

Effects of Gender and Academic-Risk Behavior on the Career Maturity of Rural Youth

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We examined the impact of gender and academic-risk behavior on the career maturity attitudes and competence of rural adolescents. Using the Career Maturity Inventory (Crites, 1978), a two-way multivariate analysis of variance (MANOVA) found significant main effects for gender and academic-risk status on affective career maturity. A separate two-way MANOVA focusing on career maturity competence found significant main effects for academic-risk status. The career development problems of rural adolescents identified as academically at-risk highlight a need for targeted secondary career education and vocational preparation programs. However, to maximize the effectiveness of vocational programs for these rural youth, greater attention must be paid to the career development issues they experience.

Career maturity has been studied extensively over the past 3 decades and is an important construct in career development theory (Crites, 1978). Career development/self-concept theory, as proposed by Super (1990), describes five stages of development including growth (childhood), exploration (adolescence), establishment (young adulthood), maintenance, and withdrawal. Super postulated that, typically, certain vocational tasks are accomplished during each of these distinct stages according to identifiable and predictable sequences. Simply defined, career maturity provides a means of measuring the degree of affective and cognitive career development an individual has attained. Career maturity describes one's ability to successfully cope with vocational development tasks (e.g., crystallizing, specifying, and implementing career choice) that are encountered across the developmental continuum from exploration stage through withdrawal. As a construct, it represents a repertoire of coping behaviors and one's readiness to employ these behaviors toward career-related events encountered at various life stages. However, "contrary to the impressions created by some writers, [career maturity] does not increase monotonically [having a direct correspondence to age], and it is not a unitary trait" (Super, 1990, p. 207).

Extensive research has been conducted on the career maturity construct. However, critics maintain that since career development theory was originally based on a homogeneous group of White, middle-class adolescent males who experienced continuous vocational development, the construct is of limited generalizability (LoCascio, 1974; Phillips, Strohmer, Berthaume, & O'Leary, 1983). Super

(1990, p. 210) countered this concern by noting that "a middle-class bias in a society in which most people seek security and high living standards in employment" may be a desirable feature when building theories of career behavior.

In recent years, career maturity research has increasingly focused on atypical groups such as persons with disabilities (Phillips et al., 1983), non-White minority groups (Dunn & Veltman, 1989; Westbrook & Sanford, 1991), and economically disadvantaged youth (Watson & van Aarde, 1986). As a result of these types of investigations, existing theories that have emphasized the continuous, uninterrupted, and progressive aspects of career development while downplaying the possibility of discontinuous or delayed development are now being challenged (Rojewski, 1994). Youths living in rural areas who exhibit academic risk behaviors comprise one population that has not received a great deal of attention in terms of career development.

While great diversity exists in rural America (Stephens, 1992), several common themes highlight the need for greater attention to the career development and occupational choice process experienced by rural adolescents. First, young people in nonmetropolitan communities face a number of problems related to career development and preparation, including reduced access to higher education, narrowed school curricula, limited exposure to the world of work, and a lack of work-related role models (Apostal & Bilden, 1991). As a result of these problems, fewer rural youth pursue college due to a perceived lack of postsecondary opportunities, effectively limiting their work and educational aspirations and attainment (DeYoung, 1987; Hektner, 1995). This scenario becomes even more acute when considering that the distinction between rural and nonrural locales has become increasingly blurred in recent

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years as a result of technology and expanding metropolitan areas. This is important in that rural youth are being required to compete with better prepared, nonrural peers for high-skill, high-wage jobs based primarily in metropolitan areas (Elder, 1992; Hobbs, 1994).

A second issue involves a lack of economic vitality and the relative scarcity of high-skills, high-wage employment opportunities found in many rural locales (Helge, 1991). The shift that has taken place in our country's economic base—from production-industrial to service—has further intensified the economic instability of many rural areas. While service jobs have been created in rural sectors, most are low-paying and require only limited education or training. The few high-paying service jobs available tend to be concentrated primarily in metropolitan areas (Hedlund, 1993). These developments have led to employment-related problems for rural populations including lowered levels of personal income and higher rates of unemployment and poverty. Mining-dependent rural communities (similar to the one in this study) have fared worse than other rural communities that relied on various other types of business and industry for employment and a stable economy (Hobbs, 1994). As might be expected, expectations for quality employment are low in rural areas where occupational opportunities appear limited by a lack of an industrial base (Smithmier, 1994).

A third concern that illustrates the potential impact of living in a rural environment on adolescent career development is the potential conflict that can arise between high educational or career aspirations and the need to move to a metropolitan area to attain such aspirations. Hektner (1995) argued that this conflict tends to complicate and interfere with the career development of rural youth; pointing to the greater difficulty many rural youth experience in formulating education and career plans. Earlier, Reiger (1972) suggested that out-migration, or the prospect of out-migration, plays an important facilitative role in the career development of adolescents. When faced with these two competing goals, some rural youth lower their aspirations to remain closer to home. Interestingly, the effects of a "residence versus aspirations" conflict may have a more detrimental effect on rural male adolescents. Murray, Keller, McMorran, and Edwards (1983) found that rural females were less likely than male counterparts to expect to live in their home communities in the future.

