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OCCUPATIONAL ATTAINMENT AND EARNINGS AMONG AGRICULTURAL STUDENTS IN THE SOUTH

By Andrew A. Zakeri

ABSTRACT

Using panel data from a sample of agriculture graduates from Southern land-grant universities, this paper examines factors associated with occupational attainment and income earnings among agricultural students after graduation. Findings indicate that college major and gender were the strongest predictors of occupational attainment, while educational attainment was the best single predictor of income earnings. Compared with their peers with only baccalaureate degrees, highly trained agricultural students earned higher income on their first full-time jobs after leaving college. Policy implications of the findings are discussed.

INTRODUCTION

For many Southern students in the 1970s, U.S. agriculture seemed to offer attractive occupational and career opportunities. This was reflected in a region-wide increase in agriculture enrollment at the land-grant institutions -- the principal suppliers of trained manpower for agricultural related occupations. Consequently, rural sociologists in the south begin to pay significant attention to the career expectations of college students preparing for agricultural positions in general and farming in particular (Dunkelberger et al. 1982; Lyson, 1978, 1979, 1981; Molnar and Dunkelberger 1981).

Since then, however, enrollment in college agriculture degree programs has plummeted (Conor 1989). For example, enrollment in

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colleges of agriculture declined by 38 percent during the 1980s and fewer students sought to pursue graduate degrees than previously (NASULGC 1989). This enrollment decline occurred during the advent of a significant expansion of biotechnology research related to the nation's food system. Agriculture is less attractive to contemporary students and a new nationwide effort has been undertaken to expand the programs of agricultural colleges and universities (NASULGC 1989). If increased enrollment is to be achieved, interest in agricultural careers will have to be rekindled. Whether this can be done, of course, will depend upon, among other things, the actual career outcomes and attainments of agriculture college alumni.

Purpose of the Study

The purpose of this analysis is to investigate two general questions: A.) What are the factors associated with occupational attainment among Southern college of agriculture graduates; and B.) Do the same factors predict income earnings of these graduates? Despite a number of research studies on the aspirations and expectations of Southern agricultural students in the late 1970s and early 1980s (Dunkelberger et al. 1982; Lyson 1979; Molnar and Dunkelberger 1981), there is much about actual career patterns of these graduates that is not fully understood. For example, Thomas and Schiflett's (1989) analysis on gender differences in agricultural students' employment experiences suggested starting annual salaries differed significantly by gender, but their analysis used data for only two land-grant universities in the Southwest. A more extensive analysis with data for 1890 and 1862 universities in the South is needed to examine factors associated with actual occupational and income attainment of alumni. The present study extends the existing body of agricultural student research by utilizing longitudinal rather than cross-sectional data to assess factors associated with actual occupational attainment and salaries of alumni of agricultural curricula.

The present study is undertaken with the assumption that an analysis of factors associated with job placement and earnings of Southern agriculture alumni would provide valuable information to

decision makers responsible for student recruitment, curriculum design and educational reform. Curricular reform and recruitment efforts aimed at increasing student enrollment in agriculture programs in Southern Land-Grant Institutions may fail unless monetary returns to former students are realized early in their careers and taken into consideration.

Conceptual Framework

The central hypothesis guiding this research is that certain characteristics of Southern agricultural students play important roles in explaining actual career patterns and variations in income attainment. This is suggested because actual career outcome and earnings of agriculture graduates are likely to be strongly influenced by educational attainment and gender. First, drawing upon previous literature, graduates' major and the level of study (called educational attainment) are expected to influence their occupational attainment. Second, these same factors (major, educational attainment and gender) are expected to influence income earnings because from the human capital theoretical perspective, an individual's income potential may be affected by one's college major, investment in formal education and gender. The following section reviews these factors identified in previous research, and specifies hypotheses linking them to occupational attainment and income earnings.

Education

Drueckhammer and Key (1986) found, as would be expected, that the field of college study influences graduates' career destination. Two-thirds of their sample of Oklahoma State University alumni reported that their first full-time job upon graduation was in their field of study. Also, Zakeri and Wheelock (1989) found that agriculture students from Alabama and Tennessee with agricultural jobs were more likely to have majored in one of the traditional agriculture majors such as agronomy, animal science, agricultural economics and agricultural education. Thus, college majors of agriculture alumni are significant predictors of occupational attainment.

