

The Relation of Career Maturity to Personality Type and Social Adjustment

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Models of career maturity, first formulated at midcentury, have been criticized for not incorporating innovations in personality and developmental psychology. This isolation from general models of and debates about personal maturity has kept career maturity from receiving widespread acceptance in mainstream psychology. The present study investigated whether Super's model of career maturity could be linked to Gough's three-dimensional model of personality organization. To explore relations between the two structural models, 200 college students responded to Gough's California Psychological Inventory and Super's Career Development Inventory. Results showed that planful competence in career development related to greater realization of one's potential and a higher degree of social adjustment. Furthermore, the results indicated that more mature attitudes toward career planning and exploration related to an adjustment style characterized by extroversion in interpersonal relationships and by a positive orientation to social norms.

Keywords: Career maturity, career choice, career development, adaptability, social adjustment

Vocational psychologists have produced a significant body of research findings on personality and adjustment (Buboltz, Miller, & Williams, 1999), yet researchers in personality, social, and developmental psychology generally have not recognized this work. For example, vocational psychologists have well-developed models and measures of personality types (Holland, 1959)

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and maturity (Super, 1954) that have important implications for understanding personality and development, but neither of these lines of inquiry have influenced prevailing thought in applied psychology. This caused Osipow (1993) to lament the fact that the work of vocational psychology is often overlooked in the mainstream of social affairs in general and in psychology in particular. With few exceptions, such as research on career self-efficacy (Bandura, 1997), related fields of psychology neither recognize nor use research findings from vocational psychology.

One reason for this disregard is that although vocational psychologists derive their constructs from basic disciplines in psychology, they do not link their findings back to these disciplines. Career maturity is a case in point. In defining the construct of career maturity, researchers at midcentury relied heavily on the then current models and methods in personality and developmental psychology (Buehler, 1933; Lazarsfeld, 1931). For the next 40 years, career maturity researchers continued to ground their work in those models, neither linking their findings back to developmental psychology nor attending to innovations in developmental psychology (Vondracek, Lerner, & Schulenberg, 1983). Of course, the same can be said about research on vocational interests which also should be linked to mainstream psychology, yet this link is still missing 20 years after Holland (1976) criticized vocational psychology for being unable "to draw on the strength of personality and learning theory and vice versa" (p. 523). In the early 1990s, a leading personality researcher explicitly recommended that researchers concentrate on linking personality structure to career development and adjustment (Goldberg, 1993). Following his recommendation, in the last few years researchers on vocational interests have begun to do just that by linking the structure of vocational interests to the structure of personality, often comparing Holland's (1997) RIASEC hexagonal model of interests to personality styles, the "Big Five" model of personality (Costa & McCrae, 1992), and Wiggins's (1982) interpersonal circumplex (Borgen & Harmon, 1996; Broughton, Trapnell, & Boyes, 1991; Schneider, Ryan, Tracey, & Rounds, 1996; Tokar & Swanson, 1995; Tracey & Rounds, 1996). This embryonic work linking interest theory to personality theories has clarified the structure and meaning of interests for vocational psychology as well as contributed information about interests to personality psychology.

The success achieved by linking research on interests to personality prompted us to investigate whether a similar approach could succeed in linking models of career maturity to mainstream psychology, specifically personality psychology. We could find only one prior study that linked career maturity to a more general model of personality, a superb study by Heath (1976) that unfortunately never received the attention it deserved. Heath asserted that the construct of career maturity has yet to receive widespread acceptance in mainstream psychology because the construct continues to be "developed in isolation from more general models of and debates about maturity" (p. 1). To advance career maturity theory, the construct must be

seen as a specific example of more general developmental and personality principles. Accordingly, the present study investigated the relation of career maturity to personality, specifically to personality structure as has been done by interest researchers.

Before examining how career maturity relates to personality structure we had to decide which model of personality structure to use. There are two important families of structural models for personality, each with substantial lines of inquiry into the organization of personality. The two basic models differ in origin and goals. The circumplex model (exemplified by Wiggins, 1982) originated in the interpersonal psychiatry of Harry Stack Sullivan (Leary, 1957) and social psychology (Bales, 1950) whereas the dimensional model (exemplified by McCrae & Costa, 1987) originated in factor analyses of data from personality inventories. Circumplex models concentrate on interpersonal interaction as defined by two dimensions, typically labeled "love and dominance," "affiliation and status," or "sociability and conformity." Dimensional models, such as the "Big Five," include these two interpersonal dimensions, labeling them extroversion and agreeableness, and add one or more dimensions not intrinsically interpersonal but more affective, experiential, and motivational (Goldberg, 1993; McCrae & Costa, 1989). Consequently, dimensional models depict a more comprehensive account of personality organization whereas circumplex models depict a more thorough representation of social behavior. In choosing a model to use in research, dimensional models are better suited to cases in which there is clear simple structure (i.e., the variable cluster around the axes) whereas circumplex models are better suited to cases where variables are evenly distributed around the circumference of a two-dimensional plot.

