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Attracting Youth to Agriculture: The Career Interests of Young Farmers Club Members in Uganda

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Abstract

This embedded, quantitative case study included 102 participants who were members of Young Farmers Clubs (YFCs) from two secondary schools in eastern Uganda. The study's multifold purpose was to describe YFC members' personal characteristics and their reasons for joining the clubs. In addition, the study sought to determine the career interests/aspirations of the YFC members and factors influencing their decisions about career choices. Cross-sectional survey methodology was used to collect data. The findings showed a high number of members were interested in pursuing careers related to science. Students mainly joined the clubs to improve their academic performance, for personal interests, and to gain life skills. Intrinsic factors were the main influencers of career choice. Club activities had less influence on the members' career aspirations. The results point to a need for teachers, guidance counselors, and parents to consider students' interests and abilities when guiding them about career choices. Advisors should provide meaningful learning experiences for club members to explore their career interests and aptitudes. Future studies should assess the impact of childhood experiences on stimulating the career interests of adolescents, especially in developing countries.

Keywords: agricultural clubs; career choices/aspirations; human capital; secondary education

Attracting youth to and retaining them in the agriculture sector remains a global challenge. Many developing countries, such as Uganda, are faced with the challenge of ensuring food security for their growing populations amidst a decline in youth engagement in agriculture (Ahaibwe, Mbowa, & Lwanga, 2013; Mukembo, 2013). Although the employment opportunities available in the sector continue to increase for graduates in agriculture, in many countries, too few youth have embraced food production as a career field (Food and Agriculture Organization, Technical Centre for Agricultural and Rural Cooperation, & International Fund for Agricultural Development, 2014; Kruijssen, 2009; Russell, 1993).

In the past, agricultural education in the United States provided vocational training mainly for students who wanted to become agricultural producers or intended to pursue a career in the off-farm agricultural industry after high school graduation (Talbert, Vaughn, Croom, & Lee, 2007). In contemporary times, agricultural educators also prepare students for careers in "science, business, and government" (Talbert et al., 2007, p. 61). However, many students,

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guidance counselors, and parents remain unaware of the vast career opportunities available in agriculture beyond the farm gate (Fursdon, 2013; Mallory & Sommer, 1986; Smith & Baggett, 2012). Agriculture teachers, together with school guidance counselors, need to make students aware of the variety of career opportunities connected to the agriculture sector (Jackson & Williams, 2003) and the preparation required to pursue those careers.

Agricultural education in the United States provides a wide range of experiences to students outside of the classroom. This is achieved through 4-H, the non-formal arm of the U.S. agricultural education model for youth development (4-H Organization, 2013), and FFA, the leadership development component of secondary agricultural education which constitutes the formal or in-school part of the system (The National FFA Organization, 2013). The evolution of agricultural clubs and organizations worldwide is based, to some extent, on the success and impact of FFA and 4-H organizations on U.S. agriculture and youth development (Connors, 2013; Lindley, 1993; National 4-H History Preservation Program, 2013). Many of these clubs, which evolved from the FFA and 4-H models, have various names, such as Young Farmers Club (YFC), Agriculture Club, or Youth in Agriculture Club. However, they are guided by a similar objective: youth development through agricultural education, including supervised agricultural experiences, developing skills in agricultural production, and acquiring general life skills (Adebo, 2009; National Federation of Young Farmers' Clubs, 2013). Clubs provide students with opportunities to explore career interests, learn team work and cooperation, and also improve their scientific reasoning (Gerber, Cavallo, & Marek, 2001; Johnston, 1952; Kruijssen, 2009). In east Africa, Uganda and Kenya have YFCs. In Kenya, YFCs are a component of its formal education system via the secondary schools' agriculture curricula and programs; the clubs provide hands-on experiences to reinforce what is taught in the classroom (Vandenbosch, 2006).