It seems likely, then, that rural youth might differentially experience career development as a result of the problems and conflicts they experience in their environment. An investigation conducted by Sarigiani, Wilson, Petersen, and Vicary (1990) supported the idea that community context may, indeed, have a significant influence on the nature of adolescent development. Rural adolescents who are considered academically at risk may face even greater challenges to their career development, par-

ticularly as their behavior relates to the selection and attainment of postsecondary educational and occupational aspirations. However, the relationship of at-risk behavior to career maturity is not well understood. From a theoretical standpoint, being labeled academically at risk could have an impact on career development from a combination of sociological and psychological perspectives (Gottfredson, 1981). In fact, social learning theory might explain why inaccurate, dysfunctional beliefs or self-appraisals impede appropriate career development (Mitchell & Krumboltz, 1990). Sociological theory posits that systemic bias and structural barriers are often erected on the basis of gender, race, social class, or other labels (such as being at risk) which can lead to limited career alternatives beyond individual control (Hotchkiss & Borow, 1990).

Gender is another variable that may affect the career development of rural adolescents in several ways. First, rural females are often constrained by traditional expectations toward the role of females in rural culture, as well as the general constraints imposed on females throughout our society (Dunne, 1980). Regardless of the specific effects of these role expectations, it appears likely that educational and occupational experiences and expectations differ for rural males and females.

A second reason to include gender in an examination of career development centers on the applicability of career development theory to female adolescents. Past investigations on this topic have produced somewhat inconsistent results. A number of studies have concluded that significant gender-related differences do exist on career maturity (Alvi & Khan, 1983; McNair & Brown, 1983; Omvig & Thomas, 1977; Smith & Herr, 1972). However, others have found no differences (Crites, 1978; Lawrence & Brown, 1976). Still others have provided partial support for females having a slight advantage over male counterparts in select aspects of affective (Fouad, 1988) or cognitive career maturity (Super & Nevill, 1984). Many reasons have been proposed to explain the presence of gender differences on career maturity, including gender differences in overall maturation rates, especially at lower grade levels (Omvig & Thomas, 1977), and gender differences in verbal ability (Super & Nevill, 1984).

Given the increased likelihood that rural youth may encounter career development difficulties, as well as a lack of information about the effects of other variables that might also place adolescents at risk, we sought to examine the influence of gender and academic-risk behavior on the career maturity attitudes and competence of youth enrolled in a rural school. Results may provide a clearer picture about the influence of these variables on the career development of rural youth and can be used by counselors and educators to develop more appropriate and effective educational interventions.

Table 1
Gender and Grade Level of Participants

Attributes	Academic-Risk Status			
	Minimal Risk Behaviors		Multiple Risk Behaviors	
	<i>n</i>	%	<i>n</i>	%
Grade 9				
Male	9	8.2	9	8.2
Female	10	9.1	3	2.7
Grade 10				
Male	9	8.2	3	2.7
Female	9	8.2	8	7.3
Grade 11				
Male	2	1.8	5	4.6
Female	19	17.3	6	5.5
Grade 12				
Male	0	0.0	4	3.6
Female	2	1.8	9	8.2

Note. Figures may not total 100% due to rounding error or missing data.

Method

Sample

The sample comprised 110 adolescents enrolled in a rural public school located in the western United States (see Table 1). The sample included more female ($n = 66$) than male students ($n = 44$), ranging in age from 14 to 18 years of age ($M = 15.8$, $SD = 1.1$). Most students were White ($n = 97$). Slightly more than half of all participants ($n = 60$) expressed plans to attend a 4-year college or university upon graduation, while a much smaller percentage aspired to attend a 2-year technical institute ($n = 12$). Slightly over 10% of the respondents ($n = 12$) planned to go directly to work after graduation. An additional 15 students had no real plans for work or education after finishing high school. (Eleven participants did not respond to the inquiry about postsecondary plans.)

The median score on a 7-item at-risk scale was used to divide students into two groups that reflected the presence and frequency of behaviors known to correlate with increased risk of school absenteeism and drop out (discussed below). Based on this criterion, one half of all males ($n = 21$) and a large percentage of Grade 12 students ($n = 13$) were categorized as being at risk. The larger number of

males found in the multiple risk category was not unexpected given that dropout rates are notably higher for males than females (West, 1991). However, the large percentage of high school seniors identified as academically at risk was somewhat surprising. While speculative, several factors may contribute to an explanation of this distribution. Since questionnaire administration occurred in the latter part of the spring semester, it is possible that some high school seniors (those not academically at risk) had already completed graduation requirements and were not at school the days of testing. Another possibility is that students in the multiple risk behavior category were required to remain in school to complete academic or disciplinary requirements, whereas their peers in the minimal risk category were able to leave campus to go to work or complete personal business.

Instrumentation

Career maturity inventory. The Career Maturity Inventory (CMI; Crites, 1978) was employed, an instrument designed to measure the maturity of attitudes and competence necessary for realistic career decision-making. Healy (1994) noted that the CMI has served the profession well since its development in the 1970s. He further indicated the usefulness of the CMI for studying career development, screening for career immaturity, and evaluating career education. The CMI continues to be used in numerous studies to measure individual career maturity (e.g., Dunn & Veltman, 1989; Westbrook, Cutts, Madison, & Arcia, 1980) and to evaluate the effects of career education interventions designed to enhance career maturity (e.g., Carpenter, 1993; Trebilco, 1984).

