ATTITUDES OF BEGINNING TERTIARY STUDENTS TOWARD SENIOR SECONDARY AGRICULTURAL EDUCATION IN SWAZILAND

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Abstract
A descriptive-correlational study was conducted to find the characteristics associated with the attitudes of first-year tertiary students regarding secondary agricultural education in Swaziland. The reasons for attending the present program of study and institution were also elicited. Positive, and moderate to strong attitudes by respondents toward selected aspects of senior secondary agriculture were associated with better parents' occupational status; increased maturity when the student decided to attend present college; exposure to recruitment to college; practice of agriculture in everyday living; high number of youth organizations joined; and residence in a rural area. Important reasons for pursuing the program of study were professional and financial in nature. The influential reasons for enrolling in the present tertiary institution were mainly senior secondary curriculum and academic achievement related, though professionals in tertiary institutions and guidance counselors had a positive influence on students' choices. Implications of the findings for senior secondary agricultural education and recruitment practices to programs and colleges were suggested.

Introduction
Agriculture is important to the economy of Swaziland, engaging 32% of the population and contributing 8% to the gross domestic product (Economic Planning Office, 1996). Therefore, preparing people for various roles in the agricultural industry -- farming and agriculture-support businesses, teaching, research, extension, and other occupations -- is a vital function of the country's educational system.

Swaziland's educational system is based on seven years of schooling at the primary level, three years at the junior secondary level and two years at the senior secondary level. Education at the tertiary level is provided by the University of Swaziland and several colleges.

Agricultural education in Swaziland is delivered at the secondary and tertiary levels. At the secondary level, the goal of junior agricultural education is to develop in students an appreciation for and a positive attitude toward agriculture, while the goal of the senior agricultural education program is to prepare interested youth to gain entry to the College of Agriculture at the University of Swaziland.
The secondary level agricultural education program provides basic knowledge and skills to students for practical application in the agricultural industry both in production and management phases. Tertiary agricultural education graduates have typically been employed in the public sector as teachers, technicians and extension workers. In the last five years, the manpower needs of the private sector for college graduates have been targeted for development as public sector demand has declined.

Studies of agricultural education graduates revealed negative feelings toward and low appreciation of practical activities in agriculture arising from inadequate weighting of this activity in the grading system (Simelane, 1988), and the aspiration for white-collar jobs attributed to the positive image of white-collar careers in the country's colonial history (Asante & Dlamini, 1989). In this context, Sukati (1991) asserted that negative attitudes toward agriculture and practical and service careers among high school graduates were due to inadequate counselling and guidance in school and needed to be improved to meet manpower demands of the Swazi labor market in these areas.

Building upon previous work, this study focuses on the attitudes toward agriculture of beginning tertiary students and the underlying reasons for their choice of the agricultural program and the institution attended. The study has implications for improving senior secondary agricultural education and for recruitment to tertiary institutions.

**Objectives**

The specific objectives of the study were to:

1. Identify student characteristics associated with attitudes toward selected aspects of senior secondary agricultural education.
2. Describe the level of importance of reasons for pursuing the present program.
3. Describe the level of influence of reasons for enrolling in the present tertiary institution.

**Methodology**

**Population and Sample**

The target population was first year beginning tertiary students (N=696) from six colleges (agriculture, science, humanities and education, commerce, law, and social science) in the University of Swaziland (UNISWA) and three teacher training colleges in the country. One intact class was chosen at random to be included in the sample from each college and was deemed to be representative of that college. The sample size obtained by this procedure was 235.

**Instrument**

The instrument had two parts. Part one dealt with attitudes toward senior secondary agricultural education. Forty-one items were grouped into seven domains: (a) agriculture teachers, (b) agriculture students, (c) agriculture program, (d) agriculture objectives, (e) agriculture teaching methods, (f) agriculture teaching materials, and (g) the public and media's portrayal of agriculture, students and individuals in agriculture. An 8-point Likert-type scale was used for responses to the attitude items, 1 being very strongly disagree and 8 being very strongly agree. Part two contained reasons for choosing the present program and institution of study, and personal characteristics.