Educational attainment in this study refers to the level of study in

the disciplines in college. A strong relationship between "major" and occupational attainment is anticipated on the assumption that some majors in colleges of agriculture are more directly related to agricultural careers than others. Traditional majors such as agronomy, animal science, agricultural economics, and agricultural education may be expected to predict agricultural-related careers more frequently than would general biology or life science majors. This may not be true however, in light of current employment opportunities in agriculture-related biotechnology. Moreover, there is good reason to expect the major to influence earnings of workers in various fields. For example, according to the average starting salary offered to the 1985 graduates by major (U.S. News and World Report, 1985), petroleum engineers were the highest paid at \$30,996 while agriculture majors were third from last with \$17,668. Further, there is evidence that alumni whose majors were outside agriculture had higher starting salaries than those in agriculture (Preston et al., 1990). Therefore, alumni in traditional agricultural majors would be expected to earn less than those in other majors and fields.

Occupational attainment may be expected to vary by whether one had only an undergraduate degree or pursued advanced degree study within agriculture disciplines. Obtaining an advanced degree predicts a greater chance that agricultural graduates would be employed in agricultural-related careers because graduate education provides a more intense occupational socialization than does education at the undergraduate level. Zekeri and Wheelock (1989) found that among Alabama and Tennessee land-grant alumni, educational attainment had a positive impact on agribusiness relatedness of jobs. They indicated that the higher the level of educational attainment of agricultural students, the greater the tendency for them to pursue agribusiness related careers. This is consistent with the fact that agribusiness in the United States has moved to a high degree of specialization coupled with the development of sponsored research and graduate education in land-grant colleges. A positive relationship between educational and occupational attainments is also expected. This is because one's level of study within a field implies a strong commitment to that field.

The level of educational attainment is hypothesized to have a positive impact on starting annual salary, with those possessing

advanced degrees earning higher salaries. Preston et al. (1990) present evidence consistent with this hypothesis. The authors report that among alumni from Virginia Polytechnic Institute and State University those with advanced degrees earned significantly higher salaries than those with only a bachelor's degree. A more extensive analysis with data for multiple states is needed to estimate the effect of educational attainment on occupation and income earned to determine if regional variation exists and determine if policy strategies can benefit from such analysis.

Significant occupational differences between males and females have existed throughout this century (Busch and Lacy 1983; Dunkelberger et al., 1982; England 1981; Horan and Tolbert 1984; Thomas and Schiflett 1989; Tienda et al. 1987). Dunkelberger et al. (1988) argued that as a group, female agricultural graduates found less opportunity in agribusiness than did men despite the significant enrollment increases in colleges of agriculture at 1862 land-grant universities. Research by Busch and Lacy (1983) further revealed that women represents less than five percent of all agricultural scientists. Their analysis also showed that women are concentrated in such fields as nutrition, food science and social sciences.

A 1986 national labor report showed that women comprised only 21 percent of all those employed in the agricultural industry (Bureau of Labor Statistics 1986). In addition, findings by Zakeri and Wheelock (1989) indicated that the overwhelming majority of agricultural job holders were males, although their findings are limited to two states. In a similar vein, Thomas and Schiflett (1989) contended that among the agricultural graduates from Oklahoma and Texas, women experienced more occupational segregation than men and their first jobs after leaving college were concentrated in traditionally female occupations. Given what is known about female enrollments in colleges of agriculture and the under-representation of women in agricultural jobs, it is hypothesized that female agricultural graduates are less likely than males to obtain employment in agricultural jobs.

Males in this sample may be expected to earn higher salaries than the females because gender has been an important factor in explaining variations in earnings, with males earning higher salaries than females (Ferber et al. 1986; Lewis and Emmert 1986; Remus and Kelly 1983).

Preston et al. (1990) also found gender to be a significant variable in explaining the variation in starting income with males earning more than the females.

Human capital theorists have argued that females may lack resource mobility because of personal interest in a traditional family role, which greatly limits their income earnings. In addition, because of employers' perceptions that women represent a great hiring risk due to possibility of higher turnover rates, their lower salaries may be considered as a risk premium. Panel data on male-female earning differences in agricultural careers can contribute important information on factors associated this pattern. Despite the accumulated evidence through cross-sectional research, factors associated with income earnings among former agricultural students remain to be established. This study represents a significant methodological advance over the previous attempts to examine the impact of gender on earning variations.