In our research, we wanted to use an interpersonal model of personality organization because we view career maturity as behavioral responses to social expectations known as vocational developmental tasks and as a reflection of an individual's ability to function effectively in society. However, rather than a circumplex, we preferred a two-dimensional model of social behavior because career maturity is modeled by two dimensions, attitudes and competencies, which fit simple structure and because, in due course, the findings could be linked to research on the two-dimensions that structure Holland's hexagonal model of vocational interests. Thus, we selected Gough's (1990) two-dimensional model and measure of social behavior because of its conceptual elegance and precise operational definition. Moreover, Gough's complete model adds a third dimension, not of personality style but of social adjustment, that has particular relevance for career maturity research.

Gough's (1990) structural model of personality emerged from research on his California Psychological Inventory (CPI; Gough, 1996) which measures characteristics of everyday, interpersonal behavior such as responsibility, flexibility, and self-control. The CPI measures adaptive behavior and coping mechanisms in contrast to the MMPI which measures psychopathology and

defense mechanisms. Higher scale scores and overall profile elevation on the CPI indicate more effective interpersonal functioning.

More than 50 factor-analytic studies of the 18 original scales (now 20) consistently have identified two major latent themes that structure the manifest scales: interpersonal orientation and adherence to social norms. In 1970, Levin and Karni published the first smallest space analysis of the CPI which indicated a third orthogonal latent dimension indexed by three CPI scales: well-being, tolerance, and intellectual efficiency. Gough (1990) concluded that this third dimension reflected overall profile elevation and indicated level of realization of personality potential. Guided by the accumulated research on the CPI, Gough constructed three structural scales to represent the latent dimensions manifested in the CPI's 20 scales. This innovation in the CPI, added to its rich clinical literature and extensive empirical findings, makes it particularly useful for research that explores the basic structure of personality (Goldberg, 1993).

Gough (1990) called the three structural scales Vectors 1, 2, and 3. Vector 1 (V.1) denotes an interpersonal continuum from substantial social engagement (low scores) to social detachment (high scores) which Gough labeled externalization (outward focus) versus internalization (inward focus) in behavior. Vector 2 (V.2) denotes an orientation to social norms on a continuum from norm doubting and questioning to norm acceptance, upholding, and favoring. Thus, V.2 ranges from undercontrol to overcontrol in the regulation of behavior. In "Big Five" terms, V.1 represents extroversion and V.2 represents agreeableness. Vector 3 (V.3) denotes level of realization, that is, the degree of effective functioning an individual has achieved. V.3 seems particularly relevant to career maturity in that it signifies the type of interpersonal behavior which facilitates achieving social goals in everyday life and adjusting comfortably to expectations set by society, including vocational development tasks.

Gough's Model of Personality

Gough (1990) used the three vectors as axes in a geometric, cuboid model of personality. Gough's structural model uses cutoff scores on V.1 and V.2 to conjointly define four quadrants, with each quadrant containing about 25% of the general population (Gough, 1990, p. 43). The quadrants represent four ways of living, life styles, or types of people. Alphas are externally oriented and norm favoring (low V.1, high V.2). They are outgoing, readily accept social norms, and focus on constructive and appropriate social behavior. Betas are internally oriented and norm favoring (high on both V.1 and V.2). They are comfortable with norms yet more private than Alphas so they tend to display quietly reflective and conventional behaviors. Gammas are externally oriented and norm questioning (low V.1, low V.2). They enjoy being with people and value success and social rewards yet remain skeptical

about the legitimacy of authority. They can be innovative because they quickly notice flaws and creatively propose new ways of doing things. Deltas are internally oriented and norm questioning (high V.1, low V.2). They may be called artistic or intellectual because they tend to display reflective, imaginative, and creative behavior. Deltas often disagree with social conventions and traditional value systems, typically preferring to center their lives around their own private, internal world.