The CMI Attitude scale (Counseling Form B-1) "elicits the feelings, subjective reactions, and disposition that an individual has toward making a career choice and entering the world of work" (Crites, 1978, p. 3). The Attitude scale consists of 75 items that survey a respondent's affective reaction to five attitudinal variables relevant to career decision-making, including decisiveness, involvement, independence, orientation, and compromise. Four of the five subscales contain 10 items, while one subscale contains 7 items. All subscale items require a true or false response. Examples of affective scale items include (a) "You should choose an occupation that gives you a chance to help others," (b) "I plan to follow the line of work my parents suggest," and (c) "Your parents probably know better than anyone else which occupation you should enter." In addition to scores for each of these five subscales, one overall attitude score can also be calculated. However, for this study, focus was centered on the five affective subscales in order to examine specific similarities and differences on these discrete aspects of career maturity. Acceptable inter-

nal consistency estimates have been reported for the subscales (.65-.84) for adolescents in grades 9 through 12.

The CMI Competence scale measures cognitive variables involved in choosing an occupation and is divided into five distinct subscales, including self-appraisal (knowing yourself), occupational information (knowing about jobs), goal selection (choosing a job), planning (looking ahead), and problem-solving. Each of these five subscales contains 20 statements, scored and interpreted separately. Acceptable internal consistency coefficients (.73-.90) for adolescents have been reported for the five competence subscales (Crites, 1978). In addition, Crites presents an extensive overview of empirical studies supporting the content, construct, and criterion-related validity of the CMI.

Self-report demographic data form. Demographic information was collected using a one-page self-report questionnaire. Relevant personal information was requested including gender, age, and the presence and frequency of at-risk behavior. The degree of academic risk was determined on the basis of composite response to a seven-item academic risk scale. Scale items reflected attitudinal and behavioral correlates of school absenteeism and dropping out of school as adapted by Bryk and Thum (1989). Students were asked to indicate the frequency they had been disciplined by a teacher (e.g., extra study halls or detention), had been suspended from school, had cut classes, had been in trouble with the law, had thought about dropping out, were disinterested in school, and disliked working hard to succeed. Frequencies were categorized as none (0), once (1), twice (2), and three or more times (3). A composite at-risk score (range 0-21) was obtained for each participant; lower scores indicated none or minimal risk-behaviors, while higher scores reflected increasingly frequent risk behaviors (see Appendix). An internal consistency coefficient of .68 was obtained for this scale.

The median at-risk score ($Mdn = 5$) was used to divide participants into two groups (Tuckman, 1988): minimal risk-behaviors and multiple risk-behaviors. While the use of these two groups reduced the overall variability of the at-risk measure, the decision was made in order to obtain a fairly valid and meaningful representation of the approach used by school personnel when determining eligibility for special programs designed to help students deemed to be at risk of school failure. For example, categorical affiliation (educational disadvantage as measured by several different criteria) is one of the primary factors considered in determining eligibility for participation in federally-funded vocational education programs for students with special needs (Sarkees-Wircenski & Scott, 1995).

Procedure and Data Analysis

Administration of the CMI and self-report demographic questionnaire was completed during a 3-day period. Ini-

tially, participants were briefed on the nature of the testing, the instruments being administered, and possible ways that information could be used to plan for a career. A written protocol and standardized instructions were used to provide directions in scale completion.

Multivariate analysis of variance (MANOVA) was selected to examine the effects of gender and academic-risk status on attitude and competence subscale scores respectively. Descriptive discriminant analysis (DDA), a post hoc test, was employed as the follow-up method in order to examine the nature of significant differences identified by the omnibus MANOVA, control for experimentwise error, and take into consideration the relatively high CMI interscale correlations (Bray & Maxwell, 1982; Haase & Ellis, 1987). Attitude and competence subscales were each analyzed simultaneously in order to consider the full network of variable relationships and account for the natural complexity of the data (Huberty & Wisenbaker, 1992).

Results

Description of Career Maturity and Comparison to National Norms

Since the present sample contained only rural-based adolescents, the opportunity to directly compare the career maturity levels of rural and metropolitan-based youths was not possible. However, the availability of Crites' (1978) national norms allowed for comparison of these results to a group of predominantly metropolitan adolescents. Table 2 provides descriptive information about the career maturity attitudes and competence of rural youth at each grade level.

Career maturity attitudes. Several interesting points are observed when comparing the career maturity attitudes of these rural youth to national norms (see Figure 1). Most striking is that the affective career maturity patterns found for these youth, at all four grade levels, were relatively depressed as evidenced by only one ranking above the 50th percentile when compared to national standards. A second observation is that, with few exceptions, the affective maturity patterns of adolescents in Grades 9, 10, and 11 were somewhat comparable and consistent (although low) with what might be expected given their stage of career development and educational progress.

