

A Longitudinal Study of Vocational Maturity and Ethnic Identity Development

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This study examines longitudinally the development of vocational maturity and ethnic identity in a majority and a minority group of 641 students in the Province of Québec, Canada. Ethnic identity and four components of vocational maturity were assessed in four cohorts at three times of measurement. Results show clearly different developmental trends in both ethnic identity and in vocational maturity for majority and minority groups: The minority group showed a linear increase in ethnic identity over time, while the majority group showed a decrease starting with the second time of measurement; vocational maturity components showed a more complex pattern of changes but demonstrated that minority participants matured significantly earlier than those from the majority group. There was a positive relationship between ethnic identity and vocational maturity for both groups. © 1998 Academic Press

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Increased appreciation of cultural diversity in America has stimulated research devoted to understanding how racial and ethnic minorities adapt to the world of work. For psychologists interested in career development, a major area of concern involves the reexamination of career development theories in terms of their validity with respect to cultural groups such as Hispanics, Asians, Africans, and Native Americans. According to Leong (1995a), such reexamination can focus either on culture-specific or on culture-general information about the vocational psychology of racial and ethnic minorities. The present study addressed the latter through an examination of how vocational maturity, a central construct of career development, is related to various aspects of the identities of culturally diverse adolescents.

Vocational maturity is generally defined as the extent to which an individual succeeds in mastering the tasks appropriate to his or her stage of career development (Betz, 1988; Super & Thompson, 1979; Super, Thompson, Lindeman, Jordaan, & Myers, 1981; Westbrook, 1983). In the case of adolescents, Super (1983) specified that the two principal tasks of vocational development are career planning and career exploration. The former corresponds to the degree to which the person engages in specific activities that result in knowledge of the kind of work he or she would like to do, while the latter refers to the attitudinal stance taken with regard to the quality of different sources of occupational information. Both of these tasks have been incorporated in more recently developed measures of vocational maturity (e.g., Dupont & Gingras, 1990).

The vocational development of ethnic minorities has received considerable attention only in recent years (e.g., Leong 1995b; Osipow & Fitzgerald, 1996; Tinsley, 1994). Criticism of applying "mainstream" career development theory and particular constructs, such as career maturity, to ethnic/racial minorities has been offered for many years (e.g., Fitzgerald & Betz, 1994; Smith, 1983). At the same time, it has been pointed out that the very notion of career development may be inappropriate for some ethnic minorities (Osipow & Fitzgerald, 1996). Others have noted that studies dealing with ethnic minorities are difficult to interpret because they often confound social class and ethnic minority status (Arbona, 1990; Luzzo, 1992). In addition, many studies dealing with ethnic minority issues use aggregate groupings that obscure the differences among ethnic minorities (e.g., Arbona, 1990; Fukuyama, 1991).

The concept of racial/ethnic identity has been proposed as a means to better understand the career development of minority groups (Brown, 1995; Tinsley, 1994). Phinney's (1990) work has facilitated empirical research in this area, particularly through her development of a general measure of ethnic identity for use with adolescents from various ethnic groups (Phinney, 1992). Phinney and her colleagues (Chavira & Phinney, 1991; Phinney, 1992, 1996; Phinney & Alipuria, 1990; Phinney & Chavira, 1992; Phinney & Rosenthal, 1992) have shown that ethnic identity is related to ego-identity development, psychological adjustment, ego development, and self-esteem; they also demonstrated that ethnic identity increases with age, is lower for White majority students than for

ethnic minority students (no differences were observed among Asian, Black, Hispanic, and ethnically mixed high school students), does not differ according to gender or socioeconomic status, but distinguishes among students with high and low grade point average. Such findings suggest that, apart from the specific features of each ethnic group, common processes of exploration of and commitment to one's own group seem to underlie the formation of ethnic identity in all minority groups.

Understanding ethnic identity development and how it relates to career development, including career choice and career decision making, requires further exploration and research (Arbona, 1996). One of the questions to be considered, for example, is whether, for ethnic minority individuals, the development of ethnic identity may be an additional growth task that plays a major role in their career development (Arbona, 1995; Fouad & Arbona, 1994). To date, little is known about the conjoint evolution of vocational maturity and ethnic identity during the adolescent years.