Experiences acquired during the formative period of an individual's life leave their mark on personal efficacy, which may set the future direction of a person's life course by affecting the choices made and the achievements attained (Bandura, 1986). The perceived efficacy and academic orientations of youth determine their decisions to pursue different types of careers and also determine which careers they may avoid (Bandura, Barbaranelli, Caprara, & Pastorelli, 2001). However, increased understanding is needed about the role played by youth organizations in fomenting the career interests of youth in developing countries, including their pursuit of post-secondary education in the agricultural disciplines and related careers. This study sought to describe the perceptions of YFC members at two schools in eastern Uganda to understand the impact of club participation on their career interests, especially in regard to preparing for and entering the agriculture sector.

This study was guided mainly by human capital theory (HCT). "[H]uman capital [HC] refers to [all] the acquired skills, knowledge, and abilities of human beings" (Hornbeck & Salamon, 1991, p. 3), as attained through education and training for the support of their productive potential (Hartog & Van den Brick, 2007; Hornbeck & Salamon, 1991; McFadyen, 2006). In addition, integrating the theory of planned behavior, as espoused by Ajzen (1987, 1991), and factors which influence career choice (Hackett & Betz, 1981; Lent, Brown, & Hackett, 1994, 2002; Margolis, Plug, Simonnet, & Vilhuber, 2004; Tang, Pan, & Newmeyer, 2008) broadens our understanding of the synergy between HCT and career choice. HCT encompasses the knowledge and skills people acquire through education and training as a result of deliberate investments by society and individuals, which yields returns to both (Nafukho, Hairston, & Brooks, 2004). HCT posits education and training as powerful individual and social levers that benefit a nation's economy (Becker, 1993, 1994; Ben-Porath, 1967; Fitzsimons, 1999; McFadyen, 2006; Mincer, 1981; Olanyiyan & Okemakinde, 2008; Schultz, 1972; Van der Merwe, 2010; Zula & Chermack, 2007); see Figure 1.

Therefore, because HC is grounded on education and training as well as the individual's abilities and experiences, a relationship exists between investment in HC through education and career choice. Key traits comprising the HC acquired by an individual, i.e., the person's accumulated skills, knowledge, abilities, and experiences, influence career choice (Margolis et al., 2004); see Figure 1.

