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ABSTRACT

Existing theories of career development are based primarily on observations of white, middle-class males. This has prompted consideration of a separate theory of career development for women. Before a separate theory can be justified, it must be established that sex differences in the career development process do exist. A study attempted to determine if sex differences exist in the relationships among, and relative strengths of, a set of variables in a causal model of career maturity. High school students recruited from study halls in two school systems in rural and suburban areas of southwestern Virginia were administered short tests and a questionnaire. Data were collected from 156 male and 162 female students in grades 10-12. Ninety percent of the students were Caucasian, and the majority came from middle and upper middle class families. Students' parents also were surveyed. The set of variables measured included background variables such as family climate and locus of control. The results of the study suggest that the development of career maturity differs in subtle ways for males and females. For males, the single most important determinant of career attitudes was age: the older a boy becomes the more ready he is to make career decisions. Although this tends to be true for females as well, age is not as important as a sense of family cohesion and an internal locus of control. (KC)

Comparing Male and Female Adolescents With a Causal Model of Career Maturity

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Comparing Male and Female Adolescents With a

Causal Model of Career Maturity

Existing theories of career development are based primarily on observations of white, middle-class males. This has prompted many writers to question the validity of these theories and to consider the development of a separate theory of career development for women. But before a separate theory can be justified, it must be established that sex differences in the career development process do exist. The purpose of this study was to determine if sex differences exist in the relationships among, and relative strengths of, a set of variables in a causal model of career maturity. The results suggest that, although the basic causal patterns are similar for males and females, significant differences exist as well. The observed differences are consistent with Gilligan's hypothesized "relational component" of identity.

After reviewing several theories of career development, Perun and Bielby (1981) recommended that "either a major revision of existing theory or formulation of new theoretical perspectives is necessary for the development of a model of female occupational behavior" (p.248). This statement, echoed by other authors (Astin, 1984; Brooks, 1984; Fitzgerald & Betz, 1983), was based on their conclusion that "the determinants of occupational behavior of women are different from those of men" (p. 249).

In discussing "occupational behavior", it is necessary to specify which particular aspect of the concept is being considered. Most of Perun and Bielby's attention, and that of others such as Betz and Fitzgerald (1987), was focused on a single aspect of career development: the explanation of occupational choice. The choice of an occupation, however, reflects not only the development and preferences of the individual but the attitudes of one's social group, opportunities in the job market, and the potential for sexism and racism among employers as well. These societal factors complicate the explanation of occupational choice. The arbitrary nature of the relative value assigned

to various occupations is another factor that reduces the usefulness of occupational choice as an index of occupational achievements.

An equally important aspect of career behavior is career maturity, defined as one's readiness to make well-informed, age-appropriate career decisions. This factor reflects an individual's tendency to shape their career carefully regardless of societal constraints and may, therefore, be a more appropriate characteristic for the study of sex differences in occupational behavior than is occupational choice.

Given that career maturity is a valuable index of career behavior, this author doubts whether sufficient empirical evidence exists to support the conclusion that career maturity is influenced by different sets of variables for males and females. To date, most studies of sex differences in career maturity (Hesser, 1981; Lokan, Boss & Patsula, 1982; Neely & Johnson, 1981) have focused on verifying the tendency of females to score higher on measures of career maturity than males. These differences in mean scores in no way suggests that the process of developing career maturity, that is, the factors that influence variance in career maturity scores, differs for males and females.

The conclusion that the occupational behaviors of men and women are influenced by different sets of factors (Perun & Bielby, 1981) needs to be challenged with empirical evidence. The purpose of the present study was to determine wheather variance in career maturity scores of adolescent males and females are explained by different background, family, and personality variables. This was done by creating a plausible causal model, composed of variables found in previous research to be strongly associated with career maturity, and testing it to determine if differences exist in the way these variables function to influence career maturity in boys and girls. If the amount of variance explained by the causal model, the strengths of the individual causal paths among its components, and the total strengths of the effects of each variable on career maturity were equivalent for the two groups, then the need for new or modified theories to explain career maturity for women would be called into question. Should sex

differences emerge, then the nature of these differences may be useful in the modification or redevelopment of career maturity models specifically for women.

Method

Subjects and Procedures

High school students were recruited from study halls in two school systems in rural and suburban areas of southwestern Virginia. Study halls were selected in an attempt to obtain as homogeneous a sample as possible: nearly all students in these school systems were scheduled for one study hall per day, regardless of academic track. The schools contacted the parents of all children in randomly selected study halls by mail, requesting their participation in the project and permission for their children to be tested. After receiving the signed informed consent forms from the parents, students were administered three short tests during their study hall period. A questionnaire and two short test protocols were mailed to the parents to complete and return in pre-addressed, stamped envelopes provided by the investigator.

