

PREDICTING THE CAREER MATURITY OF AGRICULTURAL STUDENTS[#]

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A study to determine the career maturity of agricultural students and factors that may predict their career maturity was conducted using high school agricultural students. Five-hundred and twenty-nine students participated in the study. The results showed that the agricultural maturity scores of high school agricultural students in Ohio, USA, ranged between 45 and 147 ($M= 92.8$; $SD= 19.8$), which was significantly lower than the mean scores of normative group. Significant correlations were found between career maturity and participation in youth organization, participation in extracurricular activities, participation in career development activities, school location, occupational, and educational aspirations, gender, and location of residence. Results of the Multiple Regression Analysis showed that the significantly correlated variables uniquely explained 32% of the total variance in a student's career maturity.

One of the major developmental tasks a high school student has to complete while still in a high school is preparing for occupation (Havighurst, 1972). However, many high school students do not make full use of the opportunities made available to them. They leave high school without the necessary career development tools needed to succeed in the world of work. Studies have shown that many college students are still in need of guidance related to career choice. A study by Kramer, Berger, and Miller (1974) showed that vocational choice and career planning were the two most relevant problems expressed by both undergraduate and graduate students. Similarly, Weisberge, Berentsen, Cote, and Heath (1982) found that college students expressed career guidance needs more often than other needs. A results of a study by the American College Testing Program (1988) on future college students showed that many students need help with educational and vocational plan. Jarvis (1990) indicated that both parents and young people are pleading for more help related to career planning.

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High school years are the time for making both educational and career decisions. Students have to decide on the types of program they will enroll during the high school years in order to prepare them for future endeavour. The decisions students made are very crucial and full of risks. Super and Overstreet (1960) indicated that different curricular lead to different types of occupations. Ready or not, high school students have to decide on the choices of educational programmes which subsequently will determine the types of further education or the types of occupations they will enter. The decision has to be made with or without the helps from parents and teachers. Everybody would like to see students make realistic decisions. However, in order to make realistic decisions about the choice, one has to have a mature career attitudes and competencies. To some extent the degree of one's career maturity may influence both educational and career choice one will have to make.

Studies on career maturity are many. However, none of the studies reviewed by the author had specifically used agricultural students as a sample. Therefore, it is reasonable to believe that the career maturity of agricultural students has not been assessed. The assessment of their career maturity is very important. Without the available knowledge of students' career maturity level, teachers of agriculture and school counsellors will not be able to provide appropriate educational programmes to help agricultural students master the vocational developmental tasks they need. Therefore, a study designed to assess agricultural students' career maturity and possible predictors of their career maturity was conducted. The study was guided by three main questions: (i) What were the levels of agricultural students' career maturity, (ii) Were there any significant differences between the career maturity scores of agricultural students and the career maturity scores of students from the normative group, and (iii) What were the possible predictors of the career maturity of agricultural students?

METHOD

Sample

The sample consisted of 529 agricultural students from 19 selected Ohio high school. A cluster random sampling procedure was used to select the sample. This is the most appropriate procedure (Fraenkel & Wallen, 1990; Scheaffer, Mendenhall, & Ott, 1986) when certain unavoidable circumstances such as incomplete list of elements and too high cost exists.

Instruments

The Career Development Inventory (CDI) was used to assess students' career maturity. The CDI has been widely used and according to Blustein (1987), the CDI was designed to provide empirical measure of vocational maturity. The reliability estimates of the CDI with the sample was not established. However, the developer of the instrument (Thompson, Lindeman, Super, Jordaan, & Myers, 1981) reported that the reliability estimates for the combined scales range between .79 and .88.

An instrument to collect information on independent variables (possible predictors) was constructed by the author. A panel of seven experts in the Department of Agricultural Education at the Ohio State University reviewed the instrument for clarity and content validity. Modifications were made based on the panel's recommendations. The instrument was pilot-tested on 30 agricultural students which are not included in the sample of the present study. A test-retest method was employed to establish its estimates. The test results showed an 80% to 100% agreement for most of the questions.

Procedure

Data were collected from March through May, 1992. The author travelled to all the selected school to administer the Career Development Inventory (CDI). The CDI was designed to measure the career maturity of students. Questionnaires designed to measure the independent variables were mailed to agricultural teachers a week before the scheduled administration of the CDI. Teachers were requested to administer the questionnaire in advance of the researcher's visit to the school.