Grade 9 subscale scores ranged from the 24th percentile (Involvement) to the 46th percentile (Decisiveness). While Involvement is low compared to nationally-based norms, this is probably not detrimental and might be expected given the length of time these youths have before career choices must be made. Grade 10 scores ranged from the 34th percentile (Independence and Orientation) to the 46th percentile (Decisiveness). The high Decisiveness mean might reflect the demands on youth to make some aca-

Table 2

Means, Standard Deviations, and National Percentile Rankings of Rural Adolescents on Career Maturity Inventory Subscales, by Grade Level

Career Maturity Subscales	Grade 9 (n = 31)			Grade 10 (n = 29)			Grade 11 (n = 32)			Grade 12 (n = 15)		
	M	SD	%-tile	M	SD	%-tile	M	SD	%-tile	M	SD	%-tile
Attitude Subscales^a												
Decisiveness	5.03	2.0	46th	4.93	2.5	46th	4.72	2.5	38th	4.60	2.3	31st
Involvement	8.00	2.3	24th	8.69	1.9	38th	8.81	1.5	38th	7.93	1.7	21st
Independence	8.55	1.7	42nd	8.24	2.0	34th	8.97	1.4	42nd	9.47	.7	58th
Orientation	7.19	2.6	42nd	6.28	2.6	34th	7.50	2.0	46th	5.67	2.9	14th
Compromise	4.77	1.5	38th	5.03	1.4	38th	4.94	1.3	34th	5.07	1.0	27th
Competence Subscales^b												
Self-appraisal	10.10	4.7	34th	11.07	4.0	34th	12.94	4.0	42nd	14.29	2.7	54th
Occupational Information	10.90	5.5	24th	13.07	4.5	31st	14.09	5.9	27th	16.50	2.4	46th
Goal Selection	9.48	4.5	31st	9.83	4.9	24th	11.13	5.1	27th	14.36	2.3	58th
Planning	8.45	4.8	24th	8.97	5.6	24th	10.03	5.5	24th	12.29	3.5	34th
Problem Solving	6.65	4.0	27th	7.55	3.6	27th	7.22	3.5	18th	9.07	2.5	27th

Note. The total *N* does not equal 110 due to missing or incomplete data.

^aNorms for the CMI Attitude subscales were developed by Crites (1978), who indicated that the study was not nationally representative and comprised 7,082 adolescents from large, metropolitan school districts (enrollments of over 4,000 students).

^bNorms for the CMI Competence subscales were developed by Crites (1978) over a 2½ year period with a sample size of over 72,000 students. Crites observed that the sample is "somewhat representative of the national population with regard to geographic region and size of school system" (p. 29). While the norms may be representative, they reflect a metropolitan bias: 81% of the sample attended schools with enrollments of more than 3,000 students. Only 4% of the norm sample attended a school system with a total enrollment of under 1,200 students.

demic choices pertaining to their high school education, and a realization that academic choices begin to narrow postsecondary options. Though career-related choices are being made with increasing frequency, these rural youth appear to be struggling with knowing exactly what to do and in taking personal responsibility for their choices.

Subscale scores for Grade 11 adolescents ranged from the 34th percentile (Compromise) to the 46th percentile (Orientation). The low value for Compromise (flexibility in choosing a career) might reflect feelings of being entrenched in a high school curriculum track and perceptions of limited postschool options. On the other hand, the high Orientation mean suggests that adolescents felt confident in their ability to make career choices.

Career maturity scores of Grade 12 adolescents ranged from the 14th percentile (Orientation) to the 58th percentile (Independence). With the exception of Independence, this profile reflected the lowest attitudes scores of all four grade levels. In fact, all but one subscale (Independence) fell at or below the 31st percentile, indicative of career-related problems or immaturity.¹

Career maturity competence. The cognitive career maturity profiles for rural youth in Grades 9-11 ranked in

the lower one third when compared to national norms (Crites, 1978; see Figure 2). With only one exception, these adolescents scored at or below the 34th percentile on each of the five competence subscales, indicating the potential for delayed or impaired development in the competence needed to successfully choose, prepare for, and obtain a career. Though these values were considerably lower than national norms, it is interesting to note that the highest subscale score for each grade level was on self-appraisal (i.e., the ability to objectively and realistically estimate personal strengths and weaknesses as they relate to various careers).

In contrast to their younger counterparts, Grade 12 adolescents were considerably more mature in four of the five cognitive subscales. In fact, two of the subscale means were above the 50th percentile, including Self-appraisal

¹Crites (1978) noted that individuals who scored at or below the 25th percentile on any particular subscale should be considered immature in that phase of their career development. In addition, scores below the 50th percentile are indicative of the potential for delayed or impaired progress related to career decision-making.

