Influence of Agricultural Training on Youth Farm Entrepreneurial Self-efficacy: A Study of Folk Development Colleges in Tanzania

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Abstract
Providing entrepreneurial competencies to youth is currently the key to employment generation given the declining public sector employment opportunities in Tanzania. However, to generate such employment youth need to develop a strong belief in their capabilities to use the provided knowledge and skills, and the training provided has to reflect such intention. This further means that Folk Development Colleges (FDCs) being among the training institutions need to offer employment goal-oriented education centred equally in all domains of learning. The study aimed to address two specific objectives: First, to assess the influence of agricultural training on youth farm entrepreneurial self-efficacy. Secondly, to assess the relationship between farm entrepreneurial self-efficacy and youth farm entrepreneurial intention. A cross-sectional design was used involving 300 respondents randomly selected from three FDCs offering agricultural courses. Qualitative and quantitative data were collected and analysed by using descriptive and inferential statistics. The analyses generally show a significant relationship between agricultural courses studied and youth farm entrepreneurial self-efficacy. A significant relationship was also found between farm entrepreneurial self-efficacy and youth farm entrepreneurial intention. However, resource acquisition and operational competencies self-efficacy constructs seemed to have more influence on youth farm entrepreneurial intention compared to managerial and financial competencies self-efficacy constructs. It is recommended that course contents and the teaching environment be updated regularly according to changes in the demands of the agricultural sector industry. As it stands, the whole FDC curriculum needs a review, and urgent improvements are needed in relation to financial and managerial competencies.

Key words: Self-efficacy, youth, Folk Development Colleges, farm entrepreneurial intention, unemployment

Introduction

The effect of agricultural training on increasing productivity and income of farmers has been widely acknowledged (Aceleanu *et al*,.2015; Heanue and Donoghue, 2014). However, agricultural training has not been quick in responding to the needs of the labour market and the changing environment in this era of unprecedented youth unemployment (AGRA, 2015; Sanginga *et al*., 2015). This is because the agricultural sector seems to be neglected by agricultural graduates, despite the opportunities for youth employment in developing countries like Tanzania where there are limited formal non agriculture sector employment opportunities.

It is estimated that only about 15.5% of tertiary and higher learning graduates in Tanzania are employed in agriculture sector while only 13% of lower tertiary vocational education is employed in farming career (Takei, 2016; URT and IIEP, 2011). The competence of the graduates is among the factors that remain in question to pursue the career in the studied domain (Ndyali, 2016). This study specifically focused on assessing the influence of agricultural training on youth farm entrepreneurial self-efficacy. Self-efficacy is central in the formation of a person's intention which inturn determines whether or not he/she will choose a particular career (Hashemi *et al.,* 2012). This clearly shows that self-efficacy influences an individual intention towards a specific career and its' development. Studies conducted on entrepreneurship have associated entrepreneurial self-efficacy with the success of enterprise start-ups and growth (Imran *et al.,* 2019; Shaheen and Al-haddad,2018)

McGee *et al*. (2009) defined self-efficacy as an individual's level of confidence and belief about his/her capabilities to successfully carry out a course of action, perform a given behaviour, accomplish a given task and attain the desired performance outcome. Thus, farm entrepreneurial self-efficacy is an individual's level of confidence or belief about their ability to perform farm related behaviour. Kanten and Yesiltas (2016) pointed that entrepreneurial self-efficacy plays a key role in determining the level of interest in pursuing an entrepreneurial career. With the acknowledged relationship between entrepreneurial self-efficacy and career intention, the youth studying agricultural courses are expected to engage in farm entrepreneurship in this era of unemployment challenge since they are taught both agriculture and entrepreneurial skills. However, despite the increasing support of the association between belief in the possessed knowledge and skills and career intention, youth who are studying

agricultural courses have shown limited interest towards farm related careers. This is evidenced by Dhakre (2014), who found that 73.8% of students joined agricultural colleges so as to be employed in government institutions and only 2.5% so as to start an enterprise. Adams *et al.* (2013) found that 39.0% of self-employed Folk Development College (FDC) graduates were partly involved in farming. In addition, it is estimated that only 13.0% of lower tertiary technical college (Vocational Education and Training Authority and FDCs) graduates annually are self-employed in farming (URT and IIEP, 2011).This raises the question of the strength of behavioural beliefs or confidence youth develop based on the knowledge and skills acquired, or whether indeed such knowledge and skills do facilitate the establishment and running of farm related enterprises.