SOURCE OF DATA

Data used in this study are from Southern Regional Research Project S-200 ("Occupational Career Paths of Former Students in Southern Land-Grant Universities"), conducted jointly by Southern land-grant universities and the Cooperative State Research Service of the United States Department of Agriculture (USDA). This is a longitudinal study of alumni of 1862 and 1890 land-grant institutions. The original regional sample frame was composed of 19,417 students enrolled at 1862 land-grant colleges of agriculture and 1,382 enrolled at 1890 land-grant colleges of agriculture for spring semester of 1977 in 14 Southeastern states (Dunkelberger et al. 1982). A 30 percent systematic sample of 19,417 students at eleven 1862 land-grant colleges of agriculture and 100 percent sample (N=1,382) of the students at nine 1890 land-grant colleges of agriculture were to be included.

The current S-200 Regional Research Project ("Career Paths of Former Students in Southern Land-Grant Universities") is a re-study of the original samples conducted in 1986. The major focus of this study is on the actual labor market experiences of former students who graduated with B.S. degrees. The survey was conducted between the

fall of 1986 and spring of 1987 when the first introductory letter and the questionnaire were mailed to former students for whom current addresses were obtained. From the 30 percent sample frame of 1862 land-grant college students, 2,802 (or 42percent) of the respondents of the original sample were relocated in 1986, and 2,049 (or 60 percent) returned questionnaires. Among the students at 1890 colleges, 615 were relocated, and 235 (or 38) percent returned questionnaires. The data were weighted to adjust for the differential student enrollment. The mailed survey included questions on educational attainment, career mobility, college curriculum competencies and skill, opinions about agricultural careers, and other personal characteristics. (For details on the sampling and data collection procedures, see Thomas et al. 1989).

OPERALIZATION OF STUDY VARIABLES

College major is the discipline studied in college by respondents. It is operationalized as a dichotomous variable. Agricultural majors include agronomy, soil science, forestry, animal science, biochemistry, agribusiness, agricultural economics, rural sociology, agricultural education, food and nutritional sciences, agricultural engineering, general agriculture and agricultural communications. Nonagricultural majors include engineering, home economics, pre-professional, humanities, arts, education, recreational, business and others.

Educational attainment is the highest level of college education completed by respondents. The first educational question asked was "Did you complete a bachelor's degree at a college or university?" Response categories were (1) Yes and (2) No. If the answer was yes, the respondent was asked, "Have you completed any additional education beyond the bachelor's degree?" Response categories were (1) No, never completed or enrolled; (2) No, but plan to enroll in the future; (3) Yes, a master's degree; (4) Yes, a professional degree (M.D., D.V.M., etc.); (5) Yes, a doctorate (Ph.D., Ed.D., etc.); and (6) Other (describe). Those who completed additional education beyond the B.S. degree were asked further, "What is the major, discipline, or specialty area of this advanced degree?" In this analysis only categories 3 to 5 were used. Those who never completed or

enrolled and those who plan to enroll in the future were not considered as having completed education beyond a bachelor's degree.

Occupational attainment is the type of job held by alumni on their first full-time jobs. This dichotomous dependent variable was derived from responses to the question, "Did your duties in your first full-time job involve farming or agricultural business in any way?" Three response categories were no, farming, and agribusiness related occupations. Farming and agribusiness are combined for this analysis as agriculture-related jobs.

Income is measured by starting annual salary received on the first job by alumni. Alumni were asked, "What was your starting annual salary on your first full-time job after leaving college?"

ANALYTIC PROCEDURES

To statistically identify a set of characteristics that distinguish agriculture-related from nonagriculture-related job holders, discriminant analysis was used. Discriminant analysis permits analysis of a dichotomous nominal dependent variable (Agricultural and nonagriculture related jobs). Discriminant analysis takes variables selected by technically specified procedures and linearly combines them into one or more discriminant functions that maximize the differences between groups or categories of the dependent variables. The discriminant function coefficients, when in standardized form, indicate the relative importance of each predictor variable, analogous to the Beta weights in regression analysis. They serve to identify the variables that contribute most to the discriminant function and ultimately to the prediction of membership in one of two groups. The square of the canonical correlation, as does r^2 in regression analysis, denotes the proportion of variation in the discriminant function explained by the group (Klecka, 1980). The Wilks lambda is an inverse measure of group differences over several discriminating variables. It is similar to the proportion of unexplained variance in regression analysis. Thus, in the case of discriminating between two groups, the square of the canonical correlation coefficient and the value of Wilks lambda, when summed, are equal.