Data were collected from 318 adolescents in grades 10, 11 and 12. The 156 male and 162 female participants averaged 16.5 years of age. Ninety percent of these students were Caucasian and the majority came from middle and upper-middle class families. As a group, this sample of young people averaged approximately one standard deviation above the mean in reading and math achievement based on the grade norms of standardized tests.

Instruments

Three instruments were given in random order to groups ranging in size from 5 to 30 students. The Career Planning and Career Exploration subscales of the Career Development Inventory (CDI; Thompson, Lindeman, Super, Jordaan & Myers, 1981) were administered and yielded a composite score on the Career Development Attitudes scale (CDA). The CDA score reflects the type and extent of career planning in which the student has engaged, the self-reported degree of knowledge possessed about the kind

of occupation the student currently believes he or she would like to choose, the student's judgment about the quality of career information already obtained from a variety of human and media sources, and the student's beliefs as to which of these sources he or she would go for help.

The Career Development Attitudes scale of the CDI was chosen for two basic reasons. First, the Career Development Attitudes scale reflects an affective (rather than a cognitive) dimension of career development as evidenced by a correlation of .04 with math and reading scores on standardized achievement tests obtained in the current study and as confirmed by factor analysis results (Punch and Sheridan, 1985). According to Super and Overstreet (1960), the affective component is at the core of career development during adolescence. Secondly, these two scales demonstrate internal reliabilities that are better-than-average for affective career measures as reported in Westbrook's (1983) review of career development instruments. A Cronbach's alpha of .90 for the CDA scale was obtained in this study. Test validity, although difficult to establish because of difficulties in finding operational definitions for the terms, has been researched and has "fared well" according to Hilton's (1983) study.

Previous research has found significant correlations between locus of control and career maturity. An internal locus of control, which is the belief that consequences are contingent upon one's own behavior, has been shown to be more conducive to career maturity than an external locus of control, which is the belief that it is fate, luck, or other people who are responsible for what happens (Bernadelli, de Stefano & Dumont, 1983; Blevins, 1984; Lokan, Boss & Patsula, 1982). To measure locus of control, students in the current study completed the Different Situations Inventory (DSI; Gardner & Warren, 1977). The DSI presents students with 20 situations to which they must choose one of two possible responses: one reflecting an internal and the other an external locus of control. High DSI scores represent an internal locus of control and low scores are indicative of an external locus of control (LOCUS).

Ifenwanta (1978) reported a test-retest reliability coefficient of .90 for the DSI. The internal consistency reliability estimate from the current sample was .50. With regard to validity, Ifenwanta (1978) reported a correlation of .66 between scores on the DSI and the Rotter Internal-External Scale.

Super and Overstreet (1960) were early advocates for considering family cohesion as a potential explanatory variable of adolescent career maturity. Since then, family cohesion has been overlooked by career development researchers with the exception of Hesser (1981) who found it to be a valuable addition to his regression model of career maturity. The third student measure in the current study was the Family Adaptability and Cohesion Evaluation Scale (FACES III; Olson, Portner & Lavee, 1985) which is based on the Circumplex Model of Marital and Family Systems (Olson, Russell and Sprenkle, 1979). The ten-item Cohesion scale (COHES), used in the present study, reflects disengagement (extreme interpersonal distance) at the low end of the scale and enmeshment (extreme closeness) at the high end.

The FACES III manual reports internal consistency reliability estimates of .77 for the Cohesion scale based on a norming study of more than 2,000 adults and 412 adolescents (Olson, Portner & Lavee, 1985). In the current study, Cronbach's alpha was computed to be .83 for the entire sample. The FACES III manual reports test-retest reliability at .83 for the Cohesion scale. Regarding validity, the manual reports the results of a factor analysis supporting the orthogonality of the Cohesion and Adaptability scales which correlate .03 with each other. The authors (Olson, Portner & Lavee, 1985) also report numerous independent studies that support the validity of the instrument for discriminating between distressed and non-distressed families.

Hesser (1981) found that student estimates of their parents' expectations for their (the student's) occupational attainment correlated significantly with career maturity (r = .15 to .35). In this study, the parents were surveyed directly. A questionnaire was mailed to the students' parents to obtain background information about the student and his

family as well as to obtain an estimate of the parents' aspirations (ASPIR) for their child's occupational attainment (professional or nonprofessional). The socioeconomic status (SES) of the parents was estimated from items about the mother's and father's educational attainments and the father's occupation.