Exposure to Agricultural Education and Youth Farm Entrepreneurial Self-efficacy

In assessing this relationship, Temisan *et al.* (2016) found significant joint contributions of agricultural experiences and students' achievement to career decisions in agricultural science. Similarly, Pierce (2012) found that after having worked in a garden, youth participants perceived themselves as having more positive dietary behaviours, increased knowledge of agriculture, and leadership skills, while Ratcliffe (2007) found that the hands-on experiences in the school garden led to increased ecological knowledge, and performance of environmentally responsible behaviours, but no improvements in ecological attitudes.

Mukembo (2017) found statistically significant relationship between the training and youth perceived agri-entrepreneurship competencies but questioned that the relationship depend mainly on teaching approaches. While evaluating the long term impact of an urban farm youth internship programme, the participants reported an increased sense of responsibility, higher levels of self-confidence, and strong connections with their community (Sonti *et al*., 2016). Wang *et al*. (2015) tested the mediating effect of self-efficacy on personality trait and entrepreneurial intention and found that the mediation model of self-efficacy is partially supported by entrepreneurial intention through conviction and preparation among agricultural students.

At the same time, Quisto and David (2012) found that non-agriculture students experienced increase in self-efficacy for agricultural communications tasks and obstacles for pursuing a degree in agricultural communications while agricultural students decreased in all three

constructs. Fraze *et al*. (2011) noted that participants' pre- and post-workshop tested knowledge of agricultural facts revealed no significant differences. Similarly, Aldridge (2014) indicated that the three components model of agricultural education (number of agricultural education courses, Future Farmer of America (FFA) program participation, and level of Supervised Agricultural Experience (SAE) involvement) were not a statistically significant predictor of total self-efficacy for the participants. Fizer (2013) found that 20% chose "FFA/4-H experience" as the most important factor affecting their choice for the career path, but farming background and the size of schools did not play a role in choosing a major.

Moreover, Edziwa and Chivheya (2012) analysed the agriculture education programme in Zimbabwe and found low self-efficacy level in subject content and practical skills. McKim and Velez (2016) found that mastery experiences may not be the optimal method for initially increasing pre-service teachers' self-efficacy, but vicarious experiences and other type of efficacy is supported. Adila and Samah (2014) assessed factors affecting inclination of students towards agricultural entrepreneurship and found that the highest mean score was recorded for social value, followed by subjective norm, then behavioural attitude, then closer valuation and finally confidence in their abilities.

From the reviewed literature, the practical related agri-education approach seems to influence positively youth farm entrepreneurial self-efficacy. However, the influence seems to be determined by context since such educational programmes yielded no impact on youth farm entrepreneurial self-efficacy in some schools or colleges. Also duration spent in study and background environment of the learners influence self-efficacy (Sonti *et al.*, 2016; Fraze *et al*., 2011). Yet the findings continue to vary from positive and negative influence and sometimes to no impacts. Thus this study will further examine this relationship.

The Relationship between Self-efficacy and Youth Farm Entrepreneurial Intention

The study employed the Theory of Planned Behaviour (TPB) (Ajzen, 1991). The theory states that a person's behaviour is determined by his/her intention to perform the behaviour and that this intention is, in turn, a function of his/her attitude, subjective norm and perceived behavioural control (PBC) toward the behaviour. The first component is 'attitude' toward behaviour which is determined by the total set of accessible

behavioural beliefs linking the behaviour to various outcomes and other attributes. It represents the person's general feeling of favourableness or unfavourableness towards an object. The second component is 'subjective norm', which is the individual's perception of the social pressure to engage (or not to engage) in entrepreneurial behaviour.

The third TPB component is Perceived Behavioural Control (PBC) (Self-efficacy) which refers to individuals' perceptions of their ability to perform a given behaviour (Ajzen, 1991). Individuals usually choose to perform behaviours that they think they will be able to control and master. This concept is therefore very similar to self-efficacy and is used interchangeably (Bandura, 1982) that is employed in this study. The theory is the most applied one in the field of behavioural change. One of the weaknesses of this theory is that it assumes the behaviour as the result of linear decision making process and does not change over time.