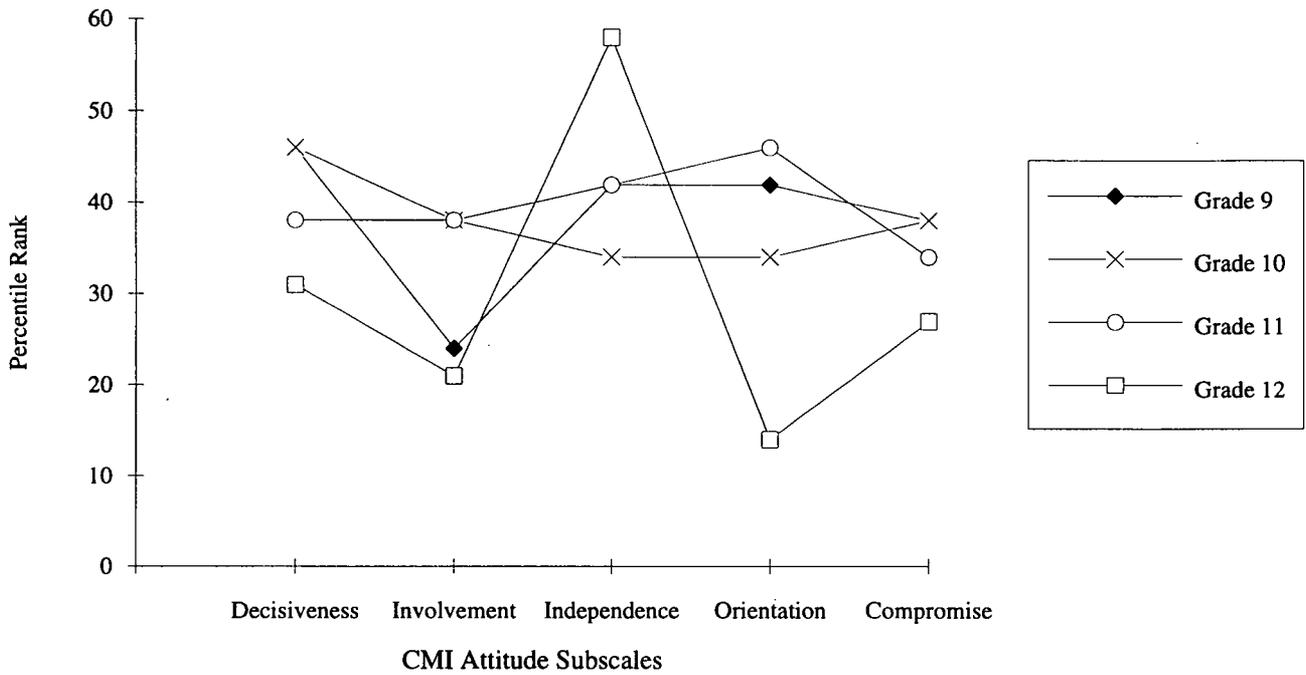


Figure 1. Percentile rankings of affective career maturity for rural youth (grade 9-12) against national norms (Crites, 1978).

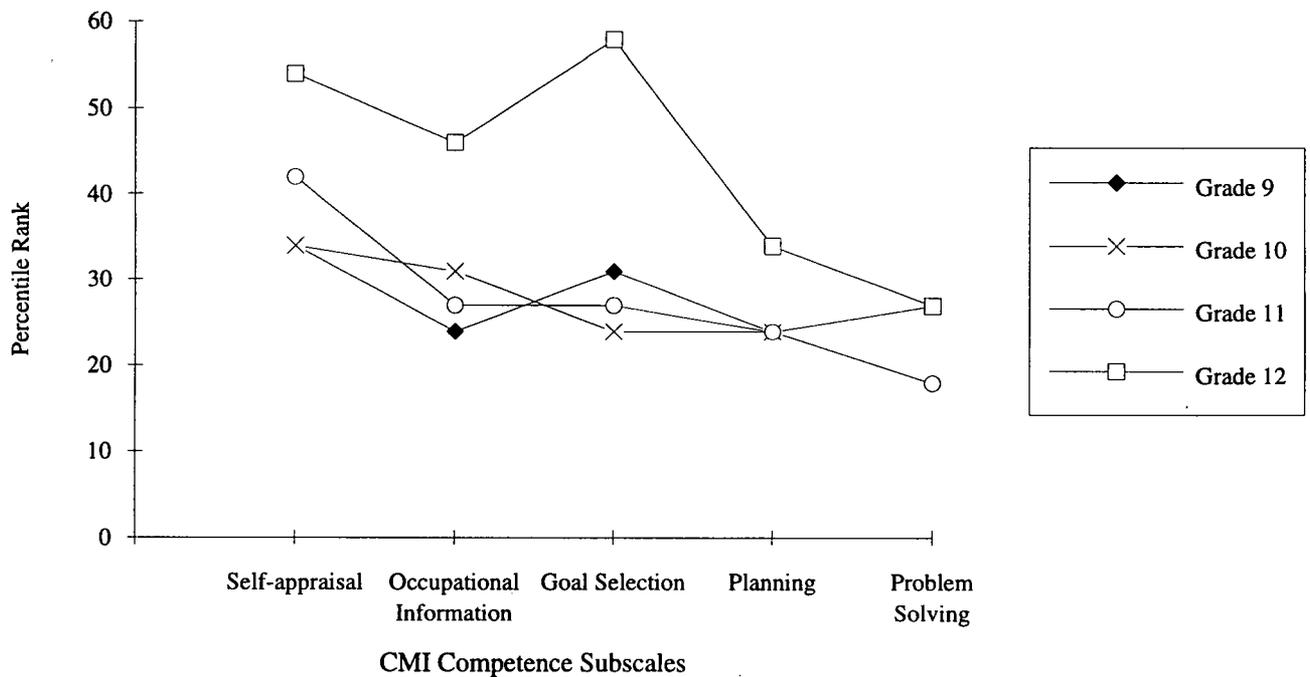


Figure 2. Percentile rankings of cognitive career maturity for rural youth (grade 9-12) against national norms (Crites, 1978).