Cutoff scores divide V.3 into seven levels of effectiveness. So individuals are assigned to a quadrant and then, within that quadrant, placed at a level of realization that indicates how well they execute that way of life and realize their type's potentiality. Dividing each of four quadrants into seven levels produces a 28-cell taxonomy of personality functioning. For example, an Alpha at level 4 is an Alpha type functioning at an average level of competence. A Gamma at level 1 would be dissatisfied with current life and might be disruptive and counteractive in cultural context.

Gough's quadrants resemble Holland's (1997) RIASEC types in that both are personality typologies and both indicate adjustive orientations. The typologies differ in that the RIASEC hexagonal model has nothing like V.3, level of realization, which would indicate how effectively a RIASEC adjustive orientation is working for the individual. In other words, Holland's hexagonal model might indicate that two individuals display the same lifestyle, say ISA, yet does not indicate directly how adaptive the two individuals actually are in implementing the ISA vocational personality type in their social context. Of course by adding the secondary constructs of congruence, consistency, identity, and differentiation, Holland's theory does address adjustment, particularly success, satisfaction, and stability.

Super's Model of Career Maturity

To operationally define career maturity, we used the model and measure of career development in adolescence and early adulthood that Super and his colleagues elaborated over a course of 4 decades (Super, 1955; Super, Savickas, & Super, 1996). According to the complete model, when decision-making competence is supported by an adequate fund of occupational information based on planful exploration, then individuals are ready, that is sufficiently mature, to make tentative career choices that are viable and suitable. The model defines two basic dimensions of maturity: attitudes toward and competencies for developing a career.

Attitudes

The attitudinal dimension consists of two variables: attitudes toward career planning and attitudes toward career exploration. Planning attitudes mediate

involvement in thinking about and preparing for the vocational future. Mature attitudes incline individuals to look ahead, take a planful approach, and actively involve themselves in career planning activities. Immature attitudes usually disincline individuals from looking ahead to their future in the world-of-work; therefore, they do not feel a need to acquaint themselves with or relate themselves to occupations. Attitudes toward career exploration address willingness to find and use good resources for career planning. Immature attitudes toward exploration usually mean that individuals are unconcerned with using good sources of data about the fields and levels of work.

Competencies

The two variables in this cognitive dimension deal with decision-making competence and fund of occupational information. Low informational competence indicates that individuals need to learn about types of occupations, the mores of work, and vocational development tasks. They probably do not know much about the range of occupations available to them. In contrast, an adequate fund of information means good knowledge about types of occupations and ways to obtain and succeed in jobs. High competence means that individuals are sufficiently knowledgeable to apply occupational information to self and to begin crystallizing field and level preferences. Decision-making competence means the ability to apply decision-making principles and methods to solve problems involving educational and vocational choices. Low competence suggests that individuals do not know what to consider in making choices. This means those individuals are not ready to use the occupational information they have acquired for career planning. High competence means good knowledge of the principles and practices of decision making. Attitudes are thought to moderate the use of competencies which in turn condition outcomes such as decidedness and realism of choice.

Hypotheses

The distinction between attitudinal and cognitive dimensions in career development structured several hypotheses about how career maturity relates to the dimensions and types in Gough's (1990) model of personal maturity. The dimensions in Gough's cuboid model actually denote two different qualities. The relational (V.1) and normative (V.2) dimensions address *styles of adjustment* whereas the realization dimension (V.3) measures *degree of adjustment*. This qualitative difference between style and degree of adjustment led to the hypothesis that career development relates differentially to the dimensions. We expected that career development attitudes would correlate stronger than the competencies to the dimensions V.1 and V.2.

Furthermore, we hypothesized about the direction of association between career development attitudes and the bipolar orientations in dimensions V.1 and V.2. Because externality fosters greater responsiveness to social expectations, we hypothesized that career attitudes correlate positively to the external orientation to interpersonal relations and negatively with the internal orientation. Because career development attitudes are a response to social expectations and involve development tasks, we hypothesized that they correlate positively to the norm-upholding orientation and negatively to norm-questioning orientation. Because career development competencies condition outcomes, we hypothesized that career competencies would correlate stronger to V.3 realization than to either V.1 or V.2. Because attitudes moderate the use of competencies, we also expected attitudes to correlate significantly to V.3. Because we expected V.3 to correlate to both attitudes and competencies, we predicted that career maturity would relate stronger to V.3 than to V.1 and V.2, which we anticipated would only correlate to attitudes.