Also included in the packet, which 94% of parents returned, was a 29-item version of the Cultural Participation Scale (CULT; Super, 1967). Scores on this instrument reflect the variety of material read by the student as well as the kinds and number of educational and recreational equipment available in the home. Although internal consistency estimates from previous studies were in the .70's and .80's, the shorter version of the scale used in the current study yielded a Cronbach alpha score of .66 for participants in the current study.

Data Analysis

Figure 1 shows the causal model of career maturity attitudes used in this study. The variables in the model were selected because they have each been shown in previous research to be strongly associated with career maturity in adolescents. In addition, the model emphasizes the importance of the family environment in shaping the career behavior of adolescents who, although preparing for increased independence from the family, are still greatly influenced by their parents' attitudes (see Hesser, 1981). No attempt was made to include variables that might be especially important in determining the career maturity of females uniquely. This set of variables was arranged in the following logical sequence: background variables (parental SES and child's age) were hypothesized as influencing family climate (parental aspirations, family cohesion, and cultural participation), which, in turn, influences student locus of control, and all of these variables combine to influence career maturity (CDA scores). The assumptions behind this ordering was that, first of all, the background variables are all exogenous, meaning that there are no other variables in the model which exert causal influences on these factors; secondly, that these predetermined background variables are likely to influence

aspects of the family included in the second block, but that the student's locus of control would have little effect on these family variables; and that the readiness of the student to make career decisions would be indfluenced by all six independent variables taken individually and collectively.

Insert Figure 1 about here.

The model was tested using the GEMINI path analysis program (Wolfle & Ethington, 1985) which runs a series of multiple regressions, each variable regressed on all of the predictor variables to its left in the model. Each regression analysis yields regression coefficients which, in path analysis, are termed direct effect path coefficients. These direct effect coefficients indicate the degree of change in the dependent variable given a single unit change in the predetermined variable when all other variables in the equation are held constant. Path analysis also yields estimates of the indirect effect of one variable on another through effects on intervening variables. The sum of the direct effect and all indirect effects of one variable on another is the total effect which is also estimated in path analysis. Thus, the advantage of this technique over simple multiple regression is that the interrelationships among the predetermined variables in the model can be separated out, providing more descriptive information than is available from other multivariate procedures.

The multiple group procedure in LISREL VI (Jöreskog & Sörbom, 1986) was used to test the significance of group differences in the magnitudes of the individual direct effect coefficients and in the size of the total effects of independent variables on career maturity.

Before testing the model, the data were examined to determine whether any violations of the assumptions of multiple regression were violated, such as the linearity of relationships among variables in each equation. One of the hypotheses associated with the Circumplex Model of Marital and Family Systems (Olso, Sprenkle and Russell, 1979)

states that family and individual family member functioning is healthiest at the middle of the cohesion scale and dysfunctional at either extreme, suggesting a quadratic relationship between cohesion and outcome variables reflecting adjustment. However, the relationship between family cohesion and career maturity attitudes was found to be linear (with greater cohesion associated with higher career maturity scores) even when cohesion is at a very high, enmeshed level. This is consistent with the only other study of this relationship that was found in a literature search (Hesser, 1981). Because the anticipated curvilinearity was not found, polynomial terms did not have to be included in the regression equations.

Results

Table 1 presents the correlations, means and standard deviations of all seven variables in the model plus the values for academic achievement (ACH) for males and females, respectively. Female participants scored slightly higher than males on the CDA, both groups scoring very close to the high school student average ($\underline{M}$ = 103; Thompson, Lindeman, Super, Jordaan, & Myers, 1981). Locus of control mean scores for males and females were nearly identical and very close to the mean for high school students ($\underline{M}$ = 13.77; Gardner & Warren, 1977). Both male and female participants tended to score approximately one standard deviation above the mean ($\underline{M}$ = 100, $\underline{SD}$ = 15) in math and reading according to grade norms. In terms of cohesion, both groups tended to rate their families towards the lower end of the normal range for their norm groups ($\underline{M}$ = 37.10; Olson, Portner, Lavee, 1985). Parents rated females nearly one-half standard deviation above males on the cultural participation instrument.

Insert Table 1 about here.

The language of path analysis and causal modeling lends itself easily to statements that imply the proof of causation. Based entirely on correlational data, the results of this study are incompatible with causal conclusions. The associations described in the

following section may be reflective of underlying causal relationships but these results should not be taken as proof of causal associations in the population.

The results of the path analyses, presented in Table 2, suggest that this model explains approximately 27% ($p < .001$) of the variance in career maturity scores for female adolescents and 20% ($p < .001$) for males. Thus the same model, which does not take into account any variables that can be said to reflect the development of females uniquely, not only fails to do an injustice to female career development, but actually explains more of the variance for females than for males. But looking at the amount of variance explained deals with only one part of the issue at hand.