Conceptual Model

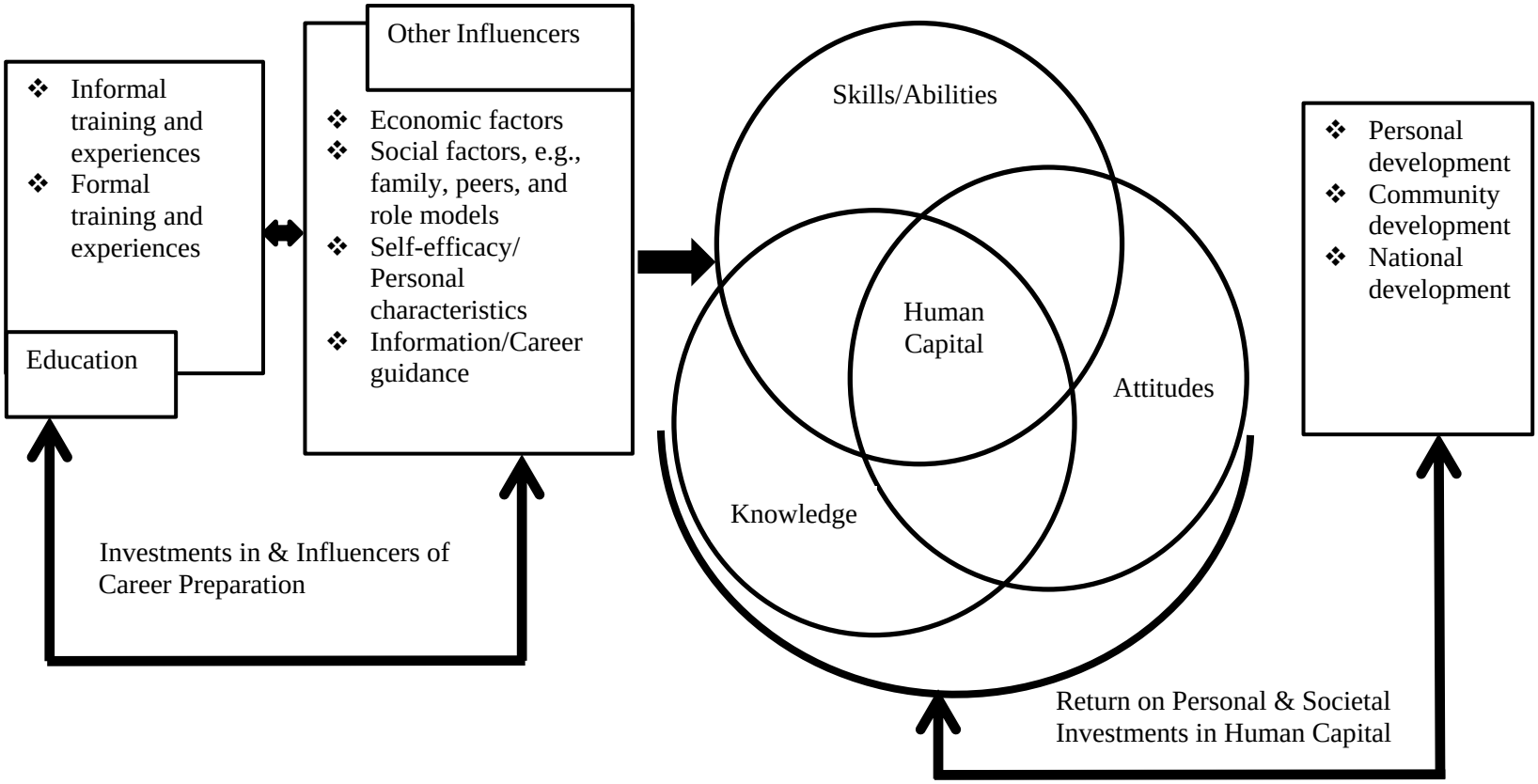

Figure 1. The relationship between education, career choice, human capital theory, and return on investment. Adapted with permission from "The views of young farmers clubs members on their clubs' activities, their career interests, and their intentions to pursue agriculture-related career preparation at the post-secondary level: An embedded case study of two secondary schools in eastern Uganda," by Mukembo, S. C., 2013, master's thesis, p. 61.

Purpose and Objectives of the Study

The study's multifold purpose was to describe YFC members' personal characteristics and their reasons for joining the clubs. In addition, the study sought to determine the career interests/aspirations of the YFC members and factors influencing their decisions about career choices. Four objectives guided the study: (a) describe select personal characteristics of the YFC members; (b) describe students' reasons for joining their YFCs; (c) determine the career interests/aspirations of the YFC members; and (d) determine factors that influenced the career interests/aspirations of the YFC members.

Research Design and Methods

The study followed a single case (embedded) design (Yin, 2009). An embedded case study design can serve as a useful device for focusing a case study inquiry, and the subunits embedded often add significant opportunities for extensive analysis, thus enhancing the insights gained (Yin, 2009). One-hundred and two members of YFCs from two secondary boarding schools in eastern Uganda were selected purposefully (Creswell, 2012; Gay, Mills, & Airasian, 2009) to be surveyed. These were the only schools found to have active YFCs in eastern Uganda at the time of the study during February of 2013. The study also used cross-sectional survey methodology (Creswell, 2012; Gay et al., 2009).

Yin (2009) posited that, similar to single experiments, the findings derived from cases should not be generalized beyond the sample(s) providing the data; however, they may be generalized to theoretical propositions. Similarly, Stake (1995) asserted that the real business of a case study is particularization *not* generalization. "We take a particular case and come to know it well, not primarily as to how it is different from others but what it is, what it does" (Stake, 1995, p. 8). In this quantitative case study, the researchers sought to determine the perceptions of club members regarding their career interests/aspirations and factors influencing career choice(s) and related preparation experiences, including relevance to the agriculture sector, as well as the students' reasons for joining YFCs.

The development of the survey questionnaire was done by the researchers and a panel of experts from the Department of Agricultural Education, Communications, and Leadership at Oklahoma State University, including three faculty members. The questionnaire was reviewed by the panelists and three agriculture teachers in Uganda for content and face validity. Minor revisions, as suggested by the reviewers, were made. A field test was conducted to determine if the subjects were capable of completing the survey instrument and understood the questions (Creswell, 2012; Gay et al., 2009). Slight adjustments were made to the final instrument based on results of the field test (Creswell, 2012).