Content and face validity was obtained with a group of local agricultural educators. Reliability of the attitude subscales was established through a pilot test involving second year students at UNISWA's College of Agriculture. Reliability coefficients ranged from .5 to .75.

**Data Collection and Analysis**

Data were collected by the self-administered questionnaire using lists of students in the chosen intact classes provided by the respective institutions. The SPSS/PC v3.1 Statistical Package (Microsoft Co., 1991) was used to input
and analyze the data.

The stepwise regression procedure was used to identify student characteristics associated with their attitudes toward selected aspects of senior secondary agricultural education. Means and standard deviations were calculated for the data on reasons for choosing the present program and the institution of study.

**Findings**

**Characteristics Associated with Attitudes of Students**

Characteristics that were significantly associated with attitudes toward five aspects of senior secondary agricultural education (dependent variables) are included in Table 1. Two dependent variables (agriculture teachers and agriculture program) were found to be not significantly associated with student characteristics.

In Table 1, the partial regression coefficients ($b_k$) indicate magnitude (weak = 0.00-.34, moderate = .35-.69, strong = .70 and above) and direction (+ or -) of attitudes toward a specific dependent variable associated with a specific category or level of the independent variable.

The data show that attitudes toward secondary agriculture students associated with the lowest grade level at which students decided to attend their present institution were positive and moderate (.61) and that attitudes associated with the lowest father’s occupation were positive but weak (.32).

Attitudes toward agriculture objectives associated with the lowest mother’s occupation were positive but weak (.27) and attitudes associated with the lowest grade level at which students decided to attend their institution were positive but weak (.31).

Students who were recruited to their present institution had positive and strong (.87) attitudes toward the agriculture teaching methods as compared with those who were not. Attitudes toward teaching methods associated with students’ lowest mothers’ occupation were positive but weak (.26).

Attitudes toward teaching materials associated with the students’ lowest mother’s occupation were positive but weak (.10). However, for students whose hobbies included agriculture, attitudes were positive and strong (.84).

Attitudes toward how the public and media portrayed agriculture, students and individuals in agriculture associated with the smallest number of hectares of land allocated by the chief to the students’ families were positive but weak (.23), and positive and moderate (.41) with the smallest number of youth organizations joined by students before tertiary level. However, attitudes associated with students whose residence was urban were negative and moderate (-.56).

**Level of Importance of Reasons for Pursuing the Present Program**

The data in Table 2 show that all the reasons for pursuing the present program of study were rated by respondents as very important or important (means ranging from 3.5 to 6.00). The first nine reasons were rated very important (means ranging from 4.50 to 5.49) and the remaining three reasons were rated important (means ranging from 3.50 to 4.49).

While most of the reasons cited as very important or important for pursuing the present program of study have a professional and financial orientation, it is interesting to note that personal reasons such as service to humanity, job creativity and prestige, respect for someone in the same career, and the right personality for the job were also important.

**Level of Influence of Reasons for Enrolling**

The data in Table 3 show that of the reasons for enrolling in the present tertiary institution rated by the respondents in terms of their influence, 11 reasons were influential (means of 3.50 to 5.49) and the remaining 11 reasons were not influential (means below 3.50).
Table 1  
Stepwise Regression of Attitudes Toward Selected Aspects of Agricultural Education with Characteristics of Students (n=235)

