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Modelling Ghanaian students' entrepreneurship intentions: Home economics education intervention?

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Abstract

This paper examines the behavioural and demographic characteristics of students that influence their inclination to job creation intentions. Accordingly, two separate logistic regression models are obtained from data on 1414 students in seven universities in Ghana. Results showed that four factors influence students' job creation inclination. These factors, in decreasing order of importance, were entrepreneur intention factor, pro-activeness; risk-taking and competitive factor. There was a general inclination for work in the public sector among respondents irrespective of background. However, it was further found that the preferred sector of work was significantly determined based on age, type of institution attended and pro-activeness of the individual. Most of the respondents preferred to be employees than employers because to own a business requires one to have entrepreneurial, risk-taking and competitive inclinations. The paper concludes by suggesting the need to instil entrepreneurship mindset into students through Home Economics education, which may lead to economic independence and unemployment reduction.

KEYWORDS: **ENTREPRENEURSHIP, GRADUATE UNEMPLOYMENT, JOB CREATION**

Introduction

Graduate unemployment has been a major challenge for governments all over the world largely because of the increasing number of graduates from tertiary institutions relative to the number of jobs available at any given period. The increase in graduate unemployment is an indication that graduates lack the mindsets to engage themselves in entrepreneurship activities, (Aryeetey, 2011; Fosu & Boateng, 2013; Mensah, 2013; Owusu-Ansah & Poku, 2012).

Extant literature reveals university graduates in Ghana lack calculated risk-taking, pro-activeness, opportunity-seeking, creativity and innovative abilities. Consequently, more than 50% of them find it difficult getting employment years after graduation and have resorted to the formation of unemployed youth association (Afenyadu, King, McGrath, Rogerson, & Visser, 2001; Aryeetey, 2011; Fosu & Boateng, 2013; Owusu-Ansah & Poku, 2012). The lack of entrepreneurial abilities puts such graduates in a disadvantageous situation where they have become over-dependent on superior others and the state to create job opportunities for them, rather than creating job opportunities for themselves. This over-dependent mentality emanates from the fact that traditional educational systems fall short of addressing the political, social, and economic advancements of individuals. It rather over-emphasises theories with little attention paid to practical application, particularly in the African context, resulting in graduates' desire for white collar jobs. Also, the absence of mentoring

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for undergraduates who have the desire to become entrepreneurs worsens the situation (Gibb, 2002; Kuenyehia, 2012). Observation in local communities in Ghana reveals that most parents of graduates, (usually mothers) use their ingenuity, pro-active, innovative and risk-taking abilities to engage in petty trading and use the proceeds to cater for their families, including their children's education. These gradautes continue to depend on such parents for sustenance while waiting for job opportunities, unlike their illiterate or semi-literate parents who did not have any formal entrepreneurship or home economics education. Of what use then is education if it does not equip individuals to become economically independent? If entrepreneurial mindset enables one to have more autonomy to make things happen (Gibb, 2002), then it is expedient for students in universities offering courses like Home Economics to engage in entrepreneurial activities during their course of study before graduation.

The unemployment situation in Ghana is critical in two dimensions: employers find it difficult to access the right calibre of graduates for employment, and graduates are also not findng employment (Afenyadu et al., 2001). Collaboration between tertiary institutions, local research institutions and industry towards the development of the right human capital appears non-existent leading to lack of adequate entrepreneurial and employable skills (Kudonoo, Buame, & Acheampong, 2012). This gap needs urgent attention since the issue of unemployment has the potential of affecting healthy family living and thereby destabilising social cohesion and national security.

Objectives of the study

The main purpose of this study, therefore, was to examine the behavioural characteristics of students that influence their perceived employment intentions. Specifically, the study aimed to:

1. Identify latent factors that describe behavioural characteristics of students regarding entrepreneurship.
2. Model student's preferred choice of sector of employment after graduation based on the latent factors and demographic characteristics.
3. Model student's preferred employment status after graduation based on the identified salient variables.
4. Suggest how the principles of Home Economics education can be used to minimise undergraduate unemployment.