These dimensional hypotheses conceptually subsume any typological hypotheses concerning the four types in that there are no interactive or non-linear relations among the dimensions. Nevertheless, in the spirit of Gough's (1990) typological model, we explicitly stated and tested one general and four specific typological hypotheses regarding how career maturity relates to the personality types. Based on the dimensional hypotheses, we further hypothesized that career maturity would be highest in the Alphas because they are external and norm accepting and lowest in the Deltas because they are internal and norm questioning. We also speculated by forming specific hypotheses regarding how the four types might develop different strengths in career development attitudes and competencies. For Alphas, we anticipated the best developed attitudes toward planning because of their externality and norm adherence. For Betas, we anticipated the most positive attitudes toward exploration because they are norm following in attending to vocational development tasks, yet because they are internal they wish to explore their options. For Deltas, despite the prediction that they would have the lowest career maturity, we anticipated the highest decision-making competence because their norm questioning and internality make them more likely to have substantial experience in making personal choices. For Gammas, we anticipated the greatest fund of information because their norm doubting and externality could combine to drive them to collect more and more facts.

In summary, this study examined three major hypotheses concerning the relation of career maturity to the dimension in Gough's (1990) typological model of personality.

1. Career maturity correlates stronger to degree of adjustment than to style of adjustment.
2. Career development attitudes correlate stronger than competencies to style of adjustment, whereas competencies correlate stronger than attitudes to degree of adjustment.

3. Career development attitudes correlate positively to degree of adjustment as well as to the prosocial styles of adjustment represented by the norm-upholding and external orientation.

METHODS

Participants

The participants for the study consisted of 200 college students at a large public university located in the southwestern U.S. In all, 98 men and 100 women participated in the study, and two gender-unspecified participants were excluded from the analyses. The participants were enrolled in undergraduate courses offered by the Department of Psychology. Students who volunteered to participate in the study earned extra credit in their particular psychology course. Human subjects guidelines were followed in recruiting students and conducting the study.

Measures

The construct of personal maturity was operationally defined by the California Psychological Inventory (CPI; Gough, 1996) and the construct of career maturity was operationally defined by the Career Development Inventory–College and University Form (CDI; Super, Thompson, Lindeman, Jordaan, & Myers, 1981). Each participant responded to the complete CPI and the complete CDI.

California Psychological Inventory

The CPI yields three structural scale scores, called vectors, representing interpersonal orientation (internality vs. externality), normative orientation (upholding vs. questioning), and level of realization of potential for effective functioning (realization). To place each participant into a quadrant, we used the cutoff scores recommended by Gough (1996, p. 35). The cutoff scores for V.1 and V.2 were higher for women because women scored higher in the norming sample. The cutoff scores for V.3 were the same for men and women because there were essentially no differences in the norming sample. V.1 was divided at 17.5 for men and at 19.5 for women. V.2 was divided at 21.5 for men and at 22.5 for women. The realization or social competence scale (V.3) consists of 58 CPI items. It was constructed to be orthogonal to the first two vectors yet have a maximum correlation with profile elevation for the CPI's 20 scale scores. Cutoff scores on V.3 divide the scale into seven levels of effectiveness (Gough, 1996, p. 35). Low scores or levels indicate

people who feel unfulfilled and whom others judge as low in social competence. Individuals at higher levels of V.3 display the ego-strength, inner resources, and personal integration needed to achieve a fulfilling life. In a norming sample of 1,000 women, V.3 correlated highly with CPI Tolerance (.87), Achievement via Independence (.86), Intellectual Efficiency (.83), Psychological Mindedness (.79), Well-being (.77), Capacity for Status (.72), Achievement via Conformity (.69), Responsibility (.67), Independence (.66), and Empathy (.65). Helson and Wink (1987) reported that V.3 correlated to extracurricular activities and academic interests in college, ego control and resourcefulness, coping, and expression of feelings in socialized ways. Extensive evidence of the reliability and validity for the three structural scales appears in chapter two of the CPI manual (Gough, 1996, pp. 17-56).

Career Development Inventory—College and University Form

The CDI, although published in 1981 and not revised since then, remains the pre-eminent operational definition of career development during adolescence and young adulthood. The CDI total score indicates career maturity or degree of career development. This score for career maturity is an aggregate of four scales that measure the attitudinal and the cognitive dimensions in Super's (1955) structural model of career development during adolescence and young adulthood. Two 20-item attitudinal scales measure dispositions toward career planning and exploration. The Career Planning Scale uses a 5-point Likert-type response scale, with scores ranging from 20 to 100. The Career Exploration Scale uses a 4-point Likert-type scale, with scores ranging from 40 to 80).