According to the Theory of Planned Behaviour (Ajzen, 1991), self-efficacy (perceived behavioural control) is the strongest determinant of intention compared to other antecedents of intention, that is, attitude and subjective norms. Self-efficacy of an individual is determined by the control belief which in turn is a function of his or her past experiences, information and perceived opportunities. In this case, youth pursuing agricultural education may develop the self-efficacy about farm entrepreneurship through learning agricultural courses and their past experiences in farming.

However, looking at empirical findings, results by Liguori (2012) provided no support for the notion that the learning context directly or indirectly affects entrepreneurial self-efficacy or entrepreneurial intentions. Kidane (2016) found a moderately strong correlation (0.555) between entrepreneurial intention and self-efficacy compared to other personality traits, while Yanan (2015) found that personal factors such as voluntary enrolment and farm related experiences were significantly correlated with intention. Hashemi *et al.* (2012) analysis further showed positive and significant relationship between both entrepreneurial self-efficacy and college entrepreneurial orientation antecedents with entrepreneurial intention among agricultural students.

The review of the above studies reflects varied results on the relationship between agricultural training and farm entrepreneurial self-efficacy. Some have shown positive and significant relationships with mixed variation in their strength of relationship while others have shown no significant relationship (Liguori, 2012; Yanan, 2015).The cause of this variation

appeared to be attributed to sources that influence control beliefs which are largely determined by context. Thus as yet there is no clear pattern that has been established on the relationship between farm entrepreneurial self-efficacy and youth farm entrepreneurial intentions. Therefore this study will further assess the type of relationship that exists between farm entrepreneurial self-efficacy and youth farm entrepreneurial intention in the Tanzanian agricultural learning context.

The study aimed to address two specific objectives: First, to assess the influence of agricultural training on youth farm entrepreneurial self-efficacy for the selected FDCs. Secondly, to assess the relationship between farm entrepreneurial self-efficacy and youth farm entrepreneurial intention.. The colleges were chosen for the main reason that they offer agricultural training for self-employment. The specific objectives of the study were: first, to determine the relationship between the courses studied and youth farm entrepreneurial self-efficacy; and secondly, to determine the relationship between youth farm entrepreneurial self-efficacy and intention.

Methodology

The study area

Three Folk Development Colleges (FDCs) were involved in this study. These colleges were; Mamtukuna (Kilimanjaro Region), Monduli (Arusha Region) and Chisale (Dodoma Region).These FDCs were selected because one of their major objectives of training is to equip the learners with the knowledge and skills that would enable them to be self-employed and self-reliant based on their local situations. The three colleges were selected purposively because of the similarity in the nature of the agricultural courses which were blended with an entrepreneurship course.

Study design, population,sampling procedures and sample size

A cross-sectional design was employed as the data were collected from three colleges which are located in three different Regions at one point in time. The study population was all final year certificate students pursuing agricultural courses. A sample size of 300 students was developed from an estimated population of 1200 from the three colleges using the formula developed by Israel (2009):

$n = N/(1 + N(e^2))$……..……..…….. (1)

Where *n* is the sample size, *N* population size, ***e*** is the level of precision. The formula assumes that p=.05 (maximum variability). The desired confidence

level is 95% and the degree of precision/sampling error accepted is ± 5%. Therefore, $n = 1200/(1 + 1200(0.05)^2) = 300$.

Every element in the sample was selected by using simple random sampling, as this procedure considers the sampling elements to have homogenous characteristics (all are finalists and their courses were blended with entrepreneurship courses). The sample was drawn from admission record books.

3.3 Data collection

Three data collection techniques were employed. These include a questionnaire, focus group discussions and interviews. Pilot study was conducted whereby questionnaire copies were administered to 12 respondents, equivalent to 4 per cent of a sample size. Few unfamiliar terms were noted, which include ascertain (changed to "identify") shown in item 15, oversee (changed to "supervise") shown in item 18 and stir (changed to "inspire") shown in item 20; all these changes is reflected in table 2. While 300 questionnaire copies were administered, properly filled questionnaires copies were 294 (98%). Six focus groups each consisting of seven students were formed through nomination strategy. Also six college staff (two staff per college) and two Ministry Health, Community Development, Gender, Elderly and Children officials were purposively selected based on their experience and roles for Key Informant interviews.