The existence of a relationship between identity development and career development has been suggested by the theoretical contributions of Erikson (1959) and Super (1957) and empirically demonstrated. For example, ego-identity development has been related to career exploration and commitment (Blustein, Devenis, & Kidney, 1989), career decision-making styles (Blustein & Phillips, 1990), career indecision (Vondracek, Schulenberg, Skorikov, Gillespie, & Wahlheim, 1995), leisure, school, and work activity preferences (Vondracek & Skorikov, 1997), and clarity of vocational goals (Savickas, 1985). Vocational identity, in particular, has been suggested to lead the development of other aspects of identity (Skorikov & Vondracek, 1998). Because ethnic identity is known to be an integral part of the person's overall identity, membership in an ethnic minority group may result in increased sensitivity to identity issues among minority adolescents and a higher level of overall identity development (e.g., Phinney & Alipuria, 1990). In addition, it has been proposed that persons with a strong sense of ethnic identity, particularly when they belong to a minority group, may see barriers to career development as challenges to be overcome (Leong & Chou, 1994).

In this study we focused on the issues of vocational maturity in different ethnic groups in the Province of Québec and their relationship to ethnic identity development. It was hypothesized that both will increase with age in majority and minority students. For both groups, it was further hypothesized that a significant positive relationship exists between progress in the development of ethnic identity and progress in vocational maturity over time. The pattern of changes in the two domains of development over time and with age was, however, expected to differ significantly between the majority and minority adolescents. The ethnic identities of minority adolescents were expected to advance earlier and to a higher level compared to those of majority adolescents. Moreover, because of the complementary nature of the processes of career development, on the one hand, and identity formation on the other, it was predicted that the vocational devel-

opment of the students from minority ethnic groups should be enhanced rather than impeded, by their ethnic identity development.

METHOD

Participants and Procedure

This study utilized a specific form of the sequential longitudinal design, which has lately been described in the literature as an accelerated short-term longitudinal design (Anderson, 1995). In this design, the longitudinal changes are studied on several birth cohorts simultaneously, thus adding the age dimension to that of change without extending the period of data collection over longer periods of time. Such a procedure equalizes the age of the participants coming from different cohorts at each time of measurement. Specifically, we used a $3 \times 4 \times 2$ design, with three times of measurement (T_1 to $T_2 = 5$ months; T_2 to $T_3 = 10$ months; T_1 to $T_3 = 15$ months) and four birth cohorts (comprised of ethnically diverse French-speaking Canadian adolescents) divided into two groups (Ethnic Majority and Ethnic Minority). The participants were selected from a larger sample ($N = 1031$) of high school students in the Canadian Province of Québec participating in a large-scale longitudinal research on personality and career development during adolescence conducted in five schools. Data were collected via surveys administered in the Fall of 1993, Spring of 1994, and Winter of 1995. At each time of measurement the students completed French written questionnaires under the supervision of trained assistants.

The five participating schools were identified by local school boards to ensure the ethnic composition (diversity) of the sample. In each school, classes were randomly selected for participation. While all students from the selected classes completed the survey, those whose data were incomplete were excluded from further analysis. In addition to that, those students whose ethnic backgrounds were mixed were also excluded. A self-labeling procedure was used to establish ethnic group membership of the participants. Each student was invited to indicate the group he or she, his or her mother, and his or her father identified with. Those with homogeneous cultural background (i.e., identification with the same group for student, mother, and father) at the three times of measurement were retained.

The resulting sample was comprised of 641 students, with boys ($N = 306$) and girls ($N = 335$) approximately equally represented. Students who reported that they and their parent(s) were Québécois ($N = 439$) or Canadians ($N = 27$) were assigned to the Majority group ($N = 466$) because they represented the largest portion—approximately five sixths—of the population of the Province of Québec. It should be noted, however, that within all of Canada, this group also constitutes a French-speaking minority group, representing one fifth of the total population. Conversely, students who identified themselves and their parents as belonging to an ethnic group other than the Majority, were designated as the Minority group ($N = 175$). More than 50 specific ethnic backgrounds were mentioned and classified as follows: 68 European, 34 Arab, 32 Asian, 23 Latin

American, and 18 French Caribbean. The four cohorts used in this study represented four different age groups. The age differences were reflected in the grade level differences at the beginning of and throughout the study. At the first two times of measurement the participants from Cohort 1 ($N = 162$) were in 7th grade, Cohort 2 ($N = 158$) in 8th, Cohort 3 ($N = 177$) in 9th, and Cohort 4 ($N = 144$) in 10th. At the third time they were in grades 8, 9, 10, and 11, respectively.¹