Two CDI cognitive scales measure knowledge about decision making and about the world of work. Each scale uses a multiple choice response format with four options. Thus, scores range from 0 to 20 on each scale. The CDI manual consists of two volumes and a supplement. The 27-page *User's Manual* (Thompson & Lindeman, 1981) presents the rationale, description of item content, administration instructions, scoring procedures, interpretation methods, and recommended uses. The 48-page *Technical Manual* (Thompson & Lindeman, 1984) presents the theory and research supporting the development of the CDI and detailed data on its psychometric characteristics. The 20-page *College and University Supplement* (Thompson & Lindeman, 1982) discusses psychometric characteristics of and normative data for that form. The manual appropriately cautions users about low test-retest reliability for the CDI scales (Career Planning, .79; Career Exploration, .73; Decision Making, .70; World of Work, .67) and encourages use of a CDI total score that increases reliability to .84.

The CDI possesses superior content validity because it explicitly operationalizes a model of career maturity that has been refined by 4 decades of programmatic research. Although the inventory's construct validity needs

Table 1
Distribution of Participants Among the
California Psychological Inventory Types

Level of Realization		Alpha ^a		Beta ^b		Gamma ^c		Delta ^d	
		M	F	M	F	M	F	M	F
1. M = 9	F = 6	4	3	1	1	1	2	3	0
2. M = 12	F = 10	5	4	1	1	4	4	2	1
3. M = 25	F = 18	9	5	4	2	9	7	3	4
4. M = 24	F = 35	7	5	3	5	11	13	3	12
5. M = 13	F = 21	5	7	2	3	3	7	3	4
6. M = 8	F = 6	2	1	4	1	1	3	1	1
7. M = 7	F = 4	4	1	1	0	1	2	1	1
Total		36	26	16	13	30	38	16	23

Note. N = 198 (98 men, 100 women).

a. $n = 62$.

b. $n = 29$.

c. $n = 68$.

d. $n = 39$.

more empirical support, its factor structure and relation to age, grade, and school curricula provide an adequate base. In regard to criterion-related validity, Thompson and Lindeman (1984) cited three concurrent validity studies that showed the CDI related as expected to ability, work salience, and other career development measures. Savickas and Hartung (1996), in reviewing CDI studies published from 1979 through 1995, concluded that the reliability and validity evidence for the CDI is substantial.

RESULTS

Table 1 reports the number of males and females in each quadrant and the number of participants in each quadrant at each of the seven levels of realization. Although Gough (1996, p. 55) expected about 25% of the general population to fall in each quadrant, he reported that college-going rates for the four types differed significantly. Using data for 3,487 high school graduates from 16 cities, he reported a college-going rate of 42%. Among college attenders, he reported the following percentages: Alphas (36%), Betas (23%), Gammas (24%), and Deltas (17%). In the present study, we found similar percentages of Alphas (31.3%) and Deltas (19.7%) but more Gammas (34.3%) and fewer Betas (14.6%). Thus the participants in the present study included a higher proportion of norm-doubting externals and a lower proportion of norm-favoring internals. With regard to level of realization, as one

would expect, most participants (136/198 or 68%) scored in the middle three levels, with 30% or 59 participants falling in level 4. We found 40% (80/198) of participants scored below level 4 and 30% (59/198) of participants scored above level 4.

Table 2 reports the means and standard deviations for the total group and the four CPI types on the four CDI scales and the three CPI vectors. The mean scores for the three CPI vectors indicated that as a total group the participants were at level 4 on V.3 and could be typed as Gammas, although this could be debated because their V.1 and V.2 scores intersected very near the origin for the norming sample, as one might expect for a heterogeneous group of college students. Mean scores on V.3 for each of the four CPI types each fell in level 4.

To examine the hypothesis that career development dimensions relate differently to the three personality dimensions, we examined the correlations of career development attitudes and competencies to each personality vector. Table 3 shows the alpha coefficients for the four CDI scales along with the zero-order correlation coefficients between the three CPI vectors and the four CDI scales, across the total group. The CDI competence scales, as typically found (Savickas & Hartung, 1996), showed lower reliability than the attitude scales. While the internal consistency coefficients of the competence scales were adequate for the purposes of the present study, the reader should keep in mind that the correlations obtained between the competencies and personality variables were attenuated by content sampling error more than those obtained with the attitude scales.

As can be seen in Table 3, both V.1 and V.2 were unrelated to the two CDI cognitive scales. The zero-order correlations showed that V.1, externality, correlated significantly to both planning attitudes ($r = -.20, p < .05$) and exploration attitudes ($r = -.16, p < .05$). V.2, norm-favoring, had a similar pattern in correlating significantly to planning attitudes ($r = .31, p < .01$) and exploration attitudes ($r = .19, p < .05$). To examine redundancy in these zero-order correlations, we computed stepwise multiple regression analyses with the vectors as criteria and the four CDI scales as predictors. These analyses indicated that the four career development variables correlated .25 to V.1 and .33 to V.2. In both regression analyses, planning attitudes was the first and only significant step, correlating .20 to V.1 (externality) and .31 to V.2 (norm upholding). Clearly, planning attitudes explained most of the shared variance between the four career maturity variables and each of the two personality vectors.

V.3 (realization) had a different and more complex relation to the four CDI scales. Most important, V.3 correlated .37 ($p < .01$) to decisional competence and .36 ($p < .01$) to informational competence. With regard to the two CDI attitude scales, V.3 correlated .27 ($p < .01$) to planning attitudes but was unrelated to exploration attitudes. A stepwise multiple regression showed that decision making ($R = .37$) and occupational information ($R = .41$) were the only two significant predictors of V.3 (entered as a block $R = .44$). In com-

Table 2
Means and Standard Deviations for the Three CPI Vectors and the
Four CDI Scales for Total Group and Four Personality Types

Measure	Total Group		CPI Personality Type							
	M	SD	Alphas		Betas		Gammas		Deltas	
			M	SD	M	SD	M	SD	M	SD
CPI										
V.1	16.21	6.35	12.10	3.84	23.07	4.63	12.94	3.46	23.36	3.62
V.2	21.42	4.82	25.58	2.49	25.28	2.89	17.81	3.51	18.26	3.07
V.3	34.19	9.08	33.52	9.88	35.69	8.94	34.04	8.20	34.38	9.53
CDI										
Plan	72.45	14.84	77.77	11.65	75.35	13.20	70.29	13.88	65.00	18.11
Explore	51.08	10.09	54.62	10.23	51.88	10.14	49.20	9.71	47.51	8.79
Occ Info	14.84	3.04	14.47	3.12	16.12	2.03	14.93	3.03	14.31	3.38
Decide	12.11	3.44	11.94	3.85	13.35	2.26	12.04	3.33	11.54	3.56
Total	150.48	23.00	158.80	24.81	156.70	22.80	146.46	21.24	138.36	25.20

Note. N = 198. CPI = California Psychological Inventory; CDI = Career Development Inventory; Plan = Career Planning scale; Explore = Career Exploration scale; Occ Info = World of Work scale; Decide = Decision Making scale.

Table 3
Correlation Coefficients Between CPI Vectors and CDI Scales

	CDI				CPI			Coefficient α
	Plan	Explore	Decide	Occ Info	V.1	V.2	V.3	
Plan	1.00							.91
Explore	.39**	1.00						.84
Occ Info	.30**	-.02	1.00					.67
Decide	.33**	-.03	.59**	1.00				.71
V.1	-.20*	-.16*	.05	.03	1.00			
V.2	.31**	.19*	.08	.05	-.04	1.00		
V.3	.27**	.08	.36**	.37**	.07	-.05	1.00	

Note. CPI = California Psychological Inventory; CDI = Career Development Inventory; Plan = Career Planning scale; Explore = Career Exploration scale; Occ Info = World of Work scale; Decide = Decision Making scale.

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

paring the three vectors, V.1 and V.2 related to planning attitudes and exploration attitudes, but not to competencies whereas V.3 related to both planning attitudes and competence.

Because we hypothesized that V.3 relates to both attitudes and competencies, we had predicted that career maturity would correlate higher to V.3 than it does to either V.1 or V.2. V.3 did have the highest zero-order correlation with career maturity ($r = .31$, $p < .001$) but just barely in that career maturity correlated .19 ($p < .05$) to V.1 externality and .30 ($p < .001$) to V.2 norm favoring. However, using a total score for career maturity does not actually test the hypothesis because it treats career development as unidimensional when in fact it has attitudinal and cognitive dimensions. Consequently, we computed multiple regressions entering the four CDI scores as a block to predict respectively, V.1, V.2, and V.3. The resulting multiple correlation for V.1 was .25, for V.2 it was .33, and for V.3 it was .44. The differences between the zero-order correlations for total score versus the multiple correlations using four scale scores confirms the expectation that the CDI scale scores do not add together in an unidimensional manner as well as supports the hypothesis that career maturity relates stronger to realization level than to the orientations.