Insert Table 2 about here.

The second aspect of this investigation dealt with the ways in which the six independent variables interact to achieve their ultimate influence on the outcome variable. As can be seen in Figures 2 and 3, which show the significant paths in the model and their metric values for males and females, respectively, there were many similar relationships for the two groups. For example, age had a significant, positive direct effect on career maturity for both males and females, indicating that older participants tended to obtain higher career maturity scores when all other variables in the model were held constant, regardless of gender. For both groups, perceived family cohesion had a positive, direct effect on CDA, with a more cohesive family being associated with higher CDA scores, all else being equal. As an example of an indirect effect, higher cohesion scores were significantly associated with a more internal locus of control which was, in turn, significantly associated with higher career maturity scores, for males, this indirect effect of cohesion on CDA was significant at the .05 level.

Insert Figure 2 about here.

Insert Figure 3 about here.

In addition to similarities, group differences in causal patterns were also evident in results. For males, for example, cultural participation did not have a significant direct effect on CDA but did have a significant ($p < .05$) indirect effect: those students with higher cultural participation scores had a more internal locus of control ($p < .01$), and this internal orientation was associated with greater career maturity attitudes ($p < .01$). In contrast, the positive influence of cultural participation on CDA was direct for females, $p < .05$.

Another group difference concerned the influence of socioeconomic status on career maturity. For females, SES had a negative direct effect on CDA, meaning that the higher the socioeconomic status of the parents the lower the student's scores on career maturity when all other variables in the model were held constant. For males, the direct effect of SES on CDA was not significant but there was a tendency for the influence of SES to be indirect ($p = .2625$): as is shown in Figure 2, boys from higher SES homes had parents who had higher aspirations for the son's vocational attainment which were, in turn, significantly associated with career maturity scores.

There were four direct path coefficients in the model whose estimates differed significantly for the two groups according to the results of the LISREL multiple group procedure. The first was the direct effect of age on parental aspirations for the child's occupational attainment: for males, age had a nonsignificant, negative direct effect on parental aspirations while for females this was nonsignificant and positive, with the difference being significant at the .05 level.

The second direct effect with a significant group difference was the direct effect of age on career maturity (CDA). For both groups, age was significantly associated with career maturity, older students tending to score higher on CDA. But this direct effect was significantly greater ($p < .10$) for males ($b = 6.562$) than for females ($b = 2.964$).

The direct effect of cultural participation on career maturity also differed significantly ($p < .01$) between groups: cultural participation had a negative direct effect on CDA for males ($b = -.455$, n.s.) while for females this association was positive, $b = .649$, $p < .05$.

Finally, the direct effect of parental aspirations on career maturity was positive for males ($b = 9.895$, $p < .05$), and negative for females ($b = -.969$, n.s.), representing the fourth significant group difference in direct path coefficients, $p < .05$.

Osipow (1975) suggested that one key to understanding differences in career development among various groups would be to examine the hierarchies of variables according to the strength of their ability to explain career behavior. In the case of path analysis, this would correspond to the sum of the direct effect plus all indirect effects of a variable on career maturity, that is, the total effect. For each of the six predictor variables in the current model, Table 3 presents the values of the total effects on career maturity for males and for females. These values are presented in standardized form for within-group comparisons, and in metric form for between-group comparisons. The hierarchy is shown in order of importance for the male group.

According to the magnitudes of the total effects for males, age was the single most important determinant of career maturity when both direct and indirect effects were taken into account, $p < .001$. Age was followed closely by locus of control ($p < .01$), family cohesion ($p < .05$), and parental aspirations, $p < .05$. Cultural participation and parental socioeconomic status had negligible total effects on the career maturity of males.

The pattern of total effects was slightly different for the other group. For females, cohesion was the most important determinant of career maturity, $p < .001$. Locus of control was the second most influential ($p < .001$), and age was third ($p < .05$), followed closely by cultural participation ($p < .05$) and SES, $p < .10$. Parental aspirations had a minimal total effect for female adolescents.

The LISREL multi-group comparisons of these total effects suggest that cultural participation had a significantly different ($p < .05$) total effect on career maturity for males (-.258) and females (.749). Parental aspirations for their child's occupation attainment had a significantly stronger ($p < .05$) total effect for males (9.953) than for females (-2.156). Although not statistically significant ($p = .181$), there was a strong tendency for SES to have a stronger effect on CDA for females (-.192) than for males (-.009).

Insert Table 3 about here.

