

Educational Correlates of Ohio Agricultural Students' Career Maturity

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Keywords: career maturity, career development, FFA, agricultural students educational correlates

ABSTRAK

Tujuan kajian ini adalah untuk menilai tahap kematangan kerjaya pelajar pendidikan pertanian di Ohio dan untuk mengenalpasti perhubungan antara tahap kematangan kerjaya dengan beberapa pembolehubah pendidikan. Kajian ini merupakan kajian 'descriptive correlational'. Dapatan kajian ini adalah berdasarkan kepada soal-selidik boleh guna yang telah dikembalikan oleh 495 responden. Kajian menunjukkan skor kematangan kerjaya pelajar pertanian adalah di antara 45 hingga 147 dan minnya ialah 92.84. Sebanyak 25% pelajar telah memperolehi skor di bawah persentil ke 25 dan sebanyak 25% pula memperolehi skor di atas persentil ke 75. Skor kematangan kerjaya pelajar pertanian di Ohio yang berada di gred 10, 11, dan 12 adalah lebih rendah berbanding dengan pelajar dari kumpulan norm. Namun begitu, tidak terdapat perbezaan skor kematangan kerjaya bagi pelajar yang berada di gred 9 untuk kedua-dua kumpulan. Kajian juga mendapati adanya hubungan yang signifikan antara kematangan kerjaya dan penglibatan di dalam FFA, penglibatan di dalam aktiviti kerjaya, penglibatan di dalam aktiviti ko-kurikulum, pencapaian akademik, dan aspirasi pekerjaan. Kelima-lima pembolehubah ini telah menyumbang sebanyak 19% daripada keseluruhan varian kematangan kerjaya pelajar pendidikan pertanian.

ABSTRACT

The purposes of the study were to assess the level of career maturity of agricultural students in Ohio and to determine the relationships between students' career maturity and several educational correlates. The study employed a descriptive correlational research design. The analysis was based on 495 respondents who returned the useable instrument. The study showed that career maturity scores of agricultural students ranged from 45 to 147 and the mean was 92.84. About one-fourth of the students scored below the 25th. percentile and about one-fourth of the students scored above the 75th. percentile. The career maturity measures of agricultural students in Ohio were significantly lower than students of the norm group at grades 10, 11, and 12. The career maturity measures of the 9th. Graders did not differ for both groups. There were significant relationships between career maturity and: participation in the FFA; participation in career development activities; participation in extracurricular activities; academic achievement; and occupational aspirations. Five significant educational correlates uniquely explained about 19% of the total variance of agricultural student's career maturity.

INTRODUCTION

High school students in Ohio have the choice to either enroll in college preparatory programs or vocational programs while they are still in high school. This is a tough decision for any high school student. Some students choose to enroll in a very specific program like an agricultural program. But, are they ready or do they make the right decision to enroll in such a program? If students are not ready, what can be done to help them?

Students' readiness can be ascertained by assessing their career maturity. Thus, a study was conducted to measure agricultural students readiness in making the decision to enroll in agricultural program This inquiry was guided by these main questions: (1) What was the level of career maturity of agricultural students in Ohio? (2) Were there any relationships between students' career maturity and selected educational variables? and (3) How much variance in students' career

maturity can be explained by the selected educational variables?

One has to have a certain level of career maturity before one can make rational educational and career choices. Without which, these decisions are made haphazardly. What is career maturity? A review of the definitions by Super (1955), Jarvis (1990), Super and Thompson (1979) indicates that career maturity is one's readiness to make educational and occupational decisions that are expected of them. He is actively involved in career exploration and planning, has a great amount of knowledge about the world-of-work, and the preferred occupations.

What are the correlates of career maturity? Studies have identified many correlates of career maturity, some are under one's control while others are beyond one's control (Vriend, 1969). Some variables that are under one's control include occupational aspiration, academic achievement, participation in school activities. Variables that are beyond one's control include parent educational status, socio-economic status, and the environment one is living in. Besides classifying variables in this way, researchers have classified them into educational, social, and psychological correlates (Pautler, 1988); biosocial, environmental, vocational, personality, and achievement (Super and Overstreet, 1960); and biological, social, psychological, educational, and vocational (Jyung, 1989). Knowing the correlates one can control will be very helpful in the adolescents' career development. For example, if participation in youth activities is positively related to one's career maturity, then one would participate in youth activities or encourage youths or adolescents to participate in such youth activities.