In the first section of this analysis, the main purpose is not to account for explained and unexplained variance but to develop an

accurate classification of cases into two discrete groups, that is, the proportion of cases correctly classified by the discriminant function. The proportional reduction in error (Tau statistics) suggests how well the function correctly classifies the respondents in contrast to classification by chance (Klecka, 1980).

The second section of the analysis for predicting income was carried out using multiple correlation-regression procedures, focusing on income on the first full-time job as dependent variable. To assess the differences in the relationship of all independent variables to income earned for men and women, all two way statistical interactions of the independent variables with gender were also examined for statistical significance. This was done by calculating the product of the relevant pair of variables and introducing the multiplicative terms into the equation, one at a time (Cohen and Cohen, 1983). Interactions found to be significant at the .05 level by this procedure were included in the final equation.

Though other functions could be used to measure interaction in the correlation regression analysis framework, this method is the simplest and most congruent with the assumption of linearity in most regression models.

FINDINGS AND INTERPRETATIONS

Occupational attainment

Table 1 shows that education and gender play an important role in prediction of occupational attainment. The positive and larger discriminant function coefficients (.95) for agricultural major suggests that education is not only significant it is the key concept in predicting occupational attainment. This finding is in agreement with Zakeri and Wheelock's study (1989) which showed that students with agriculture-related jobs were more likely to have majored in one of the traditional agricultural majors in college.

The negative discriminant function coefficient for female (-.43) suggests that gender is inversely related to occupational attainment. This indicates that females in the sample are significantly less likely than males to be employed in an agriculture-related job. This finding is in agreement with research expectations. This may be due to the

Table 1. Discriminant analysis for occupational attainment of land-grant alumni.

<i>Variables</i>	Unstandardized Coefficients	Standardized Coefficients	Partial F's
<i>Gender</i>			
Female	-1.05	-.43	38.87
<i>Education</i>			
Traditional ag major	2.15	.95	165.22
Agricultural engineering	1.00	.25	11.03
Agribusiness	.88	.28	14.44
(constant)	-1.48		
<i>Group Centroids</i>			
Ag-related jobs	.517		
Nonag-related jobs	-.432		
<i>Summary Statistics</i>			
Canonical correlation	.428		
Wilks lambda	.817		
DF	4		
Significance of lambda	.000		

Classification Results of Discriminant Equation

<i>Actual Group</i>	# of Cases	Predicted Group Membership	
		<i>Nonagricultural</i>	<i>Agricultural</i>
Nonagricultural	796	499	297
(Percent)		62.7	37.3
Agricultural	994	257	737
(Percent)		25.9	74.1

NOTES: Percent of "grouped" cases correctly classified = 69.05%

Proportional reduction in error statistic = 38.1%

All the coefficients were statistically significant at .01

Table 2. Interrelationships among gender, occupational attainment, educational attainment and college major

Variables	X ¹	X ²	X ³	X ⁴
X ¹ Gender	-			
X ² Occupational attainment	.153*	-		
X ³ College major	-.076*	.297*	-	
X ⁴ Educational attainment	.018	.030	-.018	-

* 2-tailed Significant .001

fact that agriculture is not traditionally a female occupation but typically a male-dominated career. Furthermore, the availability and accessibility of more attractive and rewarding non-agricultural occupational opportunities in the labor force in the South may help account for this finding. The finding also suggests that agricultural occupations are more favored by graduates with a major in traditional agriculture.

The discriminant function resulting from the linear combination of the four variables correctly classified 69 percent of the cases as agricultural or nonagricultural job holders. When compared with random assignment, classification error is reduced by 38.1 percent.

Overall, the expected relationship was found with regard to major. Contrary to expectations however, an advanced degree did not predict whether a graduate held a job in the field of agriculture, with the other variables controlled. This latter finding contradicts the conclusions of Zakeri and Wheelock (1989), who reported a significant relationship.

Income earnings

As a preliminary step in predicting income earnings of the alumni, the intercorrelations among the independent variables are examined (Table 2). The correlation among the independent variables are not, in

general, very high. The highest r -values are those for the relationship between college major and first job ($r=.297$), occupational attainment and sex ($r=.153$). With these low correlations, multicollinearity is not considered to be a concern in this analysis.