Because the effects of ethnic group membership are often confounded by socioeconomic status and family composition, we compared the Majority and Minority subgroups with respect to their background characteristics. No differences were found between them in terms of family composition and family financial situation and most reported having intact families (74.4% and 80.3%, respectively), and "comfortable" circumstances (81.3% and 77.7%, respectively). Majority and Minority students also did not differ significantly in the percentages reporting their families to be "poor" or "modest" (11.6% and 13.7%, respectively) or "rich" or "very rich" (7.1% and 8.6%, respectively). Majority students, however, had a higher academic grade point average than Minority students ($t = 3.71$; $df = 635$; $p < .0001$).

Measures

Vocational maturity. The Questionnaire d'Education à la Carrière [Career Education Questionnaire] (QEC; Dupont & Gingras, 1990) was used to measure vocational maturity. It contains four scales assessing attitudinal and behavioral aspects of career exploration (Self-knowledge and Information Sources) and career planning (Decision Factors and Occupational Knowledge). Each of the four aspects of vocational maturity is composed of items which the participants evaluate by using a four-point Likert-type rating scale. The 13 Self-knowledge items are preceded by the question, "How frequently (1 = Never; 2 = Not often; 3 = Often; 4 = Very often) did you do the following activities?" (e.g., "Analyze your abilities, interests, and values in order to make proper decisions"; "Identify the reasons why you could not attain your career goals"). The 11 Information Sources items are preceded by the question, "To what extent (1 = Not at all; 2 = A little; 3 = Moderately; 4 = Much) did you get career information from the following persons or sources?" (e.g., "Your parents"; "Computerized educational and occupational programs"). The 13 Occupational Knowledge items are preceded by the question, "To what extent (1 = Not at all; 2 = A little; 3 = Moderately; 4 = Much) did you get career information by doing the following activities?" (e.g., "Observe people at work"; "Visit Colleges and universities"). The 17 Decision Factors items are preceded by the question, "How well (1 = Not at all; 2 = Not very well; 3 = Well; 4 = Very well) do you know each of the following factors involved in career decision-making?" (e.g., "The

¹ For comparison purposes, the reader may find it useful to consider the school attendance norms in the Province of Québec: primary school is from grade 1 to grade 6, high school is from grade 7 to grade 11, and junior high school does not exist per se.

required preparation to implement your career plans''; ''The required experience for different occupations'').

Using a sample of 1022 11th grade French-speaking high school students, Gingras (1991) reported internal consistency coefficients (Cronbach's alpha) of .82, .66, .84, and .79 for each of the four QEC scales (See also Coallier, Diop, & Dupont, 1995; Pereira-Gonzales, 1994; Schofield, 1994). Test-retest (interval = 3 weeks) Pearson correlations with a subsample of 59 participants were as follows: .67, .48, .72, and .59. With another subsample of 109 French-speaking high school students, she reported correlations varying from .49 to .66 for these scales with the career planning and career exploration scales of the French version (Dupont & Marceau, 1982) of the Career Development Inventory (CDI; Super et al., 1981), a widely used measure of vocational maturity.

In the current study reliability coefficients were computed for each time of measurement: Self-knowledge (.82, .85, .85), Occupational Knowledge (.80, .81, .81), and Decision Factors (.84, .86, .86) scales were characterized by alpha coefficients slightly higher than those of the Information Sources scale (.70, .72, .73). For varying intervals of 5, 10, and 15 months, across-time Pearson correlations for each of the four scales were as follows: Self-knowledge (.57, .57, .46), Information Sources (.57, .55, .45), Occupational Knowledge (.57, .52, .52), and Decision Factors (.58, .54, .46). These results show that the range of correlations tended to decrease over time, which was most pronounced for the longer interval between Time 1 and Time 3; their magnitude also corresponds to that expected with samples of adolescents, considering the changes typical of this period of age.

