universe of variables in the career domain (Greene, 1978).

RESULTS

Table 1 presents the means and standard deviations for the nine observed variables along with their intercorrelations. Because the students responded to the measures without supervision, the means and standard deviations for each measure were compared to results reported by other investigators. The five CDI scale means for the sample were compared to the means presented in the Supplement to the User's Manual. The CP and PO means were significantly higher ($p < .05$) in the present sample, though the differences in means (73.7 vs 71.1 and 23.5 vs 22.5, respectively), were slight. The means for the LTPD, AFG, VDMD, and satisfaction item did not differ, at the .05 level, from the means obtained with these measures in other samples (Madison, 1983; Slaney, Palko-Nonemaker, & Alexander, 1981; Slaney, Stafford, & Russell, 1981).

Comparison of the zero-order correlation coefficients with the analogous partial correlation coefficient controlling for sex showed that only one coefficient changed by more than .03. The correlation between exploratory attitudes and optimistic continuity dropped from .33 to .29 when the partial instead of the zero-order was used. Both correlations were significant at the .01 level. Because of the insignificant differences between the 36 pairs of zero-order and first-order correlation coefficients, separate analyses

TABLE 1
Means, Standard Deviations, and Intercorrelations for the Observed Variables

	Mean	SD	1	2	3	4	5	6	7	8	9
Time perspective											
1. Structured continuity (LTPD)	100.39	12.50	1.00								
2. Optimistic continuity (AFG)	45.16	4.61	.58***	1.00							
Attitudinal vocational maturity											
3. Planfulness (CP)	73.68	10.94	.50***	.38***	1.00						
4. Exploratory attitudes (CE)	176.76	21.27	.30**	.22*	.43***	1.00					
Cognitive vocational maturity											
5. Knowledge (PO)	23.50	4.36	.31**	.26**	.41***	.28**	1.00				
6. Decision making (DM)	14.68	2.65	.16	.10	.03	.11	.20*	1.00			
7. Information (WW)	16.00	1.85	.17	.15	.10	.06	.29**	.40***	1.00		
Career decision making											
8. Indecision (VDMD)	5.29	3.09	-.47***	-.19*	-.37***	-.21*	-.18	.06	-.07	1.00	
9. Satisfaction with choice	1.91	1.03	.33***	.06	.24**	.13	.06	-.04	.06	-.35***	1.0

* $p < .05$.

** $p < .01$.

*** $p < .001$.

for sex were not needed. Sex did not appear to moderate the relationship of time perspective to the career variables in this sample, and it did not present a plausible rival hypothesis to explain the association between the variables.

Alpha factor analysis extracted three factors which accounted for 62% of the variance in the correlation matrix. The initial factor loadings were rotated to simple structure using varimax criterion. Table 2 reports correlations of .40 or higher between the observed variables and the orthogonal factors. To examine relationships among the factor constructs derived from the observed variables, the factors were rotated to an oblique position. Table 2 reports the correlations between the observed variables and the oblique factors as well as the correlations between the three factors.

DISCUSSION

The hypothesis that time perspective is a component in vocational maturity and career decision making was accepted because of the results of the factor analysis. First, the results confirmed that the career variables functioned as expected, except for knowledge of preferred occupation. The three factors extracted from the nine observed variables corresponded

TABLE 2
Correlation of Observed Variables with Orthogonal and Oblique Factors

	Orthogonal factors			Oblique factors ^a		
	I	II	III	I	II	III
Time perspective						
1. Structured continuity (LTPD)	.60	.53		.73	.66	
2. Optimistic continuity (AFG)	.56			.60		
Attitudinal vocational maturity						
3. Planfulness (CP)	.74			.77		
4. Exploratory attitudes (CE)	.53			.55		
Cognitive vocational maturity						
5. Knowledge (PO)	.44			.47		
6. Decision making (DM)			.59			.59
7. Information (WW)			.70			.71
Career decision making						
8. Indecision (VDMD)		-.57			-.62	
9. Satisfaction with Choice		.53			.53	
Eigenvalues	5.83	2.07	1.11	5.83	2.07	1.11

^a Factor I correlated .45 with Factor II and .26 with Factor III. Factors II and III correlated .02.

to the three dimensions or latent variables assumed to underly the observed variables. Second, the time variables blended into the three factors as predicted.

The three factors were titled according to the observed variables which correlated .40 or higher with each factor. Factor I, Attitudinal Vocational Maturity, correlated significantly with five variables. Planfulness, exploratory attitudes, and knowledge of preferred occupation combined with structured continuity and optimistic continuity to constitute this factor. The factor's coefficient of generalizability (.76) indicated that it was a reliable representative of a "true" factor in the career domain. Factor II, Career Decision-Making, correlated with the variables of degree of indecision, satisfaction with choice, and structured continuity. Thirty-six percent of the variance in structured continuity loaded on Factor I, whereas 28% of the variance in structured continuity not associated with Factor I loaded on Factor II. Factor II had positive generalizability (.34), so it can be concluded that Career Decision-Making is a common factor in the career domain. Factor III, Cognitive Vocational Maturity, correlated with decision-making ability and world-of-work information. Factor III had a low but positive coefficient of generalizability (.04), suggesting that some major elements in the "true" factor were not included in the "observed" factor. Factor III marginally represents a cognitive vocational maturity factor in the career domain which probably has several other elements (e.g., self-knowledge and problem solving).

The results of the factor analysis raise a question about the classification of the variable knowledge of preferred occupation. Although knowledge is a cognitive variable, it did not correlate with the Cognitive Vocational Maturity factor. Its association with the Attitudinal Vocational Maturity factor might be because knowledge is a result of exploration. As such, knowledge is, to some extent, a function of planfulness and exploratory attitudes. The cognitive variables that did load on the Cognitive Vocational Maturity factor are competencies (Crites, 1965) not outcomes. Instead of trying to classify knowledge as either an attitudinal or cognitive variable in career choice process (Crites, 1976), it might be more appropriate to classify it as a variable in career choice content.

In addition to conforming to the expected dimensions, the factors intercorrelated as predicted when they were rotated to oblique position. Attitudinal Vocational Maturity and Career Decision Making shared about 20% of their variance ($r = .45$). This finding agreed with other studies reporting links between the observed variables constituting these two factors. The correlation between the Attitudinal Vocational Maturity and Cognitive Vocational Maturity factors ($r = .26$) almost conformed to the proposition in career development theory that career choice attitudes and competencies correlate in the .30-.49 range (Crites, 1965). The lack

of correlation ($r = .02$) between the Career Decision Making and Cognitive Vocational Maturity factors was also expected.

The factor analytic results confirmed conceptual and empirical descriptions of the dimensions and structure underlying career process variables. More importantly, they increased our understanding of the dimensions. Time perspective was shown to be a component in Attitudinal Vocational Maturity and Career Decision Making but not in Cognitive Vocational Maturity. Moreover, the findings indicated that sense of continuity is an important part of planfulness and degree of indecision. Further examination of the results led to the interpretation that different response tendencies toward the future might be included in planfulness and degree of career indecision.

The factor analysis showed that structured continuity related to the Attitudinal Vocational Maturity and Career Decision Making factors, whereas optimistic continuity related to only the Attitudinal Vocational Maturity factor. This finding may be explained by the fact that structured continuity included a disposition toward the future different from that included in optimistic continuity. The tendency to structure the future with events may have a different implication for career development than does the tendency to optimistically anticipate the future. Lack of future structure might be an antecedent of career indecision, whereas pessimism might be an antecedent of immature attitudes toward planning.

Because of the exploratory nature of this study and the limited sample size, the findings require a confirmatory factor analysis (Bechtoldt, 1961) with a larger sample. Still, the results are important in that they confirmed the dimensions and structure underlying career process variables, indicated that time perspective is a component in Attitudinal Vocational Maturity and Career Decision Making, and led to the hypotheses that lack of future structure is a developmental antecedent of vocational indecision and that pessimism is a part of immature attitudes toward planning. Future investigations of career time perspective should examine its potential as an index of career immaturity and indecision and as a topic for interventions designed to develop career planfulness and facilitate career choice.

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