The purpose of the study was to determine the level of career maturity of agricultural students in Ohio. The objectives were to determine the relationships between career maturity and selected educational variables and to determine the amount of variance that is uniquely accounted for by the selected educational variables.

The possible correlates investigated in this study were: participation in the Future

Farmer of America (FFA) organization, participation in supervised agricultural experience (SAE) program, participation in extra-curricular activities, academic achievement as measured by the grade point average, participation in career development activities, and occupational aspiration.

MATERIALS AND METHODS

Population and Sample

The assessible population for this study consisted of about 16,000 Ohio high school agricultural students who were enrolled in the 1991-1992 school year. A cluster random sampling was used to select the sample. Nineteen agricultural teachers that formed the clusters were randomly drawn from the 1991-1992 list of agricultural teachers in Ohio. Three criteria guided the determination of sample size. They were the level of precision, the risk level, and the degree of variability. In this study the level of precision of 5%, the risk level of 95%, and the degree of variability of .5 were chosen. To compensate for the inefficiency of the cluster sampling procedure and ensure that randomization works (Singleton, Straits, Straits, and McAllister, 1988) the sample size had to be larger than the minimum and a sample size of 530 was chosen. To obtain 530 students, 19 agricultural teachers were selected. All agricultural students (529 instead of 530) were taught by the selected teachers.

Intrumentation

The Career Development Inventory (CDI) developed by Thompson, Lindeman, Super, Jordaan, and Myers (1984) was used to assess students' career maturity. The reliability of the instrument according to researchers ranged from .70 to .88. As part of the bigger survey, students were asked to indicate their participation in the FFA, SAE programs, extra-curricular activities, career development activities, their grade point averages, and occupational aspiration; grade-level; and part-time job experience. These variables were classified as educational-related variables.

The instrument used to collect information on educational-related variables was

developed by the researcher, and reviewed by a panel of seven experts who were agricultural educators in the Department of Agricultural Education at the Ohio State University, Columbus, Ohio. Changes were made based on the recommendations of the panel. The instrument was pilot tested for its reliability using a test-retest procedure. A test-retest results with a group of 30 agricultural students who were not in the sample showed that there were 80% agreement for the educational-related variables.

Data Collection and Analysis

Survey questionnaires related to demographic variables were mailed to selected teachers a week before the scheduled administration of the CDI. Teachers were requested to administer the survey instruments in advance of the researcher's visit to the school to administer the CDI. Data were analyzed using the Statistical Packages for the Social Science. Statistics which included means, frequencies, standard deviations, correlation coefficients, and t-test were used to describe the findings.

RESULTS

Although the sample size was 529, only 495 students returned completed and usable questionnaires. To determine if usable and unusable instruments differ significantly, a t-test was performed. The career maturity mean scores of those who returned usable instruments ($n = 495$; mean = 92.84) and those who returned non-usable instruments ($n = 34$; mean = 86.03) were compared. The result of the t-test ($t = 1.93$; $p > .05$) indicated that the two groups of students did not differ significantly. Therefore, the findings of this study could be generalized to the accessible population of agricultural students in Ohio.

About 73% ($n = 359$) of the agricultural students who participated in this study were male and 27% ($n = 135$) were female. Their ages ranged between 14 years and 20 years (mean = 16.2). One hundred and thirty-eight of the students were ninth-graders, 134 were tenth-graders, 113 were eleventh-graders, and 110 were twelfth-graders. Students came from families with the SES mean scores

of 30.4 (Steven and Cho, 1985).

Students' grade point averages, an indicator for students' academic ability ranged from less than 1.0 to 4.0 (mean = 2.57). The levels of students' participation in the FFA, extracurricular activities, and career development activities were determined by the accumulated scores of related activities. The scores for students' participation in the FFA ranged between zero and 23 with a mean of 7.43. The scores for students' participation in extracurricular activities were between zero and 18 (mean = 3.35.) The scores for students' participation in career development activities were between zero and seven (mean = 3.43.) The types of students' occupational aspirations were categorized by SES index (Steven and Cho, 1985). This study showed that the SES index of students' occupational aspirations ranged between 16.90 and 88.80 with a mean of 46.2 (Table 1).