Ethnic identity. Phinney's (1992) Multigroup Ethnic Identity Measure (MEIM) was used to measure ethnic identity. The Ethnic Identity Scale contains 14 items designed to measure three aspects of ethnic identity: Affirmation of beliefs (e.g., ''I feel a strong attachment towards my own ethnic group''), Exploration and Commitment (e.g., ''I have a clear sense of my ethnic background and what it means for me''), and Ethnic Behaviors or Practices (e.g., ''I am active in organizations or social groups that include mostly members of my own ethnic group''). With samples of high school ($N = 417$) and college ($N = 136$) students composed of Asian American, African American, Mexican American, and White participants, Phinney (1992) showed that the items representing the three aspects loaded on a single (Ethnic Identity) factor. For both samples, she reported respective alpha reliability coefficients of .81 and .90.

In order to use the MEIM with French-speaking high school students, a ''back-translation'' of the instrument was performed. When the two English versions (the original and the one translated from the French translation) were compared for equivalence, a few discrepancies were discussed by a committee and minor adjustments were made on some items of the French version to improve its similarity with the original English questionnaire. As with Phinney's (1992) instrument, a four-point Likert-type scale (1 = Strongly disagree; 4 = Strongly agree) was used by the participants to rate each item.

RESULTS

The focus of the present study was the conjoint development of ethnic identity and vocational maturity during adolescence and the differences in those processes associated with ethnic majority/minority status. Therefore, we explored the changes in the components of vocational maturity and ethnic identity over a period of 15 months and compared those changes in adolescents coming from different ethnic and age groups. In order to account for the different sizes of the majority and minority groups, the comparisons were accomplished on the least squares means via a 3 (time) \times 2 (group) \times 4 (cohort) repeated measures multivariate analysis of variance. In addition to that, correlation coefficients for the whole sample, by ethnic group and by group \times cohort, were calculated in order to assess the associations between the four elements of vocational maturity on the one hand, and ethnic identity, on the other. [Due to space limitations it was not possible to present the complete results. More complete information is available upon request from the first author.]

Table 1 provides a summary of the MANOVA results for the between- and within-subjects effects. After controlling for the overall multivariate effects, the majority of the univariate main effects of ethnic group and cohort (age), as well as their interactions, were significant for both ethnic identity and vocational maturity scales. Comparisons made between the two ethnic groups showed that minority students score considerably higher than majority students on Ethnic Identity, Information Sources, and Occupational Knowledge.

Whereas the scores on the remaining components of vocational maturity are also higher for the minority students, the differences between the two groups are insignificant. Table 1 also demonstrates the presence of statistically significant change over time in the variables studied: In the total sample, there is an increase in all four of the components of vocational maturity as measured by the QEC, although statistically not significant for the Decision Factors subscale. Similarly, there are significant age-related differences (as measured by the cohort means pooled across the three times of measurement) in three out of four vocational maturity components: Self-Knowledge, Information Sources, and Decision Factors, all of which appear to increase with age. Ethnic identity scores, on the other hand, increase between the first and second times of measurement and then decrease by the third measurement, thus showing a pattern of change different from that for vocational maturity. No cohort and, therefore, age-related differences were found when the scores on the Ethnic Identity scale were pooled over time.

The change in Ethnic Identity of Majority and Minority students occurs in different directions. As shown in Table 2, scores on the Ethnic Identity scale decrease over time in the Majority group, but linearly increase in the Minority group. Those differences are significant ($F = 4.75$; $df = 2, 1266$, $p < .01$) and consistent across various cohorts as documented by the absence of significant effects for the time \times group \times cohort interaction (Table 1). Variations in the

TABLE 1
 Repeated Measures Analysis of Variance: Summary of Between- and Within-Subjects Effects

	Between subjects effects (<i>F</i> value, <i>P</i> > <i>F</i>)			Within subjects effects (<i>F</i> value, <i>P</i> > <i>F</i>)			
	Group <i>df</i> = 1;633	Cohort <i>df</i> = 3;633	Group × cohort <i>df</i> = 3;633	Time <i>df</i> = 2;1266	Time × group <i>df</i> = 2;1266	Time × cohort <i>df</i> = 6;1266	Time × group × cohort <i>df</i> = 6;1266
Self-knowledge	2.52 0.1128	14.69 0.0001	1.08 0.3583	7.79 0.0004	0.40 0.6703	4.02 0.0005	0.99 0.434
Information Sources	41.88 0.0001	4.39 0.0046	3.96 0.0081	9.97 0.0001	6.69 0.0013	4.90 0.0001	2.32 0.0319
Decision Factors	2.82 0.0935	3.44 0.0166	0.61 0.6107	2.68 0.0698	3.31 0.0367	5.63 0.0001	1.04 0.3989
Occupational Knowledge	35.11 0.0001	1.16 0.3249	3.68 0.0119	6.73 0.0012	4.14 0.016	5.07 0.0001	1.78 0.0997
Ethnic Identity	110.89 0.0001	1.09 0.3541	0.64 0.5897	10.10 0.0001	4.75 0.0088	1.22 0.2907	1.20 0.3032