Review of related literature

Entrepreneurship education

Entrepreneurship education is aimed at improving students' cognitive abilities toward opportunity recognition, instrumental skills for new venture creation, and cultural attitudes favourable to entrepreneurial behaviour (Amorós, Cristi, & Minniti, 2009). Cognitive ability in this perspective refers to an individual's ability to process information derived from markets and social interactions (Levie & Autio, 2008).

The definition that encapsulates this study's perspective of effective entrepreneurial education is that of The European Commission Report (2012). It defines entrepreneurship education as a process that "prepares people to be responsible enterprising individuals who have the knowledge, skills and attitudes necessary to achieve the goals they set for themselves to live fulfilled lives" (ECR, 2012, p. 44). This definition emphasises the need to transform individuals into action-oriented people who are pro-active, creative, innovative, and calculated risk-takers in their endeavours for progress and success in their lives. The report further explains that the focus of entrepreneurship education is to ensure that knowledge, skills and attitudes are key competencies students must acquire in their courses of study to enable them to become economically independent and contribute towards the socio-economic development of their nations. This study is consistent with the report's stance in that it encourages the creation of start-ups and the development of social skills and attitudes that enable individuals to generate ideas, act, and take responsibility for lifelong learning.

In considering entrepreneurship education in its entirety, Fayolle and Klandt (2006) proposed three main dimensions. The first is paying more attention to the development of the right values, beliefs

and attitudes that enable one to have an entrepreneurial identity. The second deals with social skills, including those that enable one to seize opportunities and make the right decisions. The third dimension enables individuals to create specific situations that result in the establishment of start-ups. The first and second dimensions above constitute learning for entrepreneurship (Bilić, Prka, & Vidović, 2011) in the sense that attention is paid to the orientation of the mindset of the individual, coupled with the ability to act out one's thoughts using acquired decision making and social skills.

In designing an effective entrepreneurship education program, Gibb (2002) detailed seven important points. They are paraphrased as follows:

1. Familiarizing students with uncertainties in their everyday life environments and enabling them to identify ways of managing them.
2. Enabling them to appreciate the right cultures and values that promote entrepreneurship activities.
3. Creating a pedagogy that promotes the development of entrepreneurial behaviours, skills and qualities.
4. Dealing with the ability to design an entrepreneurial organisation.
5. Enabling students to develop their capacities to learn to learn.
6. Providing programs that make students sensitive to context, and
7. Empowering them to learn how to add value to products and services appropriately.

These seven points form part of Home Economics education . When it is taught well, it equips students withElements of these seven points form part of the Home Economics programme offered at both senior high schools and university levels in Ghana (see Ghana Senior High Schools' Foods and Nutrition and Clothing and textiles and Management in Living Syllabuses). Examples abound in all these areas of the Home Economics education programme in Ghana. For instance, the foods and nutrition course have areas such as catering where students are taught to cost their foods and declare projected profits if given opportunity to sell dishes cooked during practical cookery lessons. In clothing and textiles, students learn fashion and design where they construct their self-garments, cost them and declare perceived profits should they sell them. Other examples include sewing flat articles such as chair backs, table runners, table cloths, place mats and kitchen linen. In management in family living course, students are taught to make articles such as earrings, hand bags, necklaces, and slippers out of beads, and interior decoration. When the topics in Home Economics courses are taught bearing in mind these seven points, students can acquire skills that may enable them to engage in entrepreneurial activities. These seven important points could be summarised as merging theory with practice in school syllabuses of which Home Economics education strives to achieve globally (Hipkins, Conner, & Neill, 2005; Street, 2006). On the contrary, the situation is not so in Ghana.These seven important points could be summarised as merging theory with practice in school syllabuses of which Home Economics education strives to achieve globally (Hipkins et al., 2005; Street, 2006). On the contrary, the situation is not so in Ghana.

Elements of entrepreneurship

Pro-activeness is crucial for anyone who desires to engage in entrepreneurial activities because it enables one to "act in anticipation of future problems, needs, or changes" (Lumpkin & Dess, 1996, 146). Ability to identify the needs of customers, learn from the signals in the marketplace leads to high returns. These enable one to become responsive to market signals and come out with the right products tailored to meet the needs of customers (Hughes & Morgan, 2007; Wang, 2008) as should be taught in Home Economics.