Data processing and analysis

Quantitative data for both objective one and two of this study were analysed by using descriptive and inferential statistics. Qualitative data for the same objectives were transcribed through content analysis. Specifically, respondents' socio-demographic characteristics and existence of self-efficacy were analysed by using frequencies and percentages. The differences in self-efficacy across sex and program studied were analysed by Kruskal-Wallis non parametric test. In further analysing the first objective, factor analysis was performed for the expected learning outcome variable items and self-efficacy variable items whereby new set of factors with underline structure commonalities were identified with the respective items factor loading coefficient ranging from 0.3 and above as shown in Appendixes 3 and 6. The two identified expected learning outcomes are skills outcomes and knowledge outcomes. The six identified factors for farm entrepreneurial self-efficacy were: resource acquisition, opportunity recognition, operational, managerial, financial and communication competencies.

The relationship between the identified factors for both expected learning outcomes and self-efficacy variables were run by multiple regression as defined by Hair *et al.* (2014):

$$Y'_1 a + b_1 X_1 + b_2 X_2 \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (2)$$

where Y'_1resource acquisition competencies, a Y-intercept, $b_1$change in Y for each 1 increment change in X_1,$b_2$change Y for each 1 increment change in X_2,X_1skills outcomes and X_2knowledge outcomes. Since there were six dependent variables the same independent variables (X_1 and X_2) were regressed against Y'_2opportunity recognition competencies,Y'_3operational competencies ,Y'_4managerial competencies,Y'_5financial competencies andY'_6communication competencies using the same formula.

Similarly for objective two, factor analysis was performed for self-efficacy variable items and intention variable items. The relationship of the identified factors for both self-efficacy and intention were determined by using multiple regression defined as:

$$Y'_1 = a + b_1 X_1 + b_2 X_2 + b_3 X_3 + b_4 X_4 + b_5 X_5 + b_6 X_6 \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (3)$$

whereby Y'_1intention, aY-intercept, $b_1$change in Y for each 1 increment change in X_1,$b_2$change Y for each 1 increment change in X_2,X_1resource acquisition competencies X_2opportunity recognition competencies,X_3operational competencies,X_4managerial competencies,X_5financial competencies andX_6communication competencies.

Reliability and validity

Internal reliability of items for self-administered questionnaire was measured by Cronbanch alpha as defined by Fami (2000):$\alpha = K/K - 1 \times S_T^2 - \sum S_I^2$……..……(4)

Where α (alpha) coefficient; K the number of items; S_T^2 is the total variance of the sum of the item and the S_I^2variance of individual item. The positive alpha coefficient ranging from 0.7 to 1 was taken into consideration. Pair-wise deletion method was applied in performing the reliability analysis. To obtain the required alpha results two items in the questionnaire were deleted. The deleted item include: First, "I have ability to delegates task and responsibilities to employees in my business". Secondly, "I can use all my capacity to be a farm entrepreneur". The reliability test results measured in terms alpha coefficient for expected learning outcomes items is 0.707, for entrepreneurial intention items is 0.870 and for entrepreneurial self-efficacy items is 0.884. To ensure that the instrument covered all the components of information, content validity was determined through reviewing previous

studies in assessing the adequacy, accuracy of what it measures. The questionnaire items that measured farm entrepreneurial intention were adopted and modified and fixed to the context from work of Liñán and Chen (2006), Ajzen (1991) and Malebana (2012). The development of items on course learning outcomes was guided by the following studies: Damian and Wallace (2015), Gibb and Price (2014),Vesala and Pyysiainem (2008) and Adeyemo (2009).