The next set of analyses dealt with the hypotheses regarding the personality typology. When combining the dimensions V.1 and V.2 to form the cuboid model, we expected that career maturity would be highest in the Alphas because they are external and norm accepting and lowest in the Deltas because they are internal and norm questioning. The data confirmed this expectation. An analysis of variance (ANOVA) indicated a significant difference in the means scores between the four types on career maturity, $F(3, 155) = 7.431$, $p < .001$. Scheffé post hoc analyses showed that compared to Deltas, Alpha ($p < .001$) and Beta ($p < .01$) types scored significantly higher

on career maturity. Alphas also scored significantly ($p < .05$) higher than Gammas. The Alphas (CDI total mean = 158.80) showed the highest and the Deltas (CDI total mean = 138.36) showed the lowest career maturity. Although we had not made any predictions about the Betas (CDI total mean = 156.70) or Gammas (CDI total mean = 146.46), we were surprised to find that the Betas displayed a level of career maturity similar to the Alphas.

We used four ANOVAs to test the specific hypotheses regarding how the four types might show different strengths in career development attitudes and competencies. For Alphas, we anticipated the most mature attitudes toward planning because of their norm adherence and externality. The ANOVA indicated that mean scores on planning attitudes differed significantly, $F(3, 155) = 7.85, p < .001$, only between the Deltas (lowest) and the other three groups. For Betas we anticipated most positive attitudes toward exploration because they are norm following in attending to vocational development tasks, yet because they are internal they wish to explore their options. The only significant difference, $F(3, 155) = 3.09, p = .03$, on exploration attitudes occurred between Alphas and Deltas. For Deltas, despite the prediction that they would have the lowest career maturity, we anticipated the highest developed decision-making competence because their norm questioning and internality make them more likely to have substantial experience in making personal choices. This did not prove to be the case; in fact, they scored the lowest in decision-making competence, although none of the groups differed significantly on decision making. For Gammas, we anticipated the greatest fund of information because their norm doubting and externality could combine to drive them to collect more and more facts. The ANOVA indicated that Betas scored significantly higher, $F(3, 155) = 3.29, p = .02$, than the other three groups on information competence.

DISCUSSION

Based on the data-analytic results relative to each hypothesis, we drew four major conclusions. First, we concluded that greater career maturity means, at least for the participants in this study, greater realization of one's potential. Individuals who displayed planful competence in developing their careers also displayed greater psychosocial competence in general. Mature attitudes toward planning the future along with decisional competence and a broad fund of information related positively to self-realization and ego integration. These results showed that fund of information added unique variance, beyond that explained by decisional competence, in predicting realization of potential. This is important relative to the suggestion by some researchers that the Career Development Inventory's two competence scales be collapsed into one scale.

Second, we concluded that the dimensions of career development relate differently to the dimensions of social adjustment. Attitudes related only to

style of adjustment, whereas planning attitudes and the two competencies related to degree of adjustment. Thus, it appears that the cognitive dimension of career development relates more to degree of social adjustment, or realization of potential. In contrast, career development attitudes seem to relate more to style of social adjustment. This distinction between attitudes and competencies coincides with the conception of career development as multidimensional. Furthermore, the finding that each of the four adjustment types were roughly similar in career development competence as well as level of realization supports Gough's contention that the four personality types in his cuboid model (1990) can each develop the competencies needed to realize their potential at work and in relationships.

Third, we concluded that career development attitudes associate with particular styles of adjusting to society, namely the norm upholding and external orientations. However, the orientation toward externality in social engagement does not seem as important in developing mature career development attitudes as whether or not an individual is oriented toward social norms and expectations. The norm-favoring style of adjustment seems particularly related to forming positive attitudes toward meeting social expectations presented as vocational development tasks. We drew this conclusion based on the correlations between the career development dimensions and the personality dimensions.