(54th percentile) and Goal Selection (58th percentile). The remaining three subscale scores ranged from the 27th to 46th percentile. The percentile ranking for Problem Solving indicated that these rural high school seniors experienced difficulties in being able to resolve career-related problems.

Analysis of Career Maturity Attitudes

The five CMI Attitude subscales were used as dependent variables in a two-way MANOVA to examine the main and interactive effects of gender and academic rank on career maturity attitudes. Analysis revealed no significant two-way interactions. However, significant main effects were obtained for gender, Wilks' $\lambda(5,102) = .852$, $F = 3.539$, $p < .01$ and educational disadvantage, Wilks' $\lambda(5,102) = .850$, $F = 3.608$, $p < .01$.

A descriptive discriminant analysis (DDA) was used as the follow-up procedure to the significant main effects. Regarding gender, female participants scored higher than males on four of the five subscales; the exception was on Orientation. Within-groups structure coefficients indicated that differences between male and female adolescents could be attributed primarily to two subscales, Independence and Involvement. Here, females were more likely to be involved and independent in their career development and exploration. In terms of the relative importance of attitude subscales, group separation indices (F -to-remove values) revealed that orientation toward career decision-making was the most important variable for separating male and female adolescents (see Table 3).

Descriptive results of academic-risk status indicated that youths experiencing minimal academic risk scored consistently higher than students in the multiple risk group on all Attitude subscales. Within-groups structure coefficients indicated that differences between adolescents of minimal and multiple risk status could be attributed to three subscales: Orientation, Compromise, and Involvement. In this sample, youth displaying multiple risk behaviors were less oriented toward making a career choice, less willing or able to compromise between ideal and realistic career options, and less involved in the career decision-making process than peers at minimal risk. In terms of the relative importance of the five Affective subscales, group separation indices revealed that orientation toward career decision-making was the most important variable for separating male and female adolescents with minimal and multiple risk behaviors (see Table 3).

Analysis of Career Maturity Competence

A second part of this analysis examined the interactive and main effects of gender and academic risk on career maturity competence. Competence subscales were

used as dependent variables in a two-way MANOVA. Results of the omnibus MANOVA indicated no significant interaction between gender and academic risk status, nor was a significant main effect of gender obtained. However, academic risk status did have a significant effect, Wilks' $\lambda(5,102) = .797$, $F = 5.209$, $p < .0001$. Within-groups structure coefficients indicated that differences between minimal- and multiple-risk groups could be attributed primarily to problem solving: Students with multiple risk-behaviors were significantly less able to solve career-related problems. A second question addressed was in relation to the relative importance of the five cognitive subscales. Group separation indices revealed that competence in problem-solving was also the most important variable for separating students on the basis of academic risk status (see Table 4).

Discussion

Several limitations to this study must be acknowledged. Specifically, the use of self-report measures and reliance on a purposive sample do limit the degree that results can be generalized to all rural students. In addition, while other variables also influence levels of career maturity (e.g., socioeconomic status), they were not addressed in this study. Finally, since the CMI subscales and national norms were developed in the 1970s, the possible impact of the changing nature of the workplace might be a threat to the validity of the instrument or norms. While the nature of the workplace has changed, no evidence surfaced during this study to suggest that the underlying constructs of affective and cognitive career maturity were either significantly different than originally conceived or somehow invalidated. The extent that the validity of the CMI, Crites' (1978) norms, career development theory, or the construct of career maturity is challenged by a changing adolescent population in a changing sociological context is unknown.

Given these constraints, several interesting conclusions can still be drawn from this study. The rural youth in this study were considerably less career mature than the group of primarily metropolitan-based adolescents used to establish national norms. The general patterns for affective career maturity revealed somewhat comparable levels of maturity for rural adolescents in Grades 9-11. While there were several exceptions, a majority of the attitude subscale mean scores for these three grade levels ranged between the 30th and 40th percentiles. In contrast, high school seniors in this study expressed extremely low affective career maturity with the exception of independence. The perceptions of seniors may be due to the large number of at-risk youth in this group, or an indication of resignation or frustration over decisions about postsecondary education and work.