Results and Discussion

Socio-demographic characteristics of respondents

The analysis of descriptive statistics shows that the mean age of the respondents is 20.6 years, the lowest age being 15 years and highest age 31 years with a standard deviation of 2.439. The average age falls within the age criterion definition of youth by United Nations (2018). It also concurs with operational definition of youth as used in this study. The distribution by sex shows that there were 11.6% more females than males as shown in Table 1.The respondents involved in the study were in two main groups. The first group included those specializing in animal husbandry and the second group involved those studying general agriculture. The second group did not specialize because they do not sit for the Vocational Education Training Authority (VETA) exams which have enrolment limitation as per Form Four National Examination results. In the analysis, the two groups were combined since they are taught using FDC and VETA curricula.

The finding is supported by the key informant's interview as explained by the Ministry Director coordinating Community Development Training Institutes and FDCs:

> *…we are currently using VETA curriculum to cope with changes in the industry and it allows our students to sit for VETA exams as our curriculum doesn't allow our students to proceed for further studies...*

Table 1: Socio-demographic characteristics of respondents

Type of variable	Sub items in the variable	Frequencies	Per cents
Sex	Male	130	44.2
	Female	164	55.8
	Total	**294**	**100**
Programme pursued	General Agriculture	73	24.8
	Animal husbandry	221	75.2
	Total	**294**	**100**

Farm entrepreneurial self-efficacy

Various entrepreneurial competencies and skills in relation to farm entrepreneurship were assessed. The competencies and skills assessed covered the two main areas; namely agriculture competencies and general entrepreneurship competencies. Also the skills and competencies were assessed according to the enterprise life-cycle stages which include searching, planning, marshalling and implementing stage (Malebana, 2012; Hanxiong, 2009).

The descriptive statistics in Table 2 show that majority of scores are aligned to fairly confident and very confident levels of measurement. This implies that youth generally perceived themselves as fairly confident and very confident in terms of farm entrepreneurial capabilities. However, the principal component factor analysis was performed and the Bartlett test of sphericity was at acceptable standards; χ^2 = 3907.900, degrees of freedom (df) = 406, p-value =.000 and Kaiser-Meyer-Olkin (KMO) = 0.921 and variance explained by 63.01% as shown in Appendix 6. Six self-efficacy factors were developed from that analysis and the ratings indicate that youth are very confident in resource acquisition competencies, opportunity recognition, and operational competencies and fairly confident in managerial, financial and communication competencies as shown by the weights of variance for each factor.

The results imply that the graduates from the selected FDCs possess both agriculture competencies and general entrepreneurship competencies. The possession of these combined knowledge and skills is an added advantage for them to pursue farm entrepreneurship career. They are in better position to modernise the existing tradition ways of production and marketing

strategies for profit generation rather than for consumption purposes. This could change the entire image of agriculture from less attraction to a paying sector.

This is further evidenced by opinions from the focus group discussions where the group members were asked to at least mention any career that they are confident to engage in immediately after graduation. The discussant responses were as follows:

> *……I will open my agro-veterinary shop; I will open and run a vegetable farm….. I will open a poultry keeping farm……*

The discussion indicates that the youth were fairly well prepared to establish their farm enterprises after graduation. The findings concur with the studies by Cooper *et al.* (2008) and Rasheed (2003), who found an increase in self-efficacy after studying entrepreneurship course.

Table 2: The perceived level of farm entrepreneurial self-efficacy of the respondents

	Farm entrepreneurial self-efficacy	F	V LC%	LC%	U%	FC%	VC%	Total
1	It is easy for me to start a farm enterprise and keep it working	294	1.4	2.7	6.8	35.4	53.7	100
2	I am prepared to start a viable farm enterprise	294	4.1	5.4	9.2	37.1	44.2	100
3	I can control the initial/start up process of new farm enterprise	294	3.1	7.1	8.5	40.8	40.5	100
4	I have necessary practical details for a new farm enterprise	294	3.1	7.5	6.5	33.7	49.3	100
5	I have ability to generate new ideas for a product or service in my farm enterprise	294	1.7	4.4	6.8	29.9	57.1	100
6	I have ability to identify a need for a new product	294	1.4	3.1	7.1	39.8	48.6	100
7	I have ability to design a	294	1.0	3.7	9.9	27.2	58.2	100