Discussion

The purpose of this study was to investigate the legitimacy of Perun and Bielby's (1981) suggestion that the occupational behaviors of men and women are determined by different sets of factors. The rationale behind the methodology was that if no differences were found in the way the six predictor variables explained variance in career maturity attitudes, then there would be no support for the contention that the process of developing career maturity differs for males and females; any differences in the results, depending on their magnitude, would support the need for separate, or at least modified, theories of career development for the sexes.

In evaluating the importance of the results, it is important to recall that the boys and girls in this study had nearly identical mean scores and variances on most of the variables in the model, including the outcome variable, indicating that the differences that were found could not have been due to incomparable data sets.

The results presented above suggest the following conclusions: that a single, given set of variables can explain a significant amount of variance in career maturity attitudes for male and female adolescents even when variables specific to the development of females are omitted; that the patterns of interaction among these six variables have more similarities than differences for the two groups; and that some differences in the

hierarchies of total effects exist, including the greater importance of cultural participation for girls and of parental aspirations for boys.

These results support the belief that the development of career maturity differs, in subtle ways, for males and females. For males, the single most important determinant of career attitudes was age: the older a boy gets the more ready he is to make career decisions. Although this tends to be true for females as well, age is not as important as a sense of family cohesion and an internal locus of control.

These differences are consistent with the concept of the "relational component of identity" (Chodorow, 1978; Gilligan, 1982; Lyons, 1983) as summarized by Forrest and Mikolaitis (1986). These authors postulate that as boys get older their sense of self is developed by separating themselves from their mothers and the other women from whom they have received considerable primary care. Girls, on the other hand, identify with their mothers and formulate their identities by connecting with people, thus family cohesion encourages the expression of self in career maturity.

These developmental trends of progressive separation and connection can be seen in the results in Table 1, although not statistically significant: older males rate their families as less cohesive whereas older females rate their families as more cohesive.

Also of note is the different role played by parental aspirations for the two groups. Parents' expectations that their son attain a professional occupational status is a significant encouragement for the boys' career attitudes. For daughters, parental aspirations do not appear to be influential. In addition, parental aspirations tend to diminish with age for their sons but tend to increase with age for daughters.

In summary, a female's own sense of control over events in her life, coupled with a cohesive family that provides a variety of cultural opportunities, is important for the development of career maturity. For males, the process has more to do with chronological age, internal locus of control and, to a lesser extent, family cohesion and parental aspirations.

These results, along with those of studies suggesting that there is a relational component to the developing identity, spell good news for counselors. The helping professional need not consider male and female clients as representatives of different species, but as people with different degrees of "connected" and "separated" selves. Gilligan (1982) has suggested that the developmental task of young adults is to learn to integrate the need to care for others and the need to care for self and to see these as complementary, not mutually exclusive, goals. In working with adolescents, career counselors can look for degrees of cohesion in the family, locus of control in the individual, and can be aware of the relative strengths of the person's connected and separate self concepts. Hotelling and Forrest (1985) suggest that young adulthood is not too early to help clients shed their early developmental biases and start "realizing available choices and behaving in a manner that is situationally based (p. 184)" rather than stereotypically programmed. The encouragement of a more psychologically androgenous identity has obvious implications for many aspects of adult life, including the development of career maturity, in both young men and women.

Interpretation of the results of this study must be tempered by an appreciation for certain limitations. Because parent permission and cooperation were required for inclusion in the study, the generalizability of the results is limited: approximately two thirds of those parents contacted refused to consent to the participation of their children in the study. Due partly to the use of volunteers and to the ethnic make-up of the geographic region under study, the sample underrepresented non-white and lower-class adolescents.

Further research is needed. The model presented in the current study should be tested with other, more representative samples to enhance the generalizability of the results. In addition, sex differences in the development of career maturity should be explored with alternative causal models: models emphasizing other personality factors, such as self-esteem, for example, could enhance our understanding of this process.

Other researchers may wish to test models that explain other aspects of career maturity such as the cognitive, as opposed to affective, components.

The results presented here are insufficient to warrant advocating a new set of theoretical perspectives for women's career development. The current study found that, although the same set of variables (by no means the only set, nor the 'best') has been shown to explain career maturity well for adolescents of both sexes and that, in general, similar causal patterns were found, there were some strong tendencies towards group differences as well. What is suggested by these results is that, for male and female adolescents, different sets of determinant variables must be emphasized in explaining career maturity. More research is needed, however, before a definitive conclusion about sex differences in career development can be made and the development of a new theory, or modifications to existing theories, can be undertaken.