Table 3
 Descriptive Discriminant Analysis (DDA) of CMI Attitude Subscales

Attitude Subscales		Means, Standard Deviations, Within-Group Correlations								
		Gender		Academic Risk		Within-Group Correlations				
		Male	Female	Minimal	Multiple	(1)	(2)	(3)	(4)	(5)
(1) Decisiveness	<i>M</i>	4.00	4.38	4.71	3.72		.58	.55	.67	.61
	<i>SD</i>	2.93	2.67	2.53	2.94					
(2) Involvement	<i>M</i>	6.39	7.96	8.38	6.24			.92	.76	.85
	<i>SD</i>	3.85	3.00	2.58	3.87					
(3) Independence	<i>M</i>	6.34	8.08	8.30	6.43				.73	.83
	<i>SD</i>	3.79	3.01	2.60	3.93					
(4) Orientation	<i>M</i>	6.02	5.96	7.04	4.89					.80
	<i>SD</i>	3.75	3.11	2.93	3.46					
(5) Compromise	<i>M</i>	3.91	4.49	4.93	3.56					
	<i>SD</i>	2.53	1.92	1.82	2.35					

Attitude Subscales		Construct and Group-Separation Indices			
		Within-Group Structure Coefficients		Wilks' F-to-Remove Values	
		Gender	Academic Risk	Gender	Academic Risk
Decisiveness		.16	.49	.29	.49
Involvement		.55	.88	1.10	.75
Independence		.61	.77	2.40	.32
Orientation		-.02	.91	7.86	1.55
Compromise		.31	.89	.09	.35

Note. CMI = Career Maturity Inventory (Crites, 1978). Possible range of scores for each Attitude subscale was 0-10, except for the Compromise subscale that had a range of 0-7.

Compared to metropolitan youth, these rural adolescents were considerably less mature in career competence, as well. In fact, a majority of the mean scores recorded on the five competence subscales for adolescents in Grades 9-11 were between the 24th and 34th percentiles. High school seniors, on the other hand, exhibited considerably higher levels of cognitive maturity on self-appraisal, occupational information, and goal selection. Though Grade 12 adolescents were affectively immature, it seems that they pos-

sessed the cognitive maturity to be able to make appropriate career-related decisions. Additional study is needed to determine whether cognitive maturity increases in response to the realization that high school is ending (i.e., time perspective) or from some other influence.

The affective career maturity of these adolescents was related to gender and at-risk behavior. This supports prior research that has found differences between male and female youth on affective career maturity (Alvi & Khan,

Table 4
 Descriptive Discriminant Analysis (DDA) of CMI Competence Subscales

Competence Subscales		Means, Standard Deviations, Within-Group Correlations								
		Gender		Academic Risk		Within-Group Correlations				
		Male	Female	Minimal	Multiple	(1)	(2)	(3)	(4)	(5)
(1) Self-appraisal	<i>M</i>	7.98	10.94	11.00	8.46	.80	.72	.69	.68	
	<i>SD</i>	6.00	5.61	5.45	6.15					
(2) Occupational Information	<i>M</i>	8.39	12.32	13.05	8.35		.92	.85	.81	
	<i>SD</i>	7.00	6.39	5.94	7.03					
(3) Goal Selection	<i>M</i>	7.34	9.53	10.27	6.98			.86	.79	
	<i>SD</i>	5.94	5.74	5.39	5.89					
(4) Planning	<i>M</i>	6.32	8.89	10.09	5.56				.83	
	<i>SD</i>	6.02	6.01	5.76	5.65					
(5) Problem Solving	<i>M</i>	4.68	6.80	7.79	4.06					
	<i>SD</i>	4.20	4.35	4.08	3.92					

Construct and Group-Separation Indices for Academic Risk

Competence Subscales	Within-Group Structure Coefficients	Wilks' <i>F</i> -to-Remove Values
Self-appraisal	.41	2.28
Occupational Information	.68	2.43
Goal Selection	.54	3.81
Planning	.74	1.35
Problem Solving	.87	6.22

Note. CMI = Career Maturity Inventory (Crites, 1978). Possible range of scores for each Competence subscale was 0-20.

1983; Fouad, 1988; McNair & Brown, 1983). In this study, mean CMI Attitude subscale scores were significantly lower for male adolescents in comparison to their female counterparts. The underlying structure for gender differences was best defined by the independence subscale. Crites (1978) defined Independence as an ability to make career choices without assistance from others. Persons who score high on this subscale are purposefully taking responsibility and initiative in making career choices. Female youth were more likely to reflect this particular behavior. An individual's orientation toward career choice made the greatest contribution to determining overall group

separation between male and female students. Orientation refers to the level of awareness one possesses on the steps involved in making an appropriate career choice.

Affective career maturity levels were also related to the presence of behavior that placed an individual at risk of academic (school) failure. Youth who displayed minimal risk behaviors were more positive than their peers with multiple risk behaviors on all five Attitude subscales. Orientation, Compromise, and Independence best defined the underlying structure of affective career maturity for these two opposing groups. Likewise, knowledge about the steps included in making a career choice also made the greatest

contribution toward determining overall separation between these two groups.

Knowledge of the particular similarities and differences in career maturity attitudes based on gender and academic risk behavior can be useful when designing and providing career-related interventions. For example, counselors and educators should acknowledge that male adolescents may be more dependent in making a career choice. In addition, the significant impact of risk behavior must be acknowledged in the areas of orientation, compromise, and involvement in the career decision-making process. Based on these findings, it is possible that focused career development programs may be warranted for academically at-risk youths.