TABLE 2
Least Squares Means for Ethnic Groups and Times of Measurement^a

	Majority (<i>N</i> = 466)			Minority (<i>N</i> = 175)		
	Time 1	Time 2	Time 3	Time 1	Time 2	Time 3
Self-knowledge	35.08	35.12	35.83	35.61	35.78	36.84
Information Sources	23.36	22.98	23.63	24.82	25.88	26.59
Decision Factors	49.54	48.80	49.11	49.64	49.68	50.79
Occupational Knowledge	25.37	25.01	25.45	27.52	27.82	29.27
Ethnic Identity	2.88	2.96	2.80	3.21	3.30	3.37

^aLeast squares means were used because of unequal group sizes.

least squares means for the Ethnic Identity scores (Table 3) did not, however, constitute an age-related pattern reflected in the intercohort differences. Rather, the means stay at the same level in each of the two groups, with the Minority group scoring consistently higher regardless of age.

The pattern of change in the parameters of vocational maturity appears to be clearly different in the two ethnic groups. Although there is a steady increase in both groups, the difference between the groups increases over time. As shown in Table 2, the scores on Information Sources and Occupational Knowledge remain at higher levels throughout the whole period of study among ethnic minorities. Self-knowledge and Decision Factors display lesser differences; i.e., initially they are at the same level in both groups, but over time they gradually separate. The tendency appears to be the same for all the scales: Minority adolescents appear to mature faster. The *F*-tests for the time \times group effects presented in Table 1 demonstrate that those tendencies are significantly different for Majority and Minority adolescents on three scales: Information Sources ($F = 6.69, p = .0013$), Decision Factors ($F = 3.31, p = .0367$), and Occupational Knowledge ($F = 4.14, p = .016$). Two of the latter also show significantly different group \times cohort differences: Information Sources ($F = 3.96, p = .0081$) and Occupational Knowledge ($F = 3.68, p = .0119$). Moreover, although no statistically significant effects of the interaction between group and cohort were found for Self-knowledge and Decision Factors, for all the aspects of vocational maturity, the age differences reflected in the cohort means pooled over time show similar age-related trends in the development of vocational maturity, but they are different in Majority and Minority students. Among the youngest adolescents the scores on all those variables are higher for the Minority group. However, the differences between ethnic groups decrease with age and seem to disappear by the end of the school years. Generally, the Majority adolescents increase the level of their vocational maturity later when compared to the Minority adolescents, but the increase is more rapid. Moreover, when the interactions of time \times cohort \times group are considered, it appears that by the end of the 11th grade, on all of the components of vocational maturity, the Majority group outpaces the Minority

TABLE 3
Least Squares Means for the Four Cohorts^a

	Cohort 1			Cohort 2			Cohort 3			Cohort 4		
	Time 1	Time 2	Time 3	Time 1	Time 2	Time 3	Time 1	Time 2	Time 3	Time 1	Time 2	Time 3
Self-knowledge												
Majority	34.57	34.13	32.88	34.59	34.35	35.17	34.58	34.92	35.92	36.60	37.07	39.35
Minority	33.90	33.48	33.94	34.66	34.80	36.20	37.29	36.60	37.69	36.60	38.23	39.51
Information Sources												
Majority	22.65	22.05	21.32	22.94	21.90	23.15	22.33	22.93	24.67	25.52	25.04	25.37
Minority	26.65	26.29	26.13	23.97	24.86	26.40	24.51	25.84	26.18	24.16	26.51	27.65
Decision Factors												
Majority	51.05	49.29	47.66	49.56	48.72	48.42	47.59	47.89	47.83	49.97	49.30	52.52
Minority	51.40	50.17	50.63	49.74	50.17	51.34	48.40	48.38	49.36	49.02	50.00	51.84
Occupational Knowledge												
Majority	25.20	24.90	22.95	24.97	24.02	24.79	23.93	24.94	26.50	27.37	26.19	27.54
Minority	29.98	28.50	29.06	27.31	28.74	30.09	26.29	26.80	28.29	26.49	27.26	29.63
Ethnic Identity												
Majority	2.87	2.97	2.77	2.91	2.90	2.70	2.82	2.91	2.78	2.94	3.06	2.94
Minority	3.23	3.27	3.26	3.33	3.33	3.27	3.38	3.24	3.26	3.31	3.35	3.29