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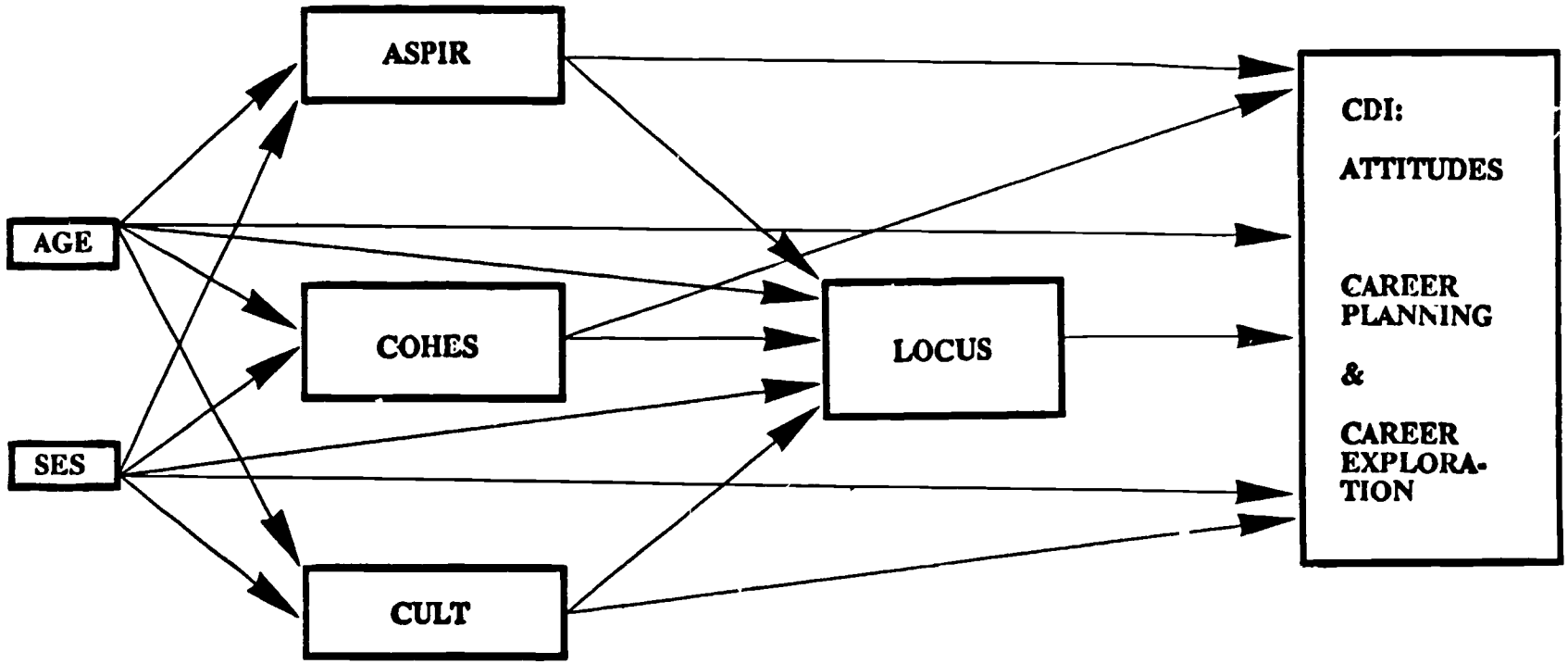


Figure 1. Causal model showing career maturity to be a function of background variables, family variables, and personality.

Table 1

Correlations, Means and standard Deviations for Males (n = 156) and Females (in italics, *n = 162*).