The career maturity scores of Ohio agricultural students ranged from 45 to 147 (mean = 92.84.) About 25% of the students were below the 25th percentile, 26.3% were between the 25th. and 50th percentile, 24% were between the 50th. and 75th. percentile,

TABLE 1
Means and standard deviations of significant selected educational correlates

Educational Correlates	Mean	Sd.
Participation in the FFA	7.43	4.95
Participation in extracurricular activities	3.35	3.98
Academic achievement	2.57	.84
Participation in career development activities	3.43	1.86
Occupational aspiration	46.20	21.73

$n = 494$

TABLE 2
Percentiles of Ohio agricultural students' career maturity scores

Percentiles	%
Below 25th.	25.3
25th. to 50th.	26.3
50th. to 75th.	24.0
Above 75th.	24.4

TABLE 3
Means and standard deviations of career orientation of Ohio agricultural students and students from the norm group

Grade levels	Ohio Ag. Students			Norm Group's Students			
	Mean	Sd.	n	Mean	Sd.	n	t
9th.	91.7	21.8	138	93.8	19.1	1249	.18
10th.	91.1	18.3	134	100.2	17.8	1402	5.70***
11th.	96.5	19.7	113	104.0	20.0	1269	4.04***
12th.	92.7	18.9	110	104.9	21.3	1047	6.70***

*** significant at $p < .001$

and 24.4% were above the 75th. percentile (Table 2). This study also showed that career maturity measures of agricultural students in Ohio were significantly lower than students of the norm group (United States norm group) at grades 10, 11, and 12. However, the career maturity measures of ninth-graders of both groups did not differ significantly (Table 3).

Multiple Regression Analysis

The results of multiple regression analysis showed the existence of the following significant relationships between career maturity and (1) participation in the FFA ($r = .22$); (2) participation in extracurricular activities ($r = .26$); (3) academic achievement ($r = .32$); (4) participation in career development activities ($r = .21$); (5) occupational aspiration ($r = .30$). No significant relationships were observed between career maturity and participation in Supervised Agricultural Experience Programs; type of school; grade-level; and part-time job experience. Together, the five significant educational variables (academic achievement, occupational aspiration, participation in extracurricular activities and FFA, and career development activities) explained 18.7% of the total variance of students' career maturity [$R^2 = .187$; $F_{(4,459)} = 22.23$; $p < .001$].

A step-wise entry procedure was used to determine how much variance of career maturity was contributed by each of the significantly related variable. A unique contribution of each of the variables significantly correlated with career maturity is displayed in Table 5. An equation for predicting the career maturity of Ohio

agricultural students' can be written as:

$$Y = 4.96(\text{GPA}) + 0.19(\text{OCC.ASP}) + 1.20(\text{CAREER}) + 0.41(\text{XSCORE}) + 0.43(\text{FSCORE}) + 62.76$$

DISCUSSION

Career or vocational maturity is a construct primarily important during adolescents (Super, 1955, 1957). It has been widely studied for not less than 40 years. The vocationally mature adolescents are those who are ready to make educational and career related decisions. Jordaan and Heyde (1979) and Super (1984) indicated that career development theory and research showed that students who have access to many of the antecedents of vocational maturity (part-time jobs, extracurricular activities, and systematic vocational exploration) are able to maintain effective progress in their career development.

This study illustrated several significant relationships between career maturity and educational-related variables. A significant relationship exists between career maturity and participation in school activities. This finding is similar to those of Super and Overstreet (1960), Vriend (1969), Pautler (1988), Robbins (1978), and Connel (1978). They reported that participation in school activities such as youth organizations and extracurricular activities was related to one's career maturity. Students who were highly involved in those activities were more career mature as compared to those who are less involved.