<table>
<thead>
<tr>
<th>Significant Independent Variables (Student Characteristics)</th>
<th>R²</th>
<th>R² change</th>
<th>b_0</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>I.  Dependent Variable: Attitudes Toward Secondary Agriculture Students</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-Grade level at which students decided to pursue present college</td>
<td>.11</td>
<td>.11</td>
<td>.61</td>
<td>2.91*</td>
</tr>
<tr>
<td>-Father's occupation</td>
<td>.21</td>
<td>.10</td>
<td>.32</td>
<td>2.31*</td>
</tr>
<tr>
<td>Constant</td>
<td>2.76</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adjusted R²=.17 For model: F=5.84*</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>II.  Dependent Variable: Attitudes Toward Secondary Agriculture Objectives</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-Mother's occupation</td>
<td>.11</td>
<td>.11</td>
<td>.27</td>
<td>2.65*</td>
</tr>
<tr>
<td>-Grade level at which students decided to pursue present college</td>
<td>.18</td>
<td>.07</td>
<td>.31</td>
<td>2.02*</td>
</tr>
<tr>
<td>Constant</td>
<td>3.89</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adjusted R²=.15 For model: F=5.09*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>III. Dependent Variable: Attitudes Toward Secondary Agriculture Teaching Methods</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-Whether specifically recruited by someone in the present college</td>
<td>.15</td>
<td>.15</td>
<td>.87</td>
<td>2.75*</td>
</tr>
<tr>
<td>-Mothers' occupation</td>
<td>.25</td>
<td>.10</td>
<td>.26</td>
<td>2.41*</td>
</tr>
<tr>
<td>Constant</td>
<td>4.52</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adjusted R²=.15 For model: F=7.39*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IV.  Dependent Variable: Attitudes Toward Secondary Agriculture Teaching Materials</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-Mothers' occupation</td>
<td>.14</td>
<td>.14</td>
<td>.10</td>
<td>3.45*</td>
</tr>
<tr>
<td>-Hobbies including agriculture</td>
<td>.29</td>
<td>.15</td>
<td>.84</td>
<td>3.10*</td>
</tr>
<tr>
<td>Constant</td>
<td>4.60</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adjusted R²=.26 For model: F=9.13*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V. Dependent Variable: Attitudes Toward How the Public and Media Portrayed Agriculture, Students and Individuals in Agriculture</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-Hectares of land allocated by the chief of the residential area</td>
<td>.15</td>
<td>.15</td>
<td>.23</td>
<td>3.03*</td>
</tr>
<tr>
<td>-Number of youth organizations joined</td>
<td>.32</td>
<td>.16</td>
<td>.41</td>
<td>3.67*</td>
</tr>
<tr>
<td>-Residence</td>
<td>.39</td>
<td>.23</td>
<td>-.56</td>
<td>-2.26*</td>
</tr>
<tr>
<td>Constant</td>
<td>3.99</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adjusted R²=.35 For model: F=9.43*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* p<.05  

Coding:  
1 =Primary, 2=Form 1-3, 3=Form 4-5, 4=Just before college  
2&3=Unemployed, retired, deceased & any other which imply "no income", 2=self employed,  
3="blue-collar", 4="white-collar"  
4&50=No, 1= Yes  
6 0=Rural, 1=Urban  
** Absolute value (minimum=1, maximum=5)  
*** Absolute value (minimum=1, maximum=3)
Table 2
Level of Importance of Reasons for Pursuing the Present Program of Study

<table>
<thead>
<tr>
<th>Reasons</th>
<th>Mean</th>
<th>S.D.</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Opportunities for further training</td>
<td>5.19</td>
<td>1.03</td>
<td>220</td>
</tr>
<tr>
<td>2. Prospect for employment</td>
<td>4.97</td>
<td>1.05</td>
<td>222</td>
</tr>
<tr>
<td>3. High income</td>
<td>4.88</td>
<td>1.17</td>
<td>221</td>
</tr>
<tr>
<td>4. Working conditions</td>
<td>4.88</td>
<td>1.10</td>
<td>224</td>
</tr>
<tr>
<td>5. Service to humanity</td>
<td>4.87</td>
<td>1.05</td>
<td>224</td>
</tr>
<tr>
<td>6. Creativity involved in the job</td>
<td>4.86</td>
<td>.98</td>
<td>221</td>
</tr>
<tr>
<td>7. Respect for someone in the same career</td>
<td>4.80</td>
<td>1.41</td>
<td>216</td>
</tr>
<tr>
<td>8. Right personality for the job</td>
<td>4.75</td>
<td>1.22</td>
<td>220</td>
</tr>
<tr>
<td>9. Challenge with the job</td>
<td>4.66</td>
<td>1.11</td>
<td>221</td>
</tr>
<tr>
<td>10. Other benefits involved</td>
<td>4.48</td>
<td>1.31</td>
<td>218</td>
</tr>
<tr>
<td>11. Prospect for promotion</td>
<td>4.22</td>
<td>1.55</td>
<td>218</td>
</tr>
<tr>
<td>12. Prestige associated with the job</td>
<td>4.07</td>
<td>1.39</td>
<td>219</td>
</tr>
</tbody>
</table>