	product or service that will satisfy the customer needs and wants							
8	I have ability to estimate customer demand for a new product or service	294	1.7	4.4	10.5	39.5	43.9	100
9	I have ability to determine competitive price for a new product or service	294	0.3	4.8	8.2	35.4	51.4	100
10	I have ability to estimate a start-up funds and working capital necessary to start a farm enterprise	294	3.1	3.1	8.5	38.8	46.6	100
11	I have ability to design effective, advertising campaign for a new product or service	294	2.7	4.1	7.5	32.3	53.4	100
12	I have ability to make contact and exchange information with others	294	1.7	2.4	4.4	32.7	58.8	100
13	I have ability to clearly and concisely explain my farm enterprise idea in simple terms	294	0.7	4.1	4.8	38.8	51.7	100
14	I have ability to develop relationship with key people who are connected to sources of capital	294	0.3	5.1	7.1	35.7	51.7	100
15	I have ability to identify potential sources of funds for any farm enterprise investment	294	1.0	7.5	10.9	35.7	44.9	100
16	I have ability to train and recruit new employees	294	2.4	6.5	7.5	39.1	44.6	100
17	I have ability to supervise employees	294	1.4	1.4	5.8	32.7	58.8	100
18	I have ability to deal							

	effectively with day to day farming problems and crisis	294	2.0	2.0	6.5	39.5	50.0	100
19	I have ability to inspire, encourage and motivate my employees	294	1.0	2.7	6.8	37.4	52.0	100
20	I have ability to persist in the face of adversity	294	1.0	2.4	7.5	35.7	53.4	100
21	I have ability to make decisions under uncertainty	294	1.0	3.1	7.8	32.0	56.1	100
22	I have ability to organize and maintain financial records of my farm enterprise	294	1.0	4.1	6.5	25.5	62.9	100
23	I have ability to manage financial assets of my farm enterprise	294	1.0	3.7	6.5	29.5	58.8	100
24	I have ability to identify profit and loss of my farm enterprise	294	1.4	4.4	3.4	29.3	61.6	100
25	I have ability to identify farm appropriate inputs	294	1.4	1.7	7.8	30.3	58.8	100
26	I have ability to operate machines and apply farm inputs	294	0.7	4.1	8.2	37.8	49.3	100
27	I have ability to use new farming procedure	294	0.7	3.1	7.8	32.3	56.1	100
28	I am capable to compete and produce more or get more profit with other farm entrepreneurs	294	0.7	2.0	5.4	27.6	64.3	100

Note: F-frequency, VCL-Very little confidence, LC-little confidence-unsure, FC-Fairly confident, VC-very confident

An index was developed to determine the overall self-efficacy of the respondents which was then analysed by descriptive statistics. As shown in

Table 2 the Likert scale consists of 28 items and five response options with their respective weights reading as Very little confidence (1), Little confidence (2), Unsure (3), Fairly confident (4) and Very confident (5). With regards to respondents' responses, the total minimum score for 28 self-efficacy items was 28, the total neutral or unsure scores for 28 items was 84 and total maximum score for the 28 items was 140. In developing the index the researcher grouped the Very little confidence and little confidence options and labeled them as no confidence, unsure was labeled as undecided and fairly confident and very confident were labeled as there is confidence. Generally the descriptive analysis in Table 3 shows that youth in FDCs have confidence towards farm entrepreneurship.

Table 3: Overall farm entrepreneurial self-efficacy of the respondents

Self-efficacy	Frequency	Percent
There is no confidence	49	16.7
Undecided	8	2.7
There is confidence	237	80.6
Total	294	100.0

The difference in self-efficacy across sex and program studied was analysed by the aid of Kruskal-Wallis non-parametric test as shown in Table 4. The findings show that only operational competencies self-efficacy variable appeared significantly different at 5% level of significance for both sex and program type with the respective sum of ranks showing female students being more confident than their male counterpart. However, generally there was no significant difference in 5 self-efficacy factors across sex and type of the program. This further implies that approaches used in delivering the competencies were equally fair for both male and female students. In the case of program type the lack of significant difference, meant that the program types have underlying commonalities in terms of content and objectives of their establishment.