Risk-taking is another important element that enables people to engage in entrepreneurial activities. According to Lumpkin and Dess (1996), risk-taking is the extent to which an individual is prepared to make large and uncertain resource commitments such as borrowing heavily and committing a relatively high amount of time and expertise. According to Albuquerque and Hopenhayn (2004), an estimate of the compensation for the extra risk for entrepreneurial returns does exceedexceeds

public equity by at least ten percent (10%). Innovation is impractical if risk is not taken to turn the innovative idea into a physical product or service. Just as the right culture (environment) plays a key role in innovativeness, so does risk-taking. It is commonplace to note that pro-activeness and innovativeness have risk-taking embedded in them. One cannot be proactive by projecting into the future to address future needs without taking risk. Likewise, one cannot be innovative—thus arriving at novel ideas without taking risk since the outcome of both actions are mostly not known. They are conceptions of ideas and ideals in people's minds which manifest physically through investments in human and nonhuman resources. However, research reveals that countries with collectivist culture makes individuals to avoid uncertainty; become risk averse and avoid ambiguous situations (Hofstede, Hofstede, & Minkov, 2010; Lewis, 2006).

Factors that influence entrepreneurial activities

The literature abounds with factors that influence entrepreneurial activity and motivation for it. Key among these factors is higher levels of human capital, which leads to better performance (Fitzsimmons & Douglas, 2005). Thus, the individual's unique characteristics, value orientation and attitudinal position can influence their entrepreneurial inclination. Also, such inclinations depend on the expected usefulness of self-employment (Badal, 2010; Douglas & Shepherd, 2005). The first Gibb's (2002) seven important points listed earlier—familiarizing students with uncertainties in their everyday life environments and enabling them identify ways of managing them—endorses the creation of a type of culture that promotes entrepreneurship. OECD (2009), added to the discourse by stating that, entrepreneurship-friendly culture could be created and enhanced by the operations of educational institutions, government and industry.

In this paper, some variables that are potential indicators of work predisposition are identified. The respondents are attending either a traditional university or technical university (Polytechnic institutions upgraded to universities). Another major variable that makes major differences concerning job preferences is gender. Personality traits are an influencing factor. To determine the personality traits, we obtain responses on eighteen variables on personal characteristics that are considered as indicators of predisposition to job placement and employment status. The variables generally cover indicators such as readiness to take risk, ability to explore new ideas, the desire to be unique in approach to problem-solving, willingness to engage in social competition and have a sense of belonging. In the next section, we describe the methodology and how the indicators are transformed into salient variables that constitute the predictor variables for building the model.

Methodology

Data were generated from a sample of 1,414 undergraduates in seven universities (five traditional universities and two technical universities) in Ghana using a survey instrument developed from Langkamp Bolton and Lane's (2012) individual entrepreneurial orientation measurement instrument, which is made up of ten items (three risk-taking items, four innovation items, and three pro-active items). Twelve additional items identified from Bilić et al.'s (2011) case study of Croatia were included in the survey instrument to gather empirical data on students' behaviours and willingness to use additional opportunities such as: applying for scholarships, grants, participating in career fairs, plans after graduation, work preferences (public or private sectors), thinking about one's own business idea, having a business idea, already working on a business idea, and demographics. Responding to the questionnaires was voluntary. As a result, there was no uniformity in the numbers of respondents from the various institutions. The names of the universities are withheld due to anonymity. All the respondents were students in penultimate and final years who were majoring in fashion and design, and catering in technical universities, and family and consumer sciences or home economics (in traditional universities), and, have successfully completed the mandatory entrepreneurship course in their respective universities.

Two sets of variables that influence likelihood of preference for a job area and job status were identified in the data. The first set included gender, age and the type of university of respondents. The extremes of the data are observed to be 17 years and below, and 30 years and above. The data also depicted normal distribution for ages between 18 and 29 years. The ages were classified into two categories: young and old. Ages ranging between 29 years and below were considered young, while 30 years and above were considered old.

Participants were from two types of institutions, namