Relationship of the Type of Farm Background to the Occupational and Educational Plans of Vocational Agriculture Students

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Students in vocational agriculture are not all children of full-time farmers. In most rural communities there is a trend towards fewer full-time farmers. These full-time farms tend to be highly efficient and productive when compared with neighboring part-time farms. As Chantfort, 1982 notes "U.S. Agriculture will be increasingly characterized by two major classes of farms: large farms, producing most of the nation's output; and small, part-time farms, producing little and serving as rural residences" (p. 4). "Mid-size farms seem to be too large for part-time farms and too small for full-time farms. . . They are under the greatest adjustment pressure" (pp. 5-6).

This change had had an impact upon the nature of students enrolling in vocational agriculture classes. In more recent years, a smaller percentage of students has come from families that farm on a full-time basis. More and more students are children of either part-time farmers or non-farmers. This change in the backgrounds of the students may have had an impact upon the aspirations of those being served by the program.

Students may enroll in vocational agriculture for various reasons. They may be influenced by occupational goals or plans for further education. Their backgrounds are different. Some come from full-time farms, others have parents who farm only part-time, and others come from non-farm situations. The data gathered in the study were used to gain an understanding of the current situation and to serve as a basis for changing the vocational agriculture program to reflect more nearly the current and projected needs.

Purpose and Objectives

The major purpose of this study was to describe the nature of the students enrolled in vocational agriculture in Clark County, Ohio. The specific objective was reflected in the following question: What is the relationship between the family farm situation of the students and their: a. occupational goals? b. reasons for their decisions to enroll? c. after graduation plans?, and d. whether they are males or females?

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Related Literature/Theoretical Framework

Aspirations have been influenced by characteristics of individuals. They have also been influenced by factors which are beyond the control of the individuals making the choices. "There is no universal recipe for living. Each of us carries his (her) own life-form within him (her)" (Jung in Vetter & Smith), 1971). An individual (Ogunrinde, 1981), within the limits set by his/her native endowments, responds to the social structure within which he/she lives to form various behavioral patterns that collectively constitute the personality. The actual process of occupational choice is a comprise between an individual's hierarchy of preferences and his/her hierachy of expectations (p. 16).

Students living on farms and students living in towns of less than 5000 people (Neff, 1982) were found to be significantly higher on the THINKING index of personality type than students living on rural non-farms and students living in towns of more than 5000 people. Thus, students living on farms and students living in towns of less than 5000 people tend to make decisions impersonally, predicting the logical result of an action, while students living on rural non-farm and students living in towns of more than 5000 people tend to make decisions based more on personal values. Also, students living on farms were found to be significantly lower on the JUDGING-PERCEPTIVE index of personality types than all other students. Thus, students living on farms tend to prefer living in a planned, orderly, decided way, while other students tend to prefer living in a flexible, spontaneous way, wanting to understand life and adapt to it (p. 51). Students planning to work in the agriculturally-related field for which they had been trained tend to prefer being realistic, practical, and observant, while students planning to attend college tend to prefer to use imagination and to see a new possibility or solution in a situation. Students who were undecided as to occupational plans tend to make decisions based more on personal values than on fact (p. 54).

Karns (1979) found students received positive information about vocational horticulture programs from guidance counselors, friends, and orientation programs. They received negative information from guardians and former students (p. 53). Horticulture was the desired future income source for 49% of the students. A vocational and secondary income purposes, rather than primary income purposes, were preferred by 72% of the respondents. Suburban students chose horticulture as a primary future source of income while rural students chose not to use horticulture as a major source (p. 55).

Gutheil (1983) studied the attributes, vocational objectives, and motivators for enrollment of production agriculture, horticulture, and agricultural mechanics students. Production agriculture students tended to select farmer (25%), mechanic (15%), and not sure (11%) as their preferred job after graduation. The remaining 49% selected 26 different jobs. Vocational objective and motivation to enroll were unrelated to place of residence for the entire respondent group.

Each person has certain personality traits that may change with changes in learning. These traits are important in determining job success and in effective functioning within groups or organization structures. Individuals (Shaw, 1971) bring their personal characteristics with them when they join a group and these characteristics exert a powerful influence upon group process.

The family farm situation of the student is a part of the social structure within which he/she lives. Occupational aspirations have been shown to be influenced by the background and experience of the student. Aspirations are expressed in occupational goals, curriculum choices, and educational plans.

Procedure

Population

The study was conducted in Clark County, Ohio. Springfield is the county seat. The community is between Columbus and Dayton. The people living in the rural areas of the county are employed in Columbus, Dayton, Springfield, and by Wright-Patterson Air Force Base. The county seat has been losing population (74,185 in 1980), while the remainder of the county has experienced modest growth to a 1980 population of 75,615 people.

In 1982 (Ohio Crop Reporting Service, 1983) in Clark county, Ohio, there were 960 farms with an average of 213 acres per farm. Corn production was 118 bushels per acre for 75,000 acres; soybean production was 39 bushels per acre for 53,100 acres; and wheat production was 50 bushels per acre for 14,900 acres. There were 55,700 cattle and calves, 2600 milk cows and heifers, 27,900 hogs and pigs, and 2100 stock sheep.

Five of the 11 comprehensive high schools in the county have offered vocational agriculture. Vocational agriculture has been available to all students except those in the Springfield Local School District and the Springfield City Schools. In the five high schools which have offered vocational agriculture, vocational agriculture enrollment has represented seven percent of the high school enrollment. Six vocational agriculture teachers have served the five schools.

A census of the vocational agriculture students in the five schools was obtained. Information was gathered from all students present on the day the survey was administered.

Design

The descriptive method of research was utilized in this investigation. Data were collected with the use of a questionnaire designed to obtain the information needed to accomplish the objectives of the study.

Instrumentation

The questionnaire was constructed following the principles outlined in Dillman (1978). The instrument was designed to obtain information about students' occupational goals, decisions to enroll, after graduation plans, and personal information. The questions were printed on a different color of paper for each school. Questions were based upon other research instruments, issues raised in related literature, and from the personal experiences of the authors.

Possible occupational goals were rated by the respondents on a scale from 1 (not interested) to 4 (highly interested). Decisions to enroll were rated on a scale with 4 meaning "very important" and 1 "not important."

Data Collection

Vocational agriculture teachers administered the survey in their classes on May 13, 1983. Instructions for administering the instrument were provided to the teachers by the investigators. Students were to complete only one form, even if they were enrolled in more than one class. The authors collected the instruments from the six teachers. Data were coded and entered at a computer terminal for disc storage and analysis.

Data Analysis

Data for each variable were tabled using frequencies and percentages to describe the respondents. Cross-tabulations were obtained between the family farm situation of the students and the other variables of interest in the study. In addition to frequencies and percentages, Chi square was used to determine if the children of full-time farmers, part-time farmers, and non-farmers represented different populations in their frequency distributions on the cross-tabulated variables. An Alpha level of .10 was used because the authors were exploring possible relationships which might identify useful variables for further research effort. When differences among groups were significant, Cramer's V (correlation coefficient) was used to describe the strength of the relationship.

Results

Family Farm Situation

Data were obtained from 255 students. Of the 255, 92 (36.1%) were not from farms, 104 (40.8%) were from part-time farms, and 59 (23.1%) were from full-time farms. Examination of Table 1 reveals a

Table 1

Percentage of Students Enrolled in Various Vocational Agriculture Courses According to Their Family Farm Situation

Vocational agriculture course	n	Farm situation of family		
		Non-farm	Part-time	Full-time
Vocational Agriculture I	93	38.7	44.1	17.2
Vocational Agriculture II	55	21.8	41.8	36.4
Vocational Agriculture III	56	42.9	42.9	14.3
Vocational Agriculture IV	40	32.5	35.0	32.5
Agr. Bus., Sales, Service	11	63.6	18.2	18.2
Mean percentage	255	36.1	40.8	23.1

Note: Chi Square Significance p = .0246
Cramer's V = .19

Table 2

Percentage of Students from Farms of Various Acreages According to the Family Farm Situation

Acres in family farm (owned & rented)	Farm situation of family			Mean percentage
	Non-farm n=70	Part-time n=96	Full-time n=56	n=222
1	37.1	9.4	1.8	16.2
2 - 10	47.1	42.7	3.6	34.2
11 - 50	8.6	16.7	0.0	9.9
51 - 120	1.4	15.6	10.7	9.9
121 - 320	2.9	9.4	12.5	9.9
321 - 600	2.9	5.2	28.6	8.1
601 - 1000	0.0	1.0	26.8	7.2
1001+	0.0	0.0	16.1	4.1
Missing data	n=22	n=8	n=3	n=33

Chi Square Significance p <.0001
Cramer's V = .61

higher percentage of children of full-time farmers in Vocational Agriculture II and IV and a lower percentage in Vocational Agriculture I, III and Agricultural Business, Sales and Service. Children from non-farm families were lower in percentage representation (21.8) in Vocational Agriculture II and higher in percentage representation (63.6) in Agricultural Business, Sales and Service. Children of part-time farmers were lower in percentage representation (18.2) in Agricultural Business, Sales and Service.

Over 321 acres were in the family farm of 71.5% of the students who reported their parents as full-time farmers (Table 2). In contrast, 84.4% of the part-time farm families farmed 120 acres or less. Apparently some of the non-farm families owned land but did not farm it.

Occupational Goals

Twenty-two occupational goals were rated on a 4-point scale. Goals which received a mean score of 2.50 or higher were: to raise a few head of livestock for pleasure (3.06), to be engaged in part-time farming (2.93), to raise crops in a family garden (2.84), to be engaged in full-time farming (2.80), to work in an agri-related business owned or operated by the family (2.61), to be employed by a farm owner/operator (2.54), and to work in wildlife protection/conservation (2.54).

Children of full-time farmers were more interested than the other groups (Table 3) in the goals of: to be engaged in full-time farming (3.25) and to be employed as a farm manager (2.60). They were less interested than the other groups in the goals of: to raise a few head of livestock for pleasure (2.64), to raise crops in a family garden (2.44), to work in wildlife protection/conservation (1.95), to be employed in an agricultural service (1.92), to be employed in veterinary medicine (1.81), to work in forestry service/management (1.58), to be employed full-time in a non-agricultural occupation/career (1.76), to be involved in agricultural research (1.81), to be employed in agricultural communications (1.70), to work in landscape/nursery management (1.44), to work in greenhouse production (1.30), and to work in turf management (1.29).

Children of part-time farmers were more interested than the other groups in the goals of: to raise a few head of livestock for pleasure (3.32), to raise crops in a family garden (3.09), to be employed in an agricultural service (2.61), to be employed in veterinary medicine (2.48), to be involved in agricultural research (2.27), and to be employed in agricultural communications (2.16). They rated no goals lower than the other two groups.

Children of non-farmers were more interested than the other groups in the goals of: to work in wildlife protection/conservation

(2.77), to work in forestry service/management (2.44), and to be employed in a non-agricultural occupation/career (2.40). They were less interested than other groups in the goals of: to be engaged in full-time farming (2.50), and to be employed as a farm manager (2.07).

Decision to Enroll

Twenty-three factors regarding the decision of each student to enroll in vocational agriculture were rated on a 4-point scale. The factors which ranked highest (Table 4) were: to gain basic knowledge and skills used in agriculture (3.45), to gain knowledge and skills used in animal science (3.18), to prepare for an occupation upon graduation from high school (3.07), to gain knowledge and skills used in financial management (3.06), to gain knowledge and skills used in business management (2.99), reputation of the FFA chapter (2.99), and to gain knowledge and skills used in leadership (2.95).

Factors rated lower by children of full-time farmers than the other groups were: to gain knowledge and skills used in mechanics (2.59), encouragement from father (guardian) (2.63), encouragement from the vocational agriculture instructor (2.56), encouragement from current vocational agriculture students (2.32), encouragement from mother (guardian) (2.46), encouragement from past vocational agriculture students (2.25), encouragement from friends/neighbors (1.83), encouragement from guidance counselor (1.64), encouragement from FFA alumni chapter (1.77), encouragement from school faculty/staff (1.52), and to prepare for courses at the local joint vocational school (1.68). Only the factor of preparing for courses at a 4-year university (2.76) was rated higher by this group than the other groups.

Children of part-time farmers rated no factors lower than the other groups. They rated nearly all the "encouragement to enroll" items higher than did the other groups.

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Children of non-farmers rated the factor "to gain knowledge and skills used in mechanics" (2.96) higher than the other groups. Factors rated lower were: to gain knowledge and skills used in leadership (2.82), encouragement from father (guardian) (2.58), to prepare for courses at a 4-year university (2.45), and encouragement from brother(s)/sister(s) (2.12).

Table 3

Mean Ratings of Occupational Goals by Students According to Their Family Farm Situation

Occupational goals	Farm situation of family: Non-farm n=91	Part-time n=104	Full-time n=59	Mean n=254
To raise a few head of livestock for pleasure	3.02	3.32	2.64	*3.06
To be engaged in part-time farming	2.78	3.11	2.81	2.93
To raise crops in a family garden	2.82	3.09	2.44	*2.84
To be engaged in full-time farming	2.50	2.84	3.25	*2.80
To work in an agri-related business owned or operated by the family	2.43	2.75	2.63	2.61
To be employed by a farm owner/operator	2.58	2.60	2.34	2.54
To work in wildlife protection/ conservation	2.77	2.65	1.95	*2.54
To be employed in an agricultural service	2.29	2.61	1.92	*2.33
To be employed as a farm manager	2.07	2.40	2.60	*2.32
To be employed in veterinary medicine	2.13	2.48	1.81	*2.19
To work in forestry service/management	2.44	2.29	1.58	*2.17
To be employed full-time in a non-agricultural occupation/career	2.40	2.18	1.76	*2.16
To be employed in agricultural mechanics	2.23	2.13	1.73	2.07
To be employed by an agricultural supplier	2.08	2.23	1.78	2.07
To be involved in agricultural research	1.93	2.27	1.81	*2.04
To be involved in agricultural education	2.00	2.18	1.78	2.02
To be employed in agricultural communications	1.79	2.16	1.70	*1.91
To work in landscape/nursery managment	2.03	2.02	1.44	*1.89
To work in greenhouse production	1.81	1.83	1.30	*1.70
To work in turf management	1.76	1.82	1.29	*1.67
To work in floriculture/floral design	1.59	1.64	1.34	1.55
To be a full-time homemaker	1.43	1.38	1.30	1.38

*Probability less than .10 that the three groups represent the same population.

Note. Rating scale was as follows:
4 - Highly interested
3 - Moderately interested
2 - Slightly interested
1 - Not interested

Table 4

Mean Ratings of Importance of Factors to Students for Enrolling in Vocational Agriculture According to the Family Farm Situation

Decison to enroll factors	Farm situation of family: Non-farm n=91	Part-time n=104	Full-time n=59	mean n=254
To gain basic knowledge and skills used in agriculture	3.35	3.54	3.44	3.45
To gain knowledge and skills used in animal science	3.10	3.31	3.12	3.18
To prepare for an occupation upon graduation from high school	2.96	3.15	3.15	3.07
To gain knowledge and skills used in financial management	3.11	3.05	3.05	3.06
To gain knowledge and skills used in business management	2.92	3.04	3.03	2.99
Reputation of the FFA Chapter	2.89	3.05	3.07	2.99
To gain knowledge and skills used in leadership	2.82	3.04	3.00	*2.95
Reputation of the vocational agriculture program	2.77	2.93	2.95	2.87
To gain knowledge and skills used in mechanics	2.96	2.92	2.59	*2.85
Encouragement from father (guardian)	2.58	3.10	2.63	*2.80
Encouragement from the vo-ag instructor	2.69	2.92	2.56	*2.74
Encouragement from current vo-ag students	2.72	2.98	2.32	*2.73
To gain knowledge and skills used in plant science	2.58	2.80	2.85	2.73
Encouragement from mother (guardian)	2.57	2.89	2.46	*2.67
To prepare for courses at a four-year university	2.45	2.70	2.76	*2.62
Encouragement from past vo-ag students	2.50	2.82	2.25	*2.57
Encouragement from friends/neighbors	2.30	2.76	1.83	*2.38
Encouragement from brother(s)/ sister(s)	2.12	2.56	2.31	*2.34
To prepare for courses at a two-year technical school	2.29	2.32	2.12	2.26
Encouragement from guidance counselor	2.14	2.45	1.64	*2.14
Encouragement from FFA Alumni Chapter	2.10	2.34	1.77	*2.12
Encouragement from school faculty/staff	2.07	2.05	1.52	*1.93
To prepare for courses at the local JVS	1.92	1.95	1.68	*1.88

*Probability less than .10 that the three groups represent the same populations.

Note. Rating scale was as follows:
4 - Very important
3 - Moderately important
2 - Slightly important
1 - Not important

Table 5

Percentage of Students Selecting Various Options as Plans Immediately Following Graduation from High School and Their Family Farm Situation

After graduation option	Farm Situation of Family			Mean percentage
	Non-farm n=92	Part-time n=104	Full-time n=59	n=255
Attend 4-year university to study agriculture	10.9	21.2	20.3	17.3
Attend 4-year university to study subject other than agriculture	21.7	13.5	16.9	17.3
Employment in production agriculture	6.5	15.4	25.4	14.5
Attend 2-year school to study subject other than agriculture	17.4	14.4	10.2	14.5
Enlist in military	16.3	11.5	3.4	11.4
Sother other option (non-agr. employment; housewife, etc.)	17.4	11.5	1.7	11.4
Attend 2-year school to study agriculture	7.6	7.7	10.2	8.2
Employment in agricultural business	2.2	4.8	11.9	5.5

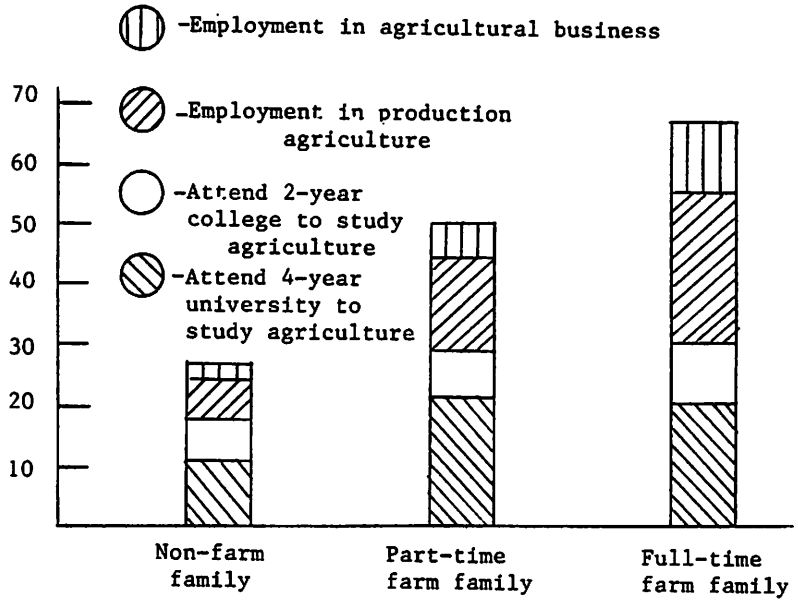
Note: Chi Square Significance = .0013
Cramer's V = .26

After Graduation Plans

Children of full-time farmers were more likely to pursue an agricultural career option after high school. Percentages planning on pursuing an agricultural career option were 67.8% for children of full-time farmers, 49.1% for children of part-time farmers, and 27.2% for children from non-farm families (note Figure 1). Students responding to this item were forced to choose only the one option that most reflected what they intended to do. Employment in agricultural business was the least desired option (5.5%).

Examination of the data revealed that children of full-time farmers were more likely than the others to choose employment in production agriculture and employment in agricultural business. Children of non-farmers were less likely than the other two groups to choose to attend a 4-year college or university to study agriculture or become employed in production agriculture or in agricultural business.

Figure 1. *Percentage of Students Selecting Agricultural Options as Plans Immediately Following Graduation from High School as a Function of Their Family Farm Situation*



Male or Female

No differences were observed between male and female students in the proportion from full-time farms, part-time farms, and those who were not from farms. Also, there were no differences by sex in their occupational goals, reasons for their decisions to enroll, or their plans following graduation.

Conclusion

The findings provided a basis for the following conclusions:

1. Most students (three-fourths) were from less than full-time family farms. They generally lacked the opportunity to "grow into farming."

2. Student occupational goals were related to their place of living. Non-farm students were less interested in agricultural careers than farm students.

3. Students from part-time farms seemed to have a higher interest in more occupational goals than the other groups.

4. Students enrolled in vocational agriculture primarily to learn about agriculture.

5. A greater percentage of students from full-time farms was interested in entering agricultural business than students from non-farm situations.

Implications

The authors developed the following implications for discussion by the agricultural education profession:

1. Because the majority (57.3%) of the students plan additional education beyond secondary school, the high school curriculum should serve to prepare students for further education as well as to immediately enter an occupation.

2. Agricultural business and industry was not a highly attractive option for these students. Further study of this phenomenon is needed.

3. Instruction in crop and livestock production, mechanics, management, and personal development appears to be selected by students who plan widely differing careers. Such instruction may have general education as well as vocational education values.

4. Many vocational agriculture students appear to desire to become part-time farmers. Rural living appears to be attractive to many students. These students also need to learn to use agricultural resources productively.

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