RESULTS AND DISCUSSION

All 529 students participated in the study returned the completed questionnaires. However, only 495 of the questionnaires were completed correctly, yielding a 93.6% useable response rate. To enable the findings to be generalized to the accessible population (Ohio high school agricultural students), the career maturity mean score of students returning the useable instruments ($M = 92.84$; $SD = 19.83$) was compared with the career maturity mean score of students returning incomplete instruments ($M = 86.00$; $SD = 19.83$). A *t*-test result showed that the career maturity scores of both groups did not differ significantly ($t(527) = 1.93$, $p > .05$). For

the comparison of mean scores of Ohio agriculture students with that of norm group.

Table 1

Means and standard deviations of career maturity of Ohio agricultural students and students of the norm group

Grade Levels		Career Maturity				
		<i>n</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>
12	Ohio	110	92.7	18.9	6.7**	1153
	Norm	1047	104.9	21.3		
11	Ohio	113	96.5	19.7	4.04**	1380
	Norm	1269	104.0	20.0		
10	Ohio	134	91.1	18.3	5.70**	1534
	Norm	1402	100.2	17.8		
9	Ohio	138	91.7	21.8	.18	1385
	Norm	1249	93.8	19.1		

** $p < .001$

Demographic description

More than one-half 56% of the respondents have been in high school agricultural programme for more than a year. As a student of agriculture they are required to participate in the Future Farmer of America Organization (FFA), a vocational youth organization for agricultural students. The study showed that 56% of the respondents have been an FFA members for more than two years. Beside their participation in the FFA, agricultural students like in other high school students participated in extracurricular activities. About 47% of the respondents reported their participation in various leadership positions in those activities. Almost all of them participated in career development activities organized by their schools. About 33% of the respondents planned to obtain college education

and surprisingly 56% of the respondents (even though they were in agricultural programme) planned to enter non-agricultural occupations.

Table 2

The career maturity levels of agricultural students by grade level (n = 495)

Career Maturity Levels		Grade Levels Percentages			
		12	11	10	9
Low	(45-79)	29.2	19.5	27.6	31.2
Medium	(80-113)	59.1	62.8	58.2	50.0
High	(114-147)	15.5	17.7	14.2	18.8

The study showed that career maturity scores of agricultural students ranged from 45 to 147 ($M = 92.84$; $SD = 19.83$). Agricultural students' career maturity scores were classified into three levels: (a) low, (b) medium, and (c) high. Students who scored between 45 and 79 were placed in a low level, students who scored between 80 and 113 were placed in a medium level, and students who scored between 114 and 147 were placed in a high level (Table 2). The findings showed that 26.3% of the respondents can be classified as having a low level career maturity, 57.2% can be classified as having a medium level career maturity, and 16.6% can be classified as having a high level career maturity.

Correlation Analysis

The relationships between career maturity and several variables were investigated (Table 3). Significant correlation was found between career maturity and participation in youth organization, the FFA ($r = .21$). The finding was similar to those of Connell (1978), and Robbins (1978). Both studies investigated the relationship between participation in vocational student organizations (DECA & FBLA), and career maturity. According to Robbins there was a correlation between participation in the Future Business Leaders of America (FBLA) and career maturity. Similarly, Connell (1978) found a significant relationship between participation in Distributive Education Clubs of America (DECA), and career maturity.

Connell reported that DECA members were more career mature than non-DECA members.

Table 3

Correlation coefficients between career maturity and selected variables

Variables	Correlation Coefficients
GPA	.30
Gender	.25 r_{pb}
School location	.21 R
Location of residence	.13 R
Occupational aspiration	.36 R
Educational aspiration	.39 R
Participation youth organization (FFA)	.21
Participation in extracurricular activities	.28
Participation in career development activities	.21

Note: *unmarked* is Pearson correlation coefficients; *pb* is point biserial correlation coefficient; *R* is multiple correlation coefficients

Besides participating in vocational students organization, students of vocational programmes also participate in other extracurricular activities such as sports and high school bands. The findings of this study showed that there was a significant correlation between participation in extracurricular activities and career maturity ($r=.28$). Students who participated in extracurricular activities were more career matured than those who did not participate. Similar findings were obtained (Crites, 1969; Pautler, 1988; Super & Overstreet, 1960; Vriend, 1969). All reported that career maturity correlated significantly with participation in extracurricular activities.