Fourth, we concluded that beyond the differences attributable to the normative dimension, there were few systematic differences in career maturity among the four personality types. Combining the normative and interpersonal dimensions produced a continuum of career maturity, from highest to lowest, among the four types structured first by the norm-upholding orientation and second by the external orientation: Alphas (upholding, external), Betas (upholding, internal), Gammas (questioning, external), and Deltas (questioning, internal). The fact that both Alphas and Betas favor norms probably explains why the Betas displayed a degree of career maturity very similar to Alphas, who were predicted to and did have the highest degree of career maturity. Despite their similarity on overall career maturity, there were differences in the career development profiles shown by external Alphas and internal Betas. Although similar in attitudes, the Betas displayed better developed competencies than Alphas. Betas scored an effect size of about .4 higher than Alphas on both decisional and information competence; moreover, Betas were significantly higher than the other three groups on informational competence. As expected the Deltas were the lowest on the continuum of career maturity. We had predicted that, of the four types, Deltas would be highest on decisional competence because of their norm-questioning internality. However, none of the groups showed significant differences on decisional competence. The fourth type, Gammas (norm questioning, external) fell midway between Deltas on the one hand and Alphas and Betas on the other hand. The difference between Gammas and Deltas, who are both norm-questioning, seems to be only in planfulness, with the external Gammas dis-

playing more mature attitudes toward planning. It appears that although Gammas may have their doubts, they go along with societal expectations.

We interpreted these four conclusions to mean that Super's (1955) model of career development in adolescence and young adulthood favors a norm-upholding style for fitting work into one's life. The planful competence that characterizes Super's model enables young people to realize their potential in organizations, institutions, and professions that provide guiding structures with obvious and orderly career paths. The norm-favoring orientation seems to manifest itself in planful competence that fosters a "readiness" or "head start" in getting on a career path and staying the course. Being more receptive to socialization, norm-upholding individuals may evolve career patterns characterized by congruence, continuity, and early establishment. These "stable" career patterns are idealized in career theory by normative and prescriptive language such as *fitting in*, *realistic* choice, *consistent* preferences, *planful* attitudes, *rational* decision making, *coherent* aspirations, and person-environment *congruence*. In contrast, norm-questioning types may enact career patterns characterized by multiple trials, discontinuity, and late stabilization. We must not let the language and constructs of career theory blind us to the fact that successful and satisfying careers can be developed through unconventional independence as well as through steady conformity. In fact, the deficiencies in guiding structures caused by dejobbing and disintegration of career paths in contemporary organizations actually require that career theory acknowledge and affirm independent and norm questioning approaches to fitting the work role into a life (Cote, 1997). The change in the landscape of occupations could prompt theory to elaborate a second broad model for developing a career. The first would still be the traditional normative model with its objectivist epistemology prescribing the meaning of *career maturity* and the second might be a singular model with a constructivist epistemology inscribing the meaning of *career adaptability* (Savickas, 1997).

The major theoretical implication of this interpretation is that career maturity relates more to timing of adjustment than to degree of adjustment. If career maturity, as it has been operationally defined since the 1950s, means earlier, rather than later, readiness to select and stay on a career path, then there is little reason to hypothesize that career maturity predicts eventual occupational adjustment. This would explain why it has been difficult to document a long-term connection between adolescent maturity and adult adjustment (Savickas, 1993). Accumulated evidence suggests that greater career maturity in adolescence does not foreshadow more occupational success and satisfaction in middle adulthood, as it might in early adulthood. A refined hypothesis would be that adolescent career maturity predicts earlier stabilization and longer continuity in career patterns not greater success and satisfaction in jobs.

The main implication of these results for practice is the simple advice to career counselors to consider the career maturity model, with its society-minded adherence to social norms, as *a* pathway, not the only pathway, to developing

a career. Given current models and measures of adolescent career development, a norm-questioning orientation to forming a vocational identity can easily be mistaken as immaturity or psychopathology. What may appear, from the vantage point of current career theory, to be "indecisiveness" or "unrealism" could actually reflect a norm-questioning and internal orientation to constructing an identity and developing a singular career. An approach to interpersonal relationships characterized by a sense of internally derived authority and autonomy may structure a self-authoring, not society-minded, orientation to career development. Further research is needed to explore the construct of a self-authoring orientation to career development and to determine if it should complement the society-minded orientation so prevalent in contemporary career theory and practice.

Although limited by involving a cross-sectional design, single operational definitions of the constructs, and only 200 participants from one university, the results of this study do augur well for continuing to merge career theory and research with contemporary models in mainstream developmental and personality psychology. We would like to see studies that follow up the small beginning we have made herein. We are particularly interested in studies that examine whether career indecision is greater in norm-questioning individuals, as career maturity was greater in norm-upholding individuals.

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