Scale: 1=not important at all, 2=very unimportant, 3=unimportant, 4=important, 5=very important, 6=absolutely important

Table 3
Level of Influence of Reasons for Enrolling in the Present Tertiary Institution

<table>
<thead>
<tr>
<th>Reasons</th>
<th>Mean</th>
<th>S.D.</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Subjects taken in high school</td>
<td>4.53</td>
<td>1.37</td>
<td>222</td>
</tr>
<tr>
<td>2. Grades in high school</td>
<td>4.43</td>
<td>1.53</td>
<td>220</td>
</tr>
<tr>
<td>3. Advice by a professional in the desired field</td>
<td>4.12</td>
<td>1.64</td>
<td>219</td>
</tr>
<tr>
<td>4. Advice by a career guidance counsellor</td>
<td>4.11</td>
<td>1.57</td>
<td>223</td>
</tr>
<tr>
<td>5. Reputation of the target department</td>
<td>3.90</td>
<td>1.45</td>
<td>215</td>
</tr>
<tr>
<td>6. Reading information about the college</td>
<td>3.76</td>
<td>1.51</td>
<td>222</td>
</tr>
<tr>
<td>7. Parent(s) wish or advice</td>
<td>3.71</td>
<td>1.77</td>
<td>221</td>
</tr>
<tr>
<td>8. Reputation of the college</td>
<td>3.70</td>
<td>1.50</td>
<td>210</td>
</tr>
<tr>
<td>9. Advice by students in the program</td>
<td>3.70</td>
<td>1.50</td>
<td>223</td>
</tr>
<tr>
<td>10. Hearing announcement about the college</td>
<td>3.66</td>
<td>1.62</td>
<td>219</td>
</tr>
<tr>
<td>11. Advice by college educator</td>
<td>3.51</td>
<td>1.66</td>
<td>220</td>
</tr>
<tr>
<td>12. Library facilities</td>
<td>3.49</td>
<td>1.80</td>
<td>217</td>
</tr>
<tr>
<td>13. Advice by an agriculture teacher</td>
<td>3.47</td>
<td>1.75</td>
<td>219</td>
</tr>
<tr>
<td>14. Advice by college administrator</td>
<td>3.46</td>
<td>1.65</td>
<td>217</td>
</tr>
<tr>
<td>15. Advice by relative(s)</td>
<td>3.39</td>
<td>1.56</td>
<td>224</td>
</tr>
<tr>
<td>16. Advice by close friends</td>
<td>3.39</td>
<td>1.47</td>
<td>219</td>
</tr>
<tr>
<td>17. Access to religious activities</td>
<td>3.24</td>
<td>1.63</td>
<td>222</td>
</tr>
<tr>
<td>18. Advice by non-agriculture teacher</td>
<td>3.18</td>
<td>1.58</td>
<td>219</td>
</tr>
<tr>
<td>19. Appearance of the campus</td>
<td>2.82</td>
<td>1.69</td>
<td>225</td>
</tr>
<tr>
<td>20. Sports facilities</td>
<td>2.81</td>
<td>1.61</td>
<td>225</td>
</tr>
<tr>
<td>21. Campus is next to town</td>
<td>2.60</td>
<td>1.54</td>
<td>219</td>
</tr>
<tr>
<td>22. Campus is next to home</td>
<td>2.44</td>
<td>1.52</td>
<td>222</td>
</tr>
</tbody>
</table>

Scale: 1=not influential at all; 2=very uninfluential; 3=uninfluential; 4=influential; 5=very influential; 6=absolutely influential
Subjects taken in high school was the most influential reason for enrolling in a tertiary institution. Subjects taken in high school, grades in high school, and advice by a professional in the desired field or a career guidance counselor were the top three reasons categorized as influential. In contrast, advice by friends and relatives other than one's parents, advice by agriculture/non-agriculture teacher or the college administrator were not deemed to be influential. The reputation of the college and the target department were also cited as influential reasons for enrolling. But selected features of the campus, such as appearance, sports and library facilities, and proximity to a town or one's home were not influential.

**Conclusions and Implications**

Positive and moderate to strong attitudes of respondents toward selected aspects of senior secondary agriculture were associated with better parents' occupations and high number of hectares of family land; increased maturity when the student decided to attend present college; exposure to recruitment to present college; practice of agriculture in everyday living; high number of youth organizations joined; residence in a rural area.

Senior secondary agricultural education does not seem to have positively impressed students of lower economic status. However, this should be interpreted with caution as students residing in rural areas also tended to possess a positive image of how the public and media portrayed agriculture, students and individuals in agriculture. Inconsistent messages might be due to motivation of poorer students not to be tied to the low status accorded to agriculture (Dlamini, 1986).

A career guidance component within the senior agricultural education curriculum can be incorporated at the senior secondary level. This study showed that positive attitudes were associated with exposure to recruitment by colleges. The Department of Agricultural Education and Extension in the College of Agriculture in the University of Swaziland can enhance efforts to recruit potential agricultural education professionals while they are at the senior secondary level. In addition, a youth organization component can be incorporated early within the senior secondary agricultural education curriculum which can serve as a tool to enhance positive attitudes among graduates.

In the present study, the four most important reasons for taking up the program of study were supported by the existing literature. They were opportunities for further training (Sube, 1981); prospect for employment (Reynolds, 1977); higher income (Koch, 1972); and service to humanity (Bentley & Rossmann, 1966). These and other important reasons for students' choices in pursuing a program of study are mainly professional and financial in nature. An opportunity to further one's training is an important motive to pursue a program of study. Employers need to be continually encouraged to provide such opportunities and support to their employees who can directly influence the employers' output. An attractive salary appeared to be one of the most important reasons for pursuing a program of study. If agricultural careers can be made more attractive by offering competitive packages, potential professionals might take agricultural careers as one of the better options.

The five reasons reported by students as most influential in their choice of the tertiary institution in which to enroll were supported by the existing literature. They were subjects taken in high school (Gilmour, 1981); grades in high school (Richards, 1970); advice by a professional in the desired field (Dlamini, 1983); advice by a guidance counselor (Gilmour, 1981); and reputation of the target department (Graham, 1990). These and other reasons influencing enrollment in the tertiary institution are mainly related to the senior secondary curriculum and academic achievement. Professionals in tertiary institutions and career counselors have had a positive influence in students' choice of the tertiary institution. The reputation of departments in institutions was also considered to be important by prospective students. Advice by parents, students in the programs and college educators were also regarded as influential.
Senior secondary students must be tracked in such a way that the combination of subjects taught will be useful to gain entry in the desired institution. These students must be advised of the required academic level for the different institutions as they enter the senior secondary level so that they can set their academic goals in a timely manner.

Tertiary professionals and career counselors are looked up to by beginning college students. The functions of these individuals must be enhanced for better career counseling among prospective college students.

There is nothing that speaks better for a tertiary program than departments that offer the program. The image of the Department of Agricultural Education and Extension in the College of Agriculture in the University of Swaziland must be maintained at a high level to attract prospective students and instill pride among graduates.

Parents, students in tertiary programs and college educators carry with them the trust of prospective students who enroll in a tertiary institution. These are the individuals upon whom the tertiary institutions should create a positive impression if they would like to sell their institutions.

References


Dlamini, B. M. (1983). Factors influencing high school graduates in Swaziland to become agriculture and home economics teachers. Summary of Research, College of Agriculture, University of Swaziland, Luyengo.