Academic achievement is one of the factors that may determine one's success in college or in the world of work. It is one of the determinants of one's ability to be admitted to colleges. Is academic achievement related to career maturity? Previous studies (Butler, 1980; Jyung, 1989; Ludmer, 1988; Spurlock, 1984) have shown that academic achievement is significantly related to career maturity. The finding of the present study showed similar result. It was found that academic achievement as measured

by the grade-point-average (GPA) correlated significantly with career maturity ($r=.30$).

Participation in career development activities is able to broaden one's career horizon. It helps student explore the types of career available and the types of preparation needed for certain careers. Implicitly, participation in career development activities should be able to foster one's career maturity. Studies (Fuller, 1989; Pavlak & Cramer, 1985), showed that participation in career development activities correlated significantly with career maturity. Their findings were supported by the finding of the present study which showed that career maturity correlated significantly with participation in career development activities ($r = .21$).

Significant correlations (multiple correlation coefficients) existed between career maturity and school location ($R = .21$). location of residence ($R = .13$), occupational aspiration ($R = .36$) and educational aspiration ($R = .39$). Some studies (Jyung, 1989; Mahy, 1980) did not find any correlation between place of residence and career maturity. Geographic location has no bearing on students' career maturity. However, other studies (e.g., Achebe, 1982; Maynard & Hansen, 1970; Smith, 1975) showed that there was a significant correlation between career maturity and place of residence. They found that students who live in urban areas were more career mature than students who live in rural areas. Gender was found to be correlated (point biserial correlation) with career maturity ($r_{pb} = .25$). This finding was consistent with that of Achebe (1980). Achebe reported that male students were more career mature than female students. However, studies by (Butler, 1980; Westbrook, 1982) showed that female students were more career mature than male students. On the other hand, there were studies that found no significant correlation between gender and career maturity (Laskin & Palmo, 1983; Nevill & Super, 1988; Piper, 1985).

Multiple Regression Analysis

A multiple regression analysis was performed to determine the amount of variance in the dependent variable (career maturity) that could be accounted for by the significantly correlated variables. Results of the multiple regression analysis showed that the significantly correlated variables accounted for about 32% of the total variance in students' career maturity. It showed that other variables should have been included in the study. A stepwise procedure was performed to help construct an equation for predicting students' career maturity. Based on the stepwise procedure,

an equation for predicting the career maturity of agricultural student is shown below:

$$Y = 78.42 + 1.66X_1 + 4.68X_2 + 4.49X_3 + 10.96X_4 + 8.19X_5 + 9.4X_6 - 5.44X_7 + 7.93X_8 + 13.16X_9 - 5.66X_{10} - 10.75X_{11}$$

The present study shows that seven variable is needed to predict the career maturity of agricultural students. These are: (i) the number of students' organizations students were involved in (X_1), (ii) academic achievement (X_2), (iii) school location ($X_{3,10,11}$), (iv) aspirations ($X_{4,5, 8, 9}$), (v) the FFA chapter awards (X_6), and gender (X_7).

CONCLUSION AND RECOMMENDATIONS

Many factors influence the development of one's career maturity. Some of these factors are modifiable and some are not. Knowing that there are modifiable factors, then the role of agricultural teachers, and school counsellors to plan career development plans based on the factors that contribute to the development of students' career maturity. For example, the present study showed that participation in the FFA was related to students' career maturity. We know that students have the choice whether or not to actively participate in the organization. Active participation means students are better prepared to face the challenge of making correct career decisions. It happens because students are given various personal development training which will then enhance self-confidence, decision making skills, communication skills, and leadership skills. All these non-technical skills are needed for a career success. If we know that participation in the FFA contributes to the career maturity, then what one has to do is to encourage agricultural students to actively participate in the FFA. Similar, academic achievement contributes to the career maturity of agricultural students. Thus, we need to encourage students to work harder for better grades.

Agricultural teachers and school counsellors need to assess the career maturity of agriculture students in order to provide a meaningful educational programmes to prepare students with meaningful career development tool they need when they leave high schools. Agricultural teachers need to realize that the career maturity level differs from students to students. Therefore, different kinds of educational programmes are needed to help students achieve the desired level of career maturity. Career maturity is a product of many factor. Thus, when developing a programme

to enhance one's career maturity, it should be kept in mind that the programme should be part of the total educational experience.

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