The multiple correlation regression analysis, controlling for the date of employment, is presented in Table 3. Among the predictor variables, educational attainment, which did not predict occupational attainment, is by far the strongest predictor of income among these alumni (Beta = .281). This suggests that, as expected, education is associated with earnings. Gender followed as the next most important predictor (Beta = .146) while occupational attainment is the least important predictor (Beta = .053). The R-square change statistics indicate that approximately eight percent of the variation in income is explained by educational attainment, over and above the effects of gender, occupational attainment and college major. Further, approximately two percent of the variation in income is explained by gender. First job and college major each accounted for less than one percent of the variation in income, over and above the effects of the other independent variables.

The nature of the main effects (net relationships) is described by estimating the income scores using the derived regression equation, with the control variables held constant at their means (Table 4). For gender, as expected, males have a higher (1.77 points) estimated income score than females, which means males earned higher wages. This result is in agreement with Tickamyer and Bokemeier's (1988) study, which showed that women workers tend to receive significantly lower wages and salaries than men. The bias in the reward allocation processes may account for this finding. Women tend to reap fewer rewards for work experience and tenure (England and Farkas 1986; Madden 1985; O'Neill 1985). As in other research, this analysis found pervasive gender differences in income. This may be due to the fact that women in the South face even more limited employment opportunities than their male counterparts.

Regarding educational attainment, those alumni with advanced degrees earned more on their first jobs. They have estimated income scores that are 10.24 points higher than those who do not have any advanced degree and this difference is statistically significant. This difference may be explained in part by the fact that

Table 3. Multiple correlation regression analysis for the relationships of gender, educational attainment and college majors to income.

<i>Variables</i>	Unstandardized Coefficient	Standardized Coefficient	R Square change
Gender	1.763**	.146	.021
Educational attainment	10.239**	.281	.079
Occupational attainment	-.589*	.053	.002
College Majors	.959**	.083	.006
Constant	11.585		
Multiple R	.329***		

F = 63.170; DF = 4,2086

* 2-tailed significant .05

** 2-tailed significant .01

*** 2-tailed significant .001

Table 4. Main effects of gender, educational attainment, occupational attainment and college major on income.

<i>Variables</i>	Estimated Performance
<i>Gender*</i>	
Females	11.89
Males	13.66
<i>Educational attainment</i>	
No advanced degree	13.00
Advanced degree	23.24
<i>Occupational attainment</i>	
Nonagricultural jobs	13.54
Agricultural jobs	12.95
<i>College major</i>	
Agriculture majors	12.89
Nonagriculture majors	13.85

NOTE: Each variable category is calculated controlling the other variables.

average dollar return increases with each additional year of education. The higher risk factor and experience associated with graduate education may also account for this difference in the South.

Concerning occupational attainment, nonagriculture job holders earned more than the agriculture job holders. The difference in the estimated income score is .59 points and is not statistically significant. Regarding college major, as expected, nonagricultural majors earned more income on their first job. They had estimated income score that are .4 points higher than those with agricultural majors but the difference is also not statistically significant.

SUMMARY AND DISCUSSION

Extensive changes in the structure of agriculture have occurred in the South in the past two decades. For example, in the 1970s and 1980s, farm labor declined sharply, replaced by increasingly sophisticated and costly machinery. Although this technological change and productivity gain have been remarkable, they have not created prosperity for the rural South. Despite the change and economic hardships faced by farmers across the region, many students enrolled at both 1862 and 1890 land-grant universities because they believed that U.S. agriculture offered an attractive career opportunities. Further, college education was widely viewed as a requisite for labor in production agriculture (Lyson 1979). Thus, individuals expecting to participate effectively in a competitive Southern agriculture were expected to attend and obtain a higher education in land-grant institutions because they are principal source of training and preparation for agricultural occupations (Molnar and Dunkelberger 1981).

Since little research has explored actual occupation and income of Southern agriculture graduates, this study sought answers to two general questions: What are the factors associated with actual occupational attainment among the Southern college of agriculture alumni who enrolled in large numbers in the 1970s; and, Do the same factors account for variations in income attainments among these alumni?