Career development professionals should acknowledge that lower career maturity attitudes for males and adolescents deemed at-risk may reflect, in part, their perceptions of restrictive post-graduation vocational options (Dunn & Veltman, 1989). Perceptions of limited employment options may be based on a lowered self-concept caused by being labeled or perceived as academically at-risk. In rural settings, a sense of limited career options may also extend from economic reality—a lack of economic vitality and few meaningful employment options that are often found in rural areas. This was the case for participants in this study where traditionally males went to work in the coal mines and women either worked in a local garment factory or left the community to attend college. Career programs need to aggressively address these important issues through career exploration that (a) focuses on expanding students' awareness of diverse career options and (b) is designed to elicit the early and active involvement of students deemed at risk for school failure.

While past studies have focused more heavily on individuals' attitude toward career development tasks, this study also examined career competence. Here, gender did not have a significant impact on cognitive career maturity. However, the presence of risk behaviors did have a significant relationship with this construct. In all areas, the cognitive career maturity of youth in the multiple risk behavior group was significantly lower than those at minimal risk. Practitioners should consider providing greater support and training in making and implementing career choices to develop this competency in at-risk adolescents.

Findings of this study generally support past research that females possess higher affective maturity than their male peers (Alvi & Khan, 1983; Fouad, 1988; McNair & Brown, 1983). In addition, findings indicate that academic-related behavior plays an important role in determining affective and cognitive career maturity levels. A number of possible alternatives exist to explain why rural at-risk youth were less career mature and possessed a more limited repertoire of coping behaviors than their counterparts. Several alternatives are considered.

One explanation that has gained increasing attention in recent years centers on the role that discrimination, social attitude, cultural expectations, and stereotypes play in career development. Several researchers have noted that career development appears to be strongly influenced by these social factors (Hotchkiss & Borow, 1990; LoCascio, 1974; Mitchell & Krumboltz, 1990). Conte (1983) noted that negative cultural perceptions and social expectations can impose lower status and a devalued role on individuals which, in turn, can result in limited job or career choices, restricted opportunities and access to training programs, and narrow stereotypical employment possibilities. Dunn and Veltman (1989) suggested that lower career maturity may actually reflect perceptions of restrictive post-graduation vocational options. A sense of limited career options may be amplified due to a lack of economic vitality and meaningful employment options found in many rural areas. A third possibility is that the delayed career maturity of at-risk youth may represent limited exposure to formal career preparation, the influence of age and lack of immediacy to identify potential careers, or both. If true, greater emphasis on career development and preparation, as well as transition from school to work models for rural youth may be warranted.

The potentially important role of parents and teachers in the career development process has been posited as a fourth possible explanation of discontinuous development evidenced in at-risk groups (Conte, 1983; Rojewski, 1994). Professionals must remain sensitive to the critical role they may play in career choice and occupational preparation. In fact, educators in secondary vocational preparation and school-to-work transition programs should be cognizant of the career maturity patterns of rural youth identified in this study. This becomes increasingly important with the advent of career preparation programs like tech-prep (technical-preparation) and apprenticeship programs that advocate selection of occupational tracks and possible career options early in a student's secondary school years. A conscious effort must also be made to avoid problems of portraying males and females in stereotypical occupations or programs. Instead, educators must strive to provide equitable opportunities to all students. Perhaps equally important, professionals must be sensitive to and work with local community and business leaders to ensure that bias or stereotypic thinking does not guide vocational interventions or training placements.

Targeting programs to improve career maturity may have beneficial results as research has demonstrated that low career maturity scores can be improved through systematic intervention (Carpenter, 1993; Dunn & Veltman, 1989; Trebilco, 1984). However, a mature attitude toward work and the competence needed to address vocational tasks will not suddenly blossom when rural youth enroll in career preparation courses, but rather gradually develop in

response to appropriate nurturing, instruction, and experience. Rural program developers must acknowledge that students at-risk of school failure may exhibit a tendency to limit their involvement in career exploration, encounter problems in determining personal strengths and weaknesses, or experience difficulty in knowing how to acquire occupational information.

While rural adolescents face a number of challenges to identifying and pursuing appropriate career options, rural educators may be in a position to minimize the effects of living in a rural area on career development. Rural educators can aggressively provide career exploration activities that focus on expanding students' awareness of diverse career options (in both local and metropolitan areas), openly discuss and deal with the "aspirations versus residence" conflict, and elicit the active involvement of rural students deemed at-risk of school failure. Through a concerted educational effort, rural adolescents will be better prepared, both affectively and cognitively, to select and attain their career aspirations.

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Appendix

Items Used for Identifying At-Risk Adolescents (taken from Bryk & Thum 1989)

During the past school year, have you ever

- been disciplined by a teacher (like detention or extra study halls) for bad behavior? Yes No
 If yes, how many times? Once Several (2 or 3) Often (4+)
- been suspended from school? Yes No
 If yes, how many times? Once Several (2 or 3) Often (4+)
- cut classes that you should have attended? Yes No
 If yes, how many times? Once Several (2 or 3) Often (4+)
- been in trouble with the law? Yes No
 If yes, how many times? Once Several (2 or 3) Often (4+)
- thought about dropping out of school before you graduate? Yes No
 If yes, how many times? Once Several (2 or 3) Often (4+)
- felt uninterested about school, thinking it is just a waste of time? Yes No
 If yes, how many times? Once Several (2 or 3) Often (4+)
- decided not to do your homework just because you don't want to work that hard? Yes No
 If yes, how many times? Once Several (2 or 3) Often (4+)