^a Least squares means were used because of unequal group sizes.

group in terms of their developmental level. This effect is particularly strong for Information Sources, the only scale for which the effect of the interaction of time, group, and cohort reaches the level of statistical significance lesser than .05 (Table 1). It is important to also note that all of the vocational maturity parameters demonstrate strong and highly significant effects of the time \times cohort interaction (shown in Table 1), thus suggesting that the process of vocational development may relate to age in a nonlinear manner. The relationships between ethnic identity and vocational maturity were studied by means of correlational analyses on the total sample, on the Majority and Minority groups, and on the four cohorts, separately for each ethnic group. The results are shown in Table 4.

As shown in Table 4, the correlation coefficients between Ethnic Identity and the four components of vocational maturity in the whole sample and in both ethnic groups are significant and indicate moderate positive linear associations. The intercohort variation in the values of the correlation coefficients is, however, strikingly different for the two ethnic groups. In the Majority group, the correlation coefficients are in the same range for all of the variables across all of the cohorts. In the Minority group, there appears to be a dramatic shift from a relatively high level of the associations in the younger cohorts to the absence of significant associations in the older cohorts. Thus, the relationships between Ethnic Identity and vocational maturity among minority adolescents, viewed longitudinally, are likely to change systematically in a nonlinear manner.

DISCUSSION

The present findings document consistency in the ethnic identities of adolescents, but at the same time, display considerable differences in their level related to ethnic group membership. We also found a complex pattern in the development of vocational maturity. There are clear developmental trends, but there are also significant cohort differences in the changes that occur, suggesting that change occurs at different rates depending, among other things, on age.

Moreover, the pattern of differences between the Minority and Majority groups on both Ethnic Identity and career maturity changes depending on participants' age and time of measurement. As expected, there was an increase in all four components of vocational maturity over time. At the three times of measurement, and for students from both the Majority and the Minority groups, the means for the attitudinal scales of the QEC (Self-knowledge and Decision Factors) were consistently higher than those for the behavioral scales (Information Sources and Occupational Knowledge). It may mean that, both in terms of exploration and planning, the participants advanced more readily in their attitudes than in their implementation behaviors. In other words, their reflections about themselves (Self-knowledge) and about factors affecting their decisions (Decision Factors) were more intense than their actions with regard to obtaining information from different sources (Occupational Knowledge and Information Sources).

Ethnic Identity showed a clear and consistent pattern in which Minority

TABLE 4
Correlations (and *p* values) between Ethnic Identity and Vocational Maturity Components

Vocational maturity variables	Total sample (<i>N</i> = 641)	Majority (<i>N</i> = 466)				Minority (<i>N</i> = 175)					
		Total (<i>N</i> = 466)	Cohort 1 (<i>N</i> = 110)	Cohort 2 (<i>N</i> = 123)	Cohort 3 (<i>N</i> = 132)	Cohort 4 (<i>N</i> = 101)	Total (<i>N</i> = 175)	Cohort 1 (<i>N</i> = 52)	Cohort 2 (<i>N</i> = 35)	Cohort 3 (<i>N</i> = 45)	Cohort 4 (<i>N</i> = 43)
Self-knowledge	.3045 .0001	.2998 .0001	.3917 .0001	.1367 .1317	.2314 .0076	.3839 .0001	.3186 .0001	.3886 .0044	.7031 .0001	.1024 .5034	.1042 .5060
Information Sources	.2905 .0001	.2425 .0001	.1501 .1175	.2443 .0065	.2127 .0143	.2887 .0034	.1490 .0490	.1477 .2962	.2810 .1021	.1848 .2242	.0405 .7965
Decision Factors	.3010 .0001	.3166 .0001	.3670 .0001	.2421 .0070	.3171 .0002	.2923 .0030	.2455 .0011	.2468 .0778	.4877 .0030	.1337 .3110	.1770 .2561
Occupational Knowledge	.2946 .0001	.2489 .0001	.2444 .0101	.1717 .0576	.3009 .0005	.2135 .0321	.1827 .0155	.3497 .0110	.3132 .0670	.0050 .9741	.0861 .5831