	CDA	LOCUS	ACH	ASPIR	COHES	CULT	AGE	SES
CDA	---							

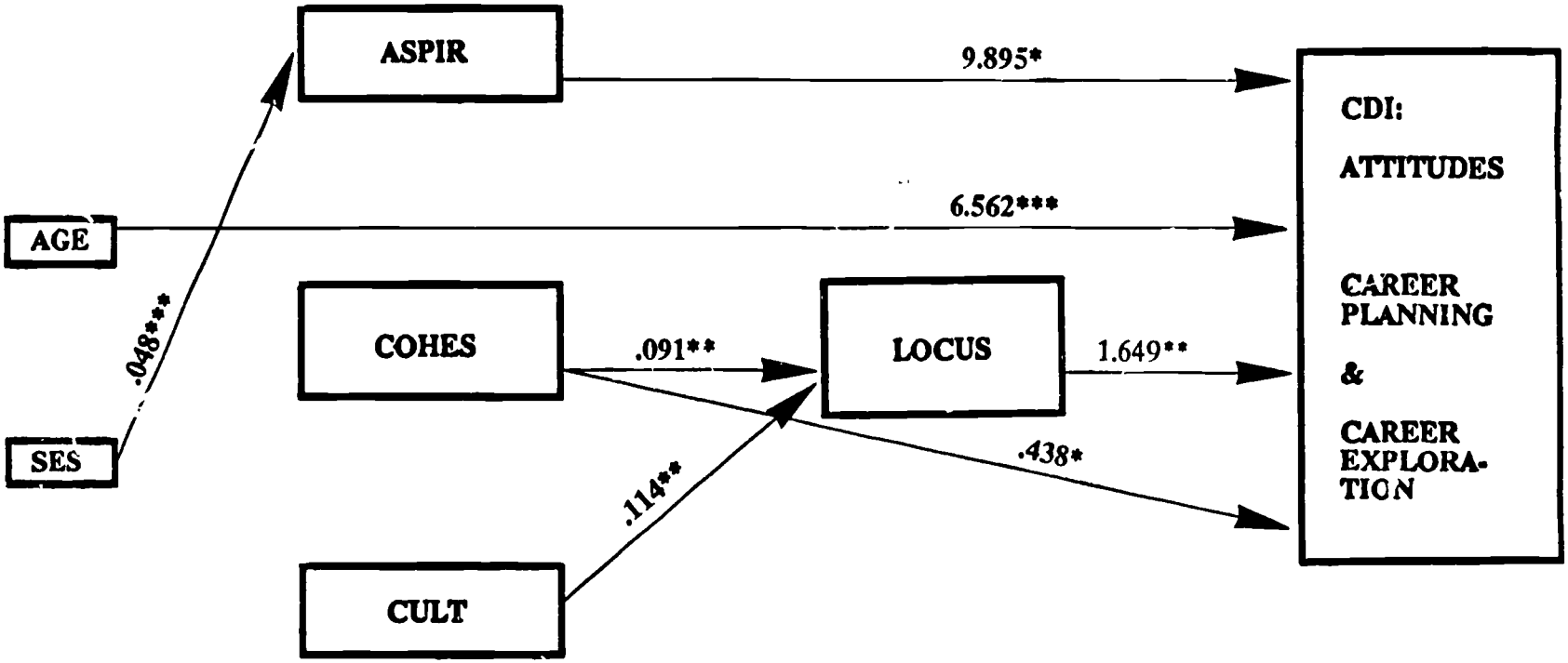
LOCUS	.249	---						
	.365	---						
ACH	.082	.135	---					
	-.005	*.008*	---					
ASPIR	.123	.016	.387	---				
	-.057	*-.101*	*.310*	---				
COHES	.192	.214	-.197	-.057	---			
	.340	*.175*	*.003*	*-.114*	---			
CULT	-.086	.193	.267	.153	-.096	---		
	.136	*.045*	*.209*	*.278*	*.001*	---		
AGE	.292	.060	-.042	-.121	-.027	-.078	---	
	.185	*.127*	*.272*	*.101*	*.023*	*-.018*	---	
SES	.011	.025	.425	.293	-.043	.126	.040	---
	-.151	*-.106*	*.182*	*.199*	*.089*	*.135*	*-.019*	---
MEAN	106.33	14.48	114.93	.779	33.24	14.80	16.55	.088
	109.08	*14.43*	*115.90*	*.732*	*34.10*	*16.07*	*16.36*	*-.071*
SD	19.67	2.60	11.31	.386	6.81	5.07	.899	2.40
	18.42	*2.72*	*10.07*	*.402*	*8.19*	*4.39*	*.906*	*2.28*

Table 2

Direct and Indirect Effects of Explanatory Variables on Dependent Variables for Males (n = 156) and Females (in italics, *n = 162*) in Metric Form.