Several different question formats were used, including open-ended questions, closed-ended questions, and semi-closed ended questions (Creswell, 2012). The students were asked to respond to items measuring their attitudes using categorical and ordinal scales. The response scales were used to measure participants' attitudes or preferences (Gay et al., 2009). According to Gay et al. (2009), attitude scales "measure what an individual believes, perceives, or feels about self, others, activities, institutions, or situations" (p. 150). In regard to the questionnaire's ordinal scales, only frequencies and percentages were calculated, i.e., no summation of mean scores or other tests of central tendency were done. Therefore, no test of internal consistency, such as Cronbach's alpha, was appropriate. By design, this study was intended to describe the particular *case* of the schools investigated; therefore, caution should be exercised if generalizing its findings to other settings. The data were analyzed using the Statistical Package for the Social Sciences (SPSS) version 21. The responses were coded and hand-entered into a SPSS data file. Descriptive statistics were used for data analysis.

Findings and Results

Objective #1

The findings indicated that almost equal numbers of males (49.0%) and females (51.0%) participated in the study. Students' ages ranged from 13 to 19 years with a majority (73.4%) being 16 to 18 years of age; 21.6% were 13 to 15 years of age, and 2.0% indicated they were 19 years or older. Most students were in the senior four class (54.6%), i.e., grade 10, followed by senior six or grade 12 with 21.6%; senior three or grade 9 was third with 18.6%, and senior two, grade 8, had the fewest number of participants (4.9%) in the clubs. Senior one (grade 7) and senior five (grade 11) students were not reported because, at the time of the study, those students had not returned to school from their vacation/holiday periods. (*Note.* Senior means Senior Secondary in Uganda's education system. Grade levels at a senior secondary school in Uganda include what would be grades 7 to 12 in the U.S. education system.)

Objective #2

A large majority of the students *agreed or strongly agreed* that the main reason for joining the YFCs was to improve their academic performance (90.2%) (see Table 1). Personal interest held second place with 86.3%, and gaining life skills, such as leadership, communication, and team work, followed closely in third place with 82.3%. More than two-thirds (67.7%) either *disagreed* or *strongly disagreed* that they joined their clubs to make money (see Table 1), and more than three-fourths (76.6%) *disagreed* or *strongly disagreed* that it was a school requirement for them to join their clubs (see Table 1). A few of the students (4.9%) indicated *other* factors influenced them to join the YFCs (see Table 1).

Table 1

Students' Reasons for Joining the Young Farmers Clubs

Rank*	Reasons	Strongly agree/Agree		Neutral/ Undecided		Strongly disagree/ Disagree		No response	
		f	%	*f*	%	*f*	%	*f*	%
1	To improve my academic performance	92	90.2	5	4.9	3	3.0	2	2.0
2	Because of personal interest	88	86.3	6	5.9	6	5.9	2	2.0
3	To gain life skills	84	82.3	6	5.9	11	10.8	1	1.0
4	Because it is in line with my career aspirations/goals	79	77.4	12	11.8	11	10.8	0	0.0
5	To socialize and make new friends	63	62.3	17	16.7	18	17.7	4	3.9
6	Study trips/attend agric. show	62	60.8	14	13.7	21	20.5	5	4.9
7	To make money from club activities	20	19.6	10	9.8	69	67.7	3	2.9
8	Because it was a school requirement	11	10.8	9	8.8	78	76.6	3	2.9
9	Because of other factors	5	4.9	0	0.0	0	0.0	0	0.0

Note. *Ranking was based on summation of the percentages of *strongly agree* and *agree* responses.

Objective #3

As indicated in Table 2, slightly more than one-half of the members of YFCs (males and females combined) were interested in pursuing a career in human medicine/nursing/pharmacist (52.9%) as their overall first choice; however the rankings differed by sex. This choice was ranked third (42.0%) by the males, but for the females it was ranked first by 63.5% (see Table 2). The members (36.3%) indicated veterinary medicine as their second choice overall but a difference existed between the sexes (see Table 2). Males indicated veterinary medicine as their first career choice (46.0%) compared to females who ranked the choice third with 26.9% (see Table 2). Agricultural engineering was selected as the third overall career choice of interest by the members of the YFCs with 32.4%, although differences were exhibited between the sexes. Twice as many males (44.0%) as females (21.2%) indicated agricultural engineering with this career choice ranking second for males but the choice tied for fifth among the females (see Table 2). In the case of females, this choice tied with agricultural economist, and chemist and material

scientist. Ranked fourth overall was electrical engineering with 24.5% of the students indicating it as one of their higher career choices. Almost equal numbers of each sex indicated it as one of their top career choices, i.e., 25.0% of the females and 24.0% of the males ranked electrical engineering fourth and tied for sixth, respectively, among their higher choices. In the case of male club members, this choice tied with the selection of forestry as a career interest (see Table 2).

The career of agricultural economist tied with finance/banking/accountant at fifth overall with 23.5% choosing it (see Table 2). However, by sex, a few more males (26.0%) than females (21.2%) indicated agricultural economist as one of their top career choices; it was ranked as the fourth and fifth highest career choice, respectively (see Table 2). In the case of both sexes, however, the choice was tied with another selection (see Table 2). Further, regarding the choice of finance/banking/accounting, the number of females who indicated this selection as one of their top career choices was five times that of the males, i.e., 20 to 4; it was ranked second for the females but only nineteenth by the males and tied with another choice (see Table 2).

Table 2

Career Interests/Aspirations of the Young Farmers Club Members[a]

Career Interests/ Aspirations	Males			Females			Overall Responses Combined (Males & Females)		
	f	%	Rank	*f*	%	Rank	*f*	%	Rank
Human medicine/ Nursing/Pharmacist	21	42.0	3	33	63.5	1	54	52.9	1
Veterinary medicine	23	46.0	1	14	26.9	3	37	36.3	2
Agric. engr.	22	44.0	2	11	21.2	5[t]	33	32.4	3
Electrical engr.	12	24.0	6[t]	13	25.0	4	25	24.5	4
Agric. economist	13	26.0	4[t]	11	21.2	5[t]	24	23.5	5[t]
Finance/Banking/Acct.	4	8.0	19[t]	20	38.5	2	24	23.5	5[t]
Chemist & Material Scientist	11	22.0	8[t]	11	21.2	5[t]	22	21.6	7
Environmental conserv./Wildlife mgt.	13	26.0	4[t]	8	15.4	13[t]	21	20.6	8
Agribusiness	8	16.0	11[t]	10	19.2	8[t]	18	17.6	9[t]
Mechanical engr.	8	16.0	11[t]	10	19.2	8[t]	18	17.6	9[t]
Lawyer/Related legal professions	9	18.0	10	8	15.4	13[t]	17	16.7	11
Dairy/Animal produc.	11	22.0	8[t]	5	9.6	19	16	15.7	12

Career Interests/ Aspirations	Males			Females			Overall Responses Combined (Males & Females)		
	f	%	Rank	*f*	%	Rank	*f*	%	Rank
Crop produc.	5	10.0	18	10	19.2	8[t]	15	14.7	13
Computing/ Information techno.	6	12.0	15[t]	8	15.4	13[t]	14	13.7	14[t]
Forestry	12	24.0	6[t]	2	3.8	23	14	13.7	14[t]
Agric. Extension	7	14.0	14	6	11.5	18	13	12.7	16
Agriculture (farming)	8	16.0	11[t]	4	7.7	20[t]	12	11.8	17[t]
Marketing/Business	2	4.0	22	10	19.2	8[t]	12	11.8	17[t]
Dietician/Nutrition & dietetics	1	2.0	23	10	19.2	8[t]	11	10.8	19[t]
Education/Teaching	4	8.0	19[t]	7	13.5	17	11	10.8	19[t]
Food processing	3	6.0	21	8	15.4	13[t]	11	10.8	19[t]
Animal breeder	6	12.0	15[t]	4	7.7	20[t]	10	9.8	22[t]
Media/Journalism	6	12.0	15[t]	4	7.7	20[t]	10	9.8	22[t]

Note. [a]The 23 highest ranking interests/aspirations are displayed, including tied ranks. About 10% or more of the members indicated these career interests/aspirations as one of their top five choices. [t] = tied.

Objective #4

Most of the students (94.1%) *agreed* or *strongly agreed* that perceptions of ability to succeed in a given career was the most important factor influencing their career aspirations; this was followed closely by personal goals (93.1%) (see Table 3). In addition, the desire or "love" held for the career was ranked third with 91.2% of the club members agreeing or strongly agreeing this factor influenced their aspirations (see Table 3). Other factors influencing students' career aspirations included exposure to or awareness and information about the career (85.3%) and education in school (80.4%); other people's experiences and availability of career advancement opportunities tied with 75.5% (see Table 3). Further, perceptions of financial benefits associated with the career received 75.4% *agree* or *strongly agree* responses, and 71.6% of the students *agreed* or *strongly agreed* that their parents or family had an influence on their aspirations (see Table 3). The lowest ranked factors influencing the members' career aspirations were childhood experiences while growing up (56.8%), training outside of school (53.9%), peers/friends which tied with teachers at 42.2%, and prestige/social status (37.2%). Ranked last of all the factors were co-curricular activities with only 36.2% of the club members having indicated either *agree* or *strongly agree* (see Table 3).

Table 3

Factors Influencing the Career Interests/Aspirations of the Young Farmers Clubs Members

Rank[a]	Factor	Strongly agree/Agree		Neutral/ Undecided		Strongly disagree/ Disagree		No response	
		f	*%*	*f*	*%*	*f*	*%*	*f*	*%*
1	My ability to succeed in the career	96	94.1	2	2.0	3	3.0	1	1.0
2	Personal goals	95	93.1	1	1.0	2	2.0	4	3.9
3	My desire/"Love" for the career	93	91.2	3	2.9	3	2.9	3	3.9
4	Exposure/Awareness and inform. about the career	87	85.3	6	5.9	7	6.9	2	2.0
5	Education in school	82	80.4	7	6.9	8	7.8	5	4.9
6[b]	Other people's exper. in the career (role models)	77	75.5	14	13.7	11	10.8	0	0.0
6[b]	Availability of advanc. opportunities	77	75.5	12	11.8	11	10.8	2	2.0
8	Financial benefits	77	75.4	7	6.9	12	11.7	6	5.9
9	Parents/Family	73	71.6	13	12.7	14	11.7	2	2.0
10	Childhood experiences while growing up	58	56.8	20	19.6	21	20.6	3	2.9
11	Training outside school	55	53.9	20	19.6	22	21.5	5	4.9
12[b]	Peers/Friends	43	42.2	18	17.6	37	36.3	4	3.9
12[b]	Teachers	43	42.2	22	21.4	28	27.4	9	8.8
14	Prestige/Social	38	37.2	14	13.7	47	45.9	3	2.9

Rank[a]	Factor	Strongly agree/Agree		Neutral/ Undecided		Strongly disagree/ Disagree		No response	
		f	%	*f*	%	*f*	%	*f*	%
	status								
15	Co-curricular activities	37	36.2	27	26.5	37	36.3	1	1.0

Note. [a]Ranking was based on summation of the percentages of the *strongly* agree and *agree* responses. [b]Sum of percentages of the *strongly agree* and *agree* responses combined were tied.

Conclusions and Implications

The findings showed an almost equal number of females and males participated in the YFCs studied. Students ages ranged from 13 to 19 years and most were either in the senior four (54.6%) or senior six (21.6%) grades. The main reason students joined the YFCs was to improve their academic performance (90.2%) (see Table 1). This was followed by personal interest (86.3%) and gaining life skills (82.3%) (see Table 1). These findings implied that students who joined the YFCs saw membership as an opportunity to learn and thus improve their academic performance. In addition, the students perceived the clubs' activities were opportunities to learn life skills. In most instances, club membership was voluntary (see Table 1).

Most of the findings about students' reasons for club membership resonated with several previous studies such as Gruber and Beatty (1954) who indicated one of the characteristics of a good club is that "the club should appeal to the interest of its members" (p. 140). Moreover, students who participated in school clubs were reported to have improved in their academic achievement (Alfeld et al., 2007; Barber & Eccles, 1999; Gerber, 1996; Shumow, 2003). Further, Shumow (2003) and Johnston (1952) concluded clubs encouraged the acquisition of life skills, including leadership, community service, honesty, strong work ethic, and healthy lifestyles, among their members. This study's findings support those researchers' conclusions. The findings were also congruent with Kruijssen's (2009) assertions that clubs helped students make new friends and learn how to relate with one another, and club membership should be voluntary, interesting, and worthwhile from the student's point of view.

Four of the top five careers of interest overall for members of the YFCs were human medicine/nursing/pharmacist (52.9%) followed by veterinary medicine (36.3%), agricultural engineering (32.4%), and electrical engineering (24.5%) (see Table 2). Further, two careers tied for fifth place with 23.5% each: agricultural economist and finance/banking/accountant (see Table 2). In general, members of the clubs were interested in pursuing careers related to science (see Table 2). Of note, three of the highest ranked choices involve the agriculture sector. Female club members had more interest in careers related to human medicine than did the males who indicated more preference for veterinary medicine. However, relatively small differences were exhibited in career aspirations between the sexes (see Table 2).

The finding about female club members' interests in medical-related fields is similar to Welsh's (1983) results. Welsh (1983) conducted a study on the characteristics and career choices of adolescent girls and reported most of the girls were interested in "health and medical career[s]" (p. 3). Welsh (1983) elaborated that, although career aspirations of women were not fundamentally different from men, the choice of a career for women was "vastly more complex" (p. 2) because of the socialization process they experience. In addition, some of this study's results support the findings of a similar inquiry conducted by Apantaku (2004) in Nigeria, which assessed the career interests of senior secondary agricultural science students. Apantaku (2004)

reported that most of his study's participants indicated a strong preference for careers in medicine and little preference for careers in catering or in the armed/police forces.

The top three factors that influenced the career interests/aspirations of the club members were perceptions of their ability to succeed in a given career, followed by personal goals, and their desire or "love" for a career. All of these factors achieved the level of *agree* or *strongly agree* by more than 90% of the YFC members (see Table 3). The club members agreed less, however, on the influence of childhood experiences, training outside of school, peer/friends, teachers, perceptions of prestige or social status associated with the career, and participation in co-curricular activities (see Table 3). These findings imply that the club members were more influenced by intrinsic factors regarding their career aspirations, which supports Bandura's (1986) and Bandura et al. (2001) theory of self-efficacy (see Figure 1). Self-efficacy influences interests and outcome expectations which, in turn, influence an individual's career choice (Tang et al., 2008). Further, the expression of a positive attitude toward a career and intent to pursue it is supported by the theory of planned behavior (Ajzen, 1991; Ajzen & Madden, 1986).

In the case of childhood experiences, more than one-half (56.8%; see Table 3) of the club members indicated it was a factor influencing their career aspirations. These findings provided some support for previous studies that postulated childhood experiences were a major influence on individuals' career interests (Pines & Yanai, 1999). Co-curricular activities experienced by the members had the least influence on their career aspirations (36.2%; see Table 3). These findings contradicted Johnston (1952), as well as Alfeld et al. (2007). For example, Alfeld et al. (2007) reported that participation in career and technical student organizations lead to an increase in students' "career self-efficacy and employability skills" (p. 29). However, the findings of this study imply the students may not have perceived or made an association between their clubs' activities and preparation for careers, even in regard to agricultural careers. Or, rather, it may mean no or very few club experiences were offered to which students could make connections to careers and preparatory opportunities.

Recommendations for Practice and Additional Research

Findings of this study showed the club members' career aspirations were more influenced by intrinsic factors than extrinsic. Therefore, career guidance counselors, teachers, parents, and other stakeholders should consider the personal interests and abilities of students when guiding them about career choices. In support, Leung (2008) and Super (1980) asserted adolescents are at a stage when they are starting to develop attitudes toward work, make career-related choices, and acquire job-related skills.

The patrons (advisors) of YFCs in Uganda, and other school clubs, should provide meaningful learning experiences for their members to enable them to explore and discover career interests and related abilities. These learning experiences may lead to improved personal self-efficacy which, in turn, impacts an individual's career aspirations (Bandura, 1986; Bandura et al., 2001; Hirschi, 2010; Tang et al., 2008; see Figure 1). In addition, the clubs' advisors should develop and incorporate appropriate activities and experiences in their clubs that would enable members to acquire life skills, such as leadership, public speaking, writing, teamwork, and conflict resolution (Alfeld et al., 2007; Gruber & Beatty, 1954; Johnston, 1952; Shumow, 2003). This could be done through competitions for report and speech writing, ensuring that all members participate in leadership positions within or outside of their clubs, as well as intra- and inter-club contests. In addition, the Ministry of Education and Sports in Uganda should encourage more schools to establish YFCs because they could be venues where students improve on and develop further in these areas while exploring their career interests (Alfeld et al., 2007; Gruber & Beatty, 1954; Johnston, 1952; Leung, 2008; Shumow, 2003; Super, 1980). This could be facilitated by developing policies that encourage more student participation in co-curricular activities in

Uganda's schools. Mincer (1981) posited that formal and informal learning experiences at school and at home help to develop human capital (see Figure 1).

Similar studies should be conducted with other student organizations and clubs in Uganda and other parts of Sub-Saharan Africa to determine the impact of these groups on the career aspirations of their members. The groups could be nonformal youth organizations such as 4-H clubs, as found around the world (National 4-H History Preservation Program, 2013), or formal, in-school organizations similar to FFA in the United States (Connors, 2013; Lindley, 1993). In addition, longitudinal studies should be conducted to follow-up on students involved in intra-, co-, and extra-curricular activities, such as school clubs and organizations, to determine their *actual* career preparation and the careers they entered. A mixed-methods approach (Creswell, 2012) may be useful, e.g., survey questionnaires as well as personal and focus group interviews, to triangulate the phenomenon and understand better the students' career interests and reasons for club participation.

More studies should be done to assess how much impact childhood experiences have in stimulating the career interests of adolescents, especially in developing countries such as Uganda. Most of the related studies occurred in developed countries, e.g., Alfeld et al. (2007); Hartung, Porfeli, and Vondracek (2005); Pines and Yanai (1999); and, Schroder, Rodermund, and Arnaud (2011). This may provide more meaningful insight on childhood experiences as a factor influencing individuals' career aspirations, especially those supporting students' interests in pursuing agricultural careers. Researchers should also examine teachers' attitudes and perceptions regarding the use of club activities to facilitate the teaching and learning process, including the impact these activities have on students' learning and achievement in science (Gerber et al., 2001) and in agriculture (Edwards, Leising, & Parr, 2003). Further, a need exists to conduct more research on why students had less interest in careers related to agricultural extension, agriculture (i.e., farming), food processing, and animal breeder. These choices were ranked among the least preferred careers but are essential to Uganda's agriculture sector and that of many other developing countries.

Discussion

The students indicated the YFCs had little influence on their career aspirations but according to other researchers (Alfeld et al., 2007; Baird, 1982; Gruber & Beatty, 1954; Welsh, 1983) co-curricular activities, including school clubs, provide experiences that impact students' career aspirations. Could it have been students in this study failed to associate club activities with their career aspirations or rather was it because the clubs were not providing the kinds of learning experiences likely to stimulate the students' aspirations? Further, most of the club members were interested in careers related to human medicine/nursing/pharmacist, agricultural engineering, veterinary medicine, or other science-based careers. Therefore, could YFCs in Uganda and elsewhere be used to augment students' learning scientific laws, concepts, and principles given that agricultural practices involve numerous real-world applications of the life and physical sciences? Other researchers (Duncan, Ricketts, & Shultz, 2011; Edwards et al., 2003; Gerber et al., 2001; Ramsey & Edwards, 2004) have asserted that benefit. Additional studies should explore these questions.

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