Participation in school activities plays a very important role in a student's develop-

TABLE 4

Summary data: regression of career maturity (CMTOT) on selected educational-related variables (n = 464)

Variables	Intercorrelations						Mean	Sd.
	Y	X1	X2	X3	X4	X5		
CMTOT (Y)	1.0	.26	.30	.32	.22	.21	93.50	20.0
XSCORE(X1)		1.0	.21	.32	.36	.28	3.35	3.9
OCC. ASP(X2)			1.0	.24	.06	.07	46.20	21.7
GPA(X3)				1.0	.26	.08	2.57	.8
FFA(X4)					1.0	.32	7.43	4.0
CAREER(X5)						1.0	3.43	1.9

TABLE 5

Regression of career maturity (CMTOT) on participation in extracurricular activities, FFA, and career development activities occupational aspiration, and academic performance (Step-wise)

Variables	B	R ²	R ² Change	b	t	p
GPA	4.96	.100	.100	0.20	4.4	<.001
Occ. Asp.	0.19	.151	.051	0.21	4.8	<.001
Career	1.20	.178	.027	0.11	2.5	<.01
Xscore	0.41	.188	.011	0.10	2.0	<.05
FFAscore	0.43	.196	.071	0.09	2.0	<.05
Constant	62.76					

Standard error = 18.10

R² = .196Adjusted R² = .187

For Model: F = 22.23; p < .001

n = 464

ment. The number of activities a person engages in may suggest self-confidence, readiness to encounter and explore new experiences, and need to achieve, or the capacity to become involved (Jordaan and Heyde, 1979). Since participation in school activities is related to career maturity and those with higher level of participation are more career mature as compared to those with low level of participation it is recommended that students should actively participate in school activities. If students themselves are not interested, some encouragement should be provided. Through such participation it may help students see the world of work in a realistic way. Participation will expose them to various activities that may enable them to explore their strengths

and weaknesses with regard to the job requirements.

Many researches showed that career maturity is significantly related to academic achievement (Ludmer, 1988; Butler, 1980; Super and Thompson, 1979; and Jyung, 1989) and participation in career development activities (Pavlak and Kammer, 1985 and Fuller, 1989). The finding of this study is consistent with those of other researches. This study shows that students with high grade point averages obtain a significantly higher career maturity scores and students who are actively involved in career development activities also obtain a significantly higher career maturity score as compared to students with lower grade point averages and less involvement in career development activities.

This finding would indicate that academic ability and participation in career development activities have some significant roles in a student's career development. Thus, it is the role of all teachers to motivate students to spend time in education and participate actively in career development activities. Through career development activities by way of industrial visit, career forum, career projects and many more activities, students can be exposed to the real world-of-work.

Studies by Alvi and Khan (1983), Stomer (1967), Levins (1972), and Jyung (1989) showed that career maturity is related to occupational aspiration. Similarly, the results of this study also showed that career maturity is related to occupational aspiration. Agricultural students who aspire for occupations with high SES index were significantly more career mature as compared to students who aspire for occupations with lower SES index.

One of the objectives of this study was to determine the amount of variance that could be explained by significant educational variables. The finding of this study showed that educational correlates investigated explained 18.7% of the total variance of agricultural students' career maturity. It means that educational correlates investigated are not the only factors that may help students attain a certain level of career maturity. It is only a part of the factors that help students attain the desired level of career maturity. It also suggests that other variables should be investigated. One may want to consider teaching approaches, types of activities conducted in schools, and the availability of career information materials.

The study was done in Ohio, United States of America. Thus, no generalization can be made to students in Malaysia. However, the existence of positive correlations between career maturity and participation in youth organization; participation in extracurricular activities; participation in career development activities; and academic achievement would indicate that Malaysian students, like their counterparts in Ohio should be encouraged to get involved in not only academic activities but also non-academic activities.

CONCLUSION

This study illustrates that career maturity differs among students and it is modifiable. It is the role of all people in education to provide opportunities for high school students to modify their career maturity. Students' career maturity should be determined the latest is when they are in junior years. Educators need to know how ready students are to make both educational and vocational decisions that are expected by schools and the world of work. If they are not ready, help should be provided before they finish their high school education to enable them to enter the job market without much problem.

Career maturity plays an important role in career choice and planning. Immature students tend to dwell more upon fantasies and delay making choices. By knowing the level of students' career maturity, school counselors and vocational agricultural teachers can plan activities that can help students attain the desired level of career maturity.

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(Received 22 March 1995)