adolescents scored higher than their Majority peers at all times of measurement and in all cohorts. This result replicates findings reported by Phinney (1992). The mean Ethnic Identity scores of the Minority group remained at approximately the same high level across all four cohorts, while for the Majority group there was an overall increase in Ethnic Identity over time, resulting in a lessening of the differences between the two ethnic groupings with age. It is possible that if this trend continued, at some later point the differences between ethnic groups could disappear altogether. Future longitudinal research should be extended to include development beyond the high school years in order to understand long-term trends in ethnic identity development. This may be particularly important because Erikson (1959) stressed the fact that it is during late adolescence and into early adulthood that important changes in identity take place.

The differential pattern of vocational maturity development in the two ethnic groups is particularly interesting: With the exception of Self-knowledge, where the two groups progressed in a similar pattern, the Minority group scored higher on the vocational maturity measures in the early cohorts but fell behind the Majority group by the 11th grade. The trend suggests that the Minority group starts earlier in their vocational development but falls behind the level of development of the Majority group by the time career decisions and the beginning of work are imminent. The higher means of the Minority group, especially on the behavioral scales of the QEC (Information Sources and Occupational Knowledge), could also be related to their (and their parents') level of educational aspirations. As was the case in studies conducted in the United States by Hossler and Stage (1992) and Stage and Hossler (1989), Perron (1996) showed that Canadian minority students also had educational aspirations higher than those of the Majority group. The higher level of information-seeking activity in the Minority group could also be interpreted as a preventive strategy against discrimination, as suggested by Leong and Chou (1994).

Within these general trends, there are some noteworthy divergences. For example, the youngest cohort of the Majority group showed a decrease in vocational maturity from the beginning of Grade 7 through the end of Grade 8, followed by a persistent rapid rise after that. Because we do not have data for students in the 5th and 6th grades, we can only assume that the Minority group's pattern is similar to that of the Majority group, but occurs about one and one-half years earlier. This initial decrease in vocational maturity may coincide with pubertal changes when all attention becomes focused around issues brought into focus by puberty. Alternatively, progressing through the two cycles of the French-Canadian school program could account for this. In the first cycle (Grades 7, 8, 9) students make fewer subject matter choices than in the second cycle (Grades 10 and 11). Consequently, career choices made by younger cohorts may have to be revised during the second cycle, thus reactivating the process of exploration and planning underlying the development of vocational maturity.

While the overall positive associations between vocational maturity and ethnic identity observed in this study confirm our hypothesis about the positive role of

ethnic identity in career development during adolescence, the intercohort differences in the relationships between ethnic identity and the elements of vocational maturity among minority adolescents suggest that the developmental effects may be mediated by the differential impact that one's ethnic identification plays during different stages of development. Of particular interest would be to explore the possibility of change in the relationships among various domains of identity development, including the domain of ethnicity, during adolescence and young adulthood. Previous research (Skorikov & Vondracek, 1998) suggests that the relationships between various domains of identity development and career development processes are likely to be mediated by overall identity development. In turn, theoretical models suggest that the importance of different domains in the overall identity formation process changes over time (Grotevant, 1987).

We would like to note one particular limitation in the present research. Due to the variety of minorities included in the sample of participants, it was not possible to meaningfully analyze each specific minority group separately. The aggregation of all minorities in one group was considered to be appropriate for purposes of the present study, because virtually all minorities living in or near the metropolitan area in which the study was conducted share certain challenges, as well as opportunities that characterize their sociocultural and economic environment. Moreover, the ratio of minorities represented in the sample is roughly representative of the mix of minorities in the larger ecology in which they live. Studying all minorities in a single group is not meant to suggest that they are all the same, and we recognize that further research will be required to capture the unique experience of any given minority group (for example, see Fukuyama, 1991).

In conclusion, this study has essentially shown that it is worthwhile to consider expanding research on minority career development processes from both longitudinal and cross-cultural perspectives. Longer studies would be needed in order to explore the form of developmental change in the two aspects of adolescent development and in their interrelationships. Adding the cultural component to the ethnic status comparisons would help to identify the specific elements of ethnic identities that facilitate vocational development and those that make it more difficult.

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