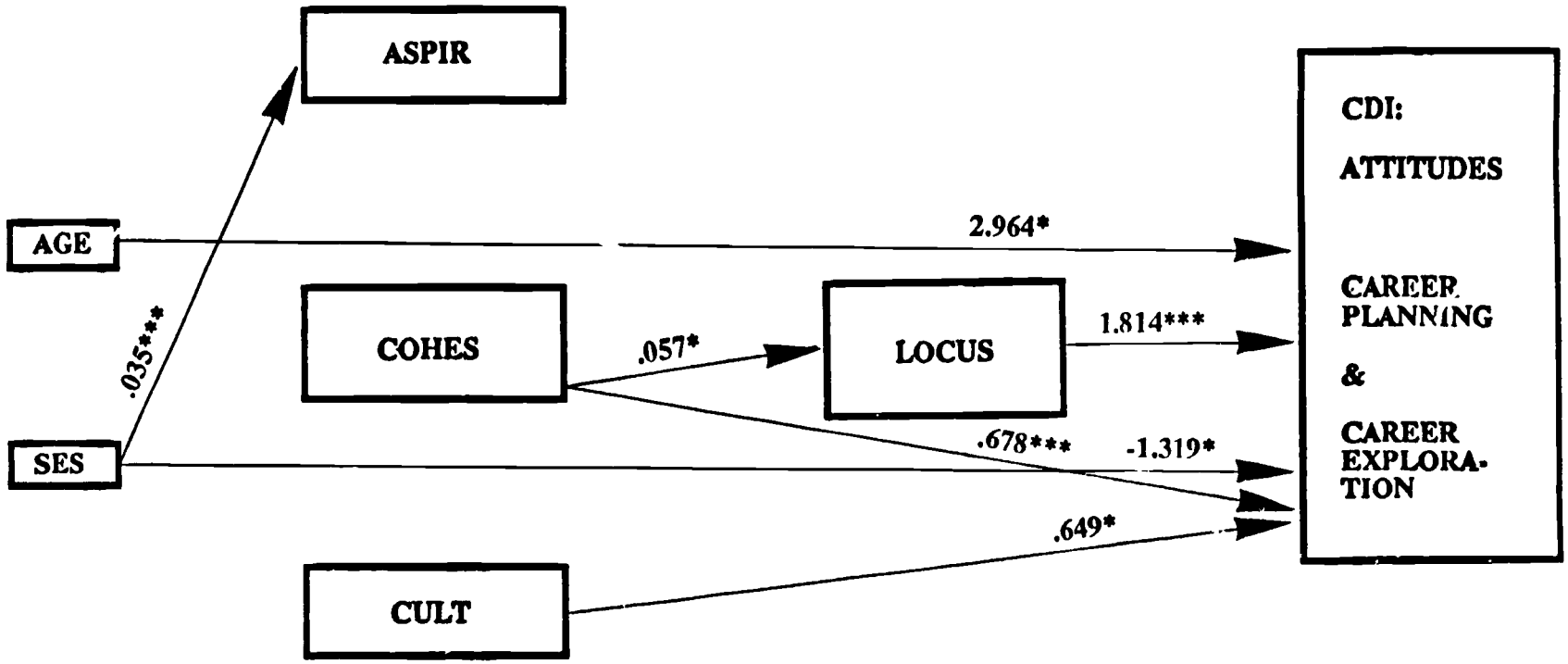
Explanatory Variables	Dependent Variables: CULT D	CULT I	COHES D	COHES I	ASPIR D	ASPIR I	LOCUS D	LOCUS I	CDA D	CDA I
SES	.273	---	-.118	---	.048[c]	---	.003	.022	-.351	.343
	.259	---	*.322*	---	*.035*[c]	---	*-.134*	*.009*	*-.319*[a]	*.127*
AGE	-.468	---	-.195	---	-.057	---	.246	-.073	6.562[c]	-.158
	-.076	---	*.220*	---	*.047*	---	*.396*	*-.022*	*2.964*[a]	*.732*
CULT							.114[b]	---	-.455	.187[a]
							.055	---	*.649*[a]	*.100*
COHES							.091[b]	---	.438[a]	.150[a]
							.057	---	*.678*[c]	*.103*
ASPIR							.035	---	9.895[a]	.058
							-.655	---	*-.969*	*-.187*
LOCUS									1.649[b]	---
									1.814[c]	---
R^2	.023		.002		.103		.099[b]		.204[c]	
	.018		*.008*		*.050*[a]		*.072*[a]		*.274*[c]	

Note: a $p < .05$
b $p < .01$
c $p < .001$



Note. * p < .05
** p < .01
*** p < .001

Figure 2. Significant direct effects and their metric values for males.



Note. * p<.05
** p<.01
*** p<.001

Figure 3. Significant direct effects and their metric values for females.

Table 3

Standardized and Metric Values of Total Effects by Sex and Results of Chi-Square Test of Differences.

Variable	Standardized		Metric		Δ Chi^2
	Males	Females	Males	Females	
AGE	.293[d]	.182[b]	6.404[d]	3.696[b]	1.39
LOCUS	.218[c]	.267[d]	1.649[c]	1.814[d]	.05
COHES	.204[b]	.347[d]	.588[b]	.781[d]	.52
ASPIR	.195[b]	-.047	9.953[b]	-2.156	5.23[b]
CULT	-.066	.179[b]	-.258	.749[b]	5.58[b]
SES	-.001	-.142[a]	-.009	-1.192[a]	1.79

Note. Δ Chi^2 is the difference in chi^2 values for the constrained and unconstrained models using LISREL.

[a] $p < .10$
[b] $p < .05$
[c] $p < .01$
[d] $p < .001$