Table 4.Kruskal-Wallis test for the deference in self-efficacy across sex and program

Variable	Resource A.	Opportunity	Operational	Managerial	Financial	Communication
X^2 with 1 d f s	1.101	0.217	16.029	0.312	2.565	1.937
Probability s	0.2941	0.6411	0.0001*	0.5763	0.1092	0.1640
X^2 with 1 d f p	1.357	1.616	30.491	3.043	0.282	0.088
Probability p	0.2441	0.2037	0.0001*	0.0811	0.5953	0.7671

Note X^2- Chi-square, d f s -degree of freedom, s -sex, p-programme, A-acquisition, * Significant at 5%

4.3 The relationship between learning outcomes and farm entrepreneurial self-efficacy

Multiple regression analysis was conducted to determine the relationship between the expected learning outcomes and farm entrepreneurial self-efficacy. Principal factor analysis was performed first for the set of expected learning outcomes and the respective Bartlett test of sphericity was at acceptance level (χ^2 = 341.684, df= 36, p-value = 0.000 and KMO =0.802 and variance explained by 52.19% as shown in Appendix 3). Two expected learning outcome factors (skills and knowledge) were developed from the factor analysis and used as explanatory variables in the regressions. Since there were six dependent variables; six regressions were performed against explanatory variables as summarized in Table 5.

Generally in all the six regressions, expected learning outcomes have significant impact on self-efficacy since p-values are less than 0.05. Also the adjusted R^2 for all the regressions is above 50% indicating the models are of acceptable standards. Specifically, the expected learning skills outcomes have impacts on efficacy variables than knowledge outcomes exceptin regression 4. For instance, a unit increase in expected learning skills outcomes increases confidence in resource acquisition competencies by 0.680 while a unit increase in expected learning knowledge outcomes increases confidence in resource acquisition by 0.599. In other words, confidence in resource acquisition competence can be explained by educational outcomes by 57%. This implies that agricultural training have positive influence on youth farm entrepreneurial self-efficacy.

The results imply that the competencies gained by the studied youth is an outcome of training conducted by FDCs. The hiring of VETA entrepreneurship curriculum seem to positively impact the soft skills competencies especially opportunity recognition, managerial and financial management skills. The graduates from these colleges are expected to bring changes in the agricultural sector related enterprises through innovation and creativity which in turn will make the sector attractive to other youth.

Table 5. The relationship between expected learning outcomes and self-efficacy

	Coef.	**Std. Err.**	**T**	**P>t**	**[95% Conf**	**Interval]**	**Model Summary**	
1.Resource A								
Skills	.680	.0523	13.01	0.000	.578	.764	Prob>F	0.0000
Knowledge	.599	.0523	11.45	0.000	.496	.701	R^2	0.5814
cons	1.46e-10	.0522	0.00	1.000	112	-.112	Adj R^2	0.5785
2.Opportunity								
Skills out	.357	.049	7.25	0.000	.260	.453	Prob>F	0.0000
Knowledge	.335	.049	6.81	0.000	.238	.432	R^2	0.5417
cons	-192e-10	.048	0.00	1.000	.114	-.114	Adj R^2	0.5366
3.Operatinal								
Skills	.648	.053	12.02	0.000	.543	.754	Prob>F	0.000
Knowledge	.604	.053	11.19	0.000	.498	.709	R^2	0.5645
cons	-9.35e-10	.051	0.00	1.000	.102	-102	Adj R^2	0.5615
4.Managerial								

Skills	.306	.048	6.29	0.000	.211	.402	Prob> F	0.000
Knowledge	.332	.048	6.81	0.000	.236	.428	R^2	0.5386
cons	-4.04e-10	.047	0.00	1.000	.113	-113	Adj R^2	0.5354
5.Financial								
Skills	.295	.050	5.86	0.000	.196	.394	Prob> F	0.000
Knowledge	.276	.050	5.49	0.000	.177	.375	R^2	0.5331
cons	7.22e-10	.049	0.00	1.000	.114	-.114	Adj R^2	0.5299
6.Communication								
Skills	.618	.052	11.7	0.000	.514	.721	Prob> F	0.000
Knowledge	.600	.052	11.4	0.000	.497	.703	R^2	0.5571
constant	6.67e-10	.051	0.00	1.000	115	-.115	Adj R^2	0.5540

Note A-acquisition, adj.-adjusted, pro. -probability, significant at 5%

4.4 Farm entrepreneurial self-efficacy and intention

In examining the relationship between farm entrepreneurial self-efficacy and intention, principal component factor analysis for the items that measure intention was performed as shown in Appendix 3. The results of the analysis was of the acceptable standards as shown by Bartlett test of sphericity (χ^2 = 1060.511, df= 36, p-value =0.000, KMO = 0.897 and variance explained by 50.75%) as shown in Appendix 5. Only one factor was developed from this analysis implying that the constructs measuring intention share commonalities.