The results of the study demonstrate the diversity within agricultural occupations. Comparably trained men and women

experienced different occupational outcome and employment benefits. Though these alumni graduated with degrees from Southern colleges of agriculture, females experienced more occupational segregation than their male counterparts. The first full-time job for women after leaving college were less likely to be in agriculture. This finding is in agreement with past studies which found differing patterns for males and females in general (Abrahamson and Sigelman 1987; Hodson 1984; Lyson 1981). Furthermore, occupational attainment is also predicted by college major. Typically, agricultural workers are those with traditional agricultural majors.

Regarding income earnings among these Southern agriculture alumni, as expected, the regression model shows substantial disparities between men's and women's earnings, even though both groups are full-time workers. Gender differences persist when human capital factors and sector-of-job variables are controlled. Theoretically, the finding of persistent disparities may result from misspecified models: that is, determinants of women's earnings are not included as independent variables. Disparities in earnings, however, also may reflect discrimination and unequal opportunities in the labor market. A consequence of this inequity is limited earning potential for female workers. In the regression equation, a human capital variable (advanced degree) had the strongest impact on earnings. Thus, as expected, alumni with advanced degrees earned more income on their first job after leaving college than did alumni with only baccalaureate degrees.

One might speculate that college major and type of jobs account for such a relationship, but controlling for both variables in this analysis rules this out. The study strongly suggests that the educational factors are quite important in accounting for the extent to which alumni are doing better in the labor market and the extent to which their salaries differ from their counterparts. Nevertheless, returns to human capital still vary by gender. Equally important is the finding that, as expected, one's college major and type of job had positive effects on income earnings. Overall, consistent with other research, the present analysis indicates that one's gender has a significant effect on income earnings among alumni. In particular, this corroborates Thomas and Schiflett's (1989) finding that starting annual salaries of alumni differ significantly by gender.

Occupational attainment does have a significant effect on income earnings among alumni when gender, educational attainment and college major are controlled and there is a weak positive effect of job on income. Alumni in agriculture and nonagriculture jobs fare about the same regarding income on their first jobs.

On the basis of the findings and observations, this study provides several implications for policymakers and university faculty who advise college of agriculture students about career goals and plans. Consistent with other research, this study shows that educational attainment has a strong impact on earnings. Professors and department heads who advise students about occupational goals should be sensitive to this finding and encourage students graduating with baccalaureate degrees to enroll in advanced degree programs if those students intend to compete with highly trained workers for jobs. The opportunity to attend graduate school should be created because salary premiums associated with advanced education is high. Assistantships and other financial aid should be provided to attract students to graduate school.

Despite increasing representation of women in agriculture colleges, many are less likely to be employed in agricultural-related careers. This may be due to the fact that, for the most part, agriculture is still gender-segregated. New policies should be designed to attract women agriculture graduates to agriculture careers. This is necessary because it may reduce inequality in the agricultural profession. Furthermore, attracting women agriculture graduates into agricultural careers may encourage high standards of scholarship and worthy attainment in all branches of agricultural science.

Given the gender-wage differentials, the results of this study do not provide an encouraging outlook for women considering careers in agriculture. Women agriculture graduates are not faring well in the labor market compared with their male colleagues. They experienced lower starting salaries despite similar education and experience, indicating that some bias occurs in the reward allocation process. (Cox and Harquail 1991). Thus, the results of the study caution against interpreting the increase in female representation in agricultural curricula as a sign that reductions in gender inequality are soon likely to follow.

Though recruitment of new students receives much attention from

deans of colleges of agriculture (Conor 1989), retention of existing students represents an equally important dimension of addressing declining agricultural enrollment. Evidence in support of retention programs in land-grant colleges of agriculture is the finding that there is no significant salary differences attributable to the choice of majors. Alumni in agriculture and nonagriculture jobs fared about the same regarding income on their first full-time jobs after leaving college. Efforts should therefore be directed at retaining students who are currently enrolled in agriculture programs instead of attempting to attract only students from a diverse pool of incoming high school graduates.

Despite the finding of statistically significant associations in this study, the variation in performance accounted for by these factors remained low. Such a finding suggests that it may be important to consider other types of explanatory variables. Perhaps it will be useful for further research to consider other variables such as skill level and responsibilities, state of residence and other structurally-based variables (Horan and Tolbert 1984; Granovetter 1984; Jacob 1983). Given the importance of starting salary to subsequent career success (Gox and Harquail 1991), further research about gender differences in the kinds of job offers agriculture students receive -- and the criteria they used in evaluating offers -- will be useful for theory and policy.

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