The analysis of multiple regression shows that there is significant relationship between farm entrepreneurial self-efficacy and intention as p-values are less than 0.05. However, there is slight variation in the levels of influence among self-efficacy constructs. Resource acquisition competencies construct have more influence in the youth intention towards farm

entrepreneurship compared to other constructs as shown in Table 6. A unit change in resources acquisition competencies influences intention by 0.596. On the other hand, financial competencies construct had the least contribution to the influence on farm entrepreneurial intention as a unit change in financial control competencies influences intention by 0.103.

The model summary shows that the results were statistically significant (F (6,286) =56.32, $p < 0.000$). This indicates that 53% of the variance in youth farm entrepreneurial intention was explained by farm entrepreneurial self-efficacy. This finding implies that youth farm entrepreneurial intention can be explained by other factors by 47%. Also it raises the question on the strength of the self-efficacy as some of its constructs appear to have low or weak influence as shown in Table 5. In other words, the strength of efficacy can be attributed to the kind of competencies taught during training with their respective teaching approaches. The findings concur with Hashemi*et al.* (2012) who found significant relationship between entrepreneurial self-efficacy and intention among agricultural college students.

Table 6. Relationship between self-efficacy and youth farm entrepreneurial intention

Intention	Coef.	Std. Err.	T	P>t	[95 % Conf	Interval]	Model summary	
Resource A*.	.596	.052	11.26	0.000	.492	.699		
Opportunity	.183	.048	3.74	0.000	.087	.279		
Operational	.325	.052	6.23	0.000	.223	.427		
Managerial	.140	.048	2.87	0.004	.044	.236		
Financial	.103	.049	2.11	0.036	.007	.199	Prob> F	0.0000
Communication	.318	.050	6.27	0.000	.219	.418	R^2	0.5416
constant	-1.14	.217	-5.25	0.000	-1.56	-.713	Adj R^2	0.5319

Note: A*- acquisition

Conclusions and Recommendations

Generally, the youth perceived themselves as being 'fairly confident' to 'very confident' about their farm entrepreneurial self-efficacy. This variation is also reflected in the specific farm entrepreneurial self-efficacy constructs since their variance weights differed with confidence in resources acquisition competencies being higher than others. No significant differences were found between sex of the respondents and self-efficacy constructs. This indicates that both sexes have nearly the same confidence level for all self-efficacy constructs. Also it may further imply that the environment for learning was gender sensitive.

Significant relationship was found between the expected courses outcome and farm entrepreneurial self-efficacy. Nevertheless, skill-based educational outcomes seem to influence more the farm entrepreneurial self-efficacy constructs than knowledge-based outcomes. Yet, generally the level of influence was around 50% implying that the remaining percentages may be further explained by other factors; probably the social, cultural and economic environment where agriculture is practiced. Further implication may be that the youth were fairly satisfied with the kind of competencies offered in pursuing farm related enterprises.

Significant relationship was also found between farm entrepreneurial self-efficacy and intention. Despite significance relationship shown, some of farm entrepreneurial self-efficacy constructs contributed low influence on farm entrepreneurial intention, for example financial and managerial competencies. This may be attributed to the content of the courses studied and approaches of teaching which may not be adequate for a career in farm enterprising. In addition self-efficacy generally explained youth farm entrepreneurial intention by 53% implying that the remaining percent can be explained by other factors which were not covered in this study.

It is recommended that course contents need to be updated from time to time as per industry demand changes and their respective teaching approaches should be revised based on regular tracer studies. Nonetheless, as it stands, curriculum needs to be reviewed so as to improve financial and managerial competencies which seem to be inadequate or not properly taught when in fact they are very basic in running a farm enterprise. It is also recommended to make training more applied, but observing a proper balance between knowledge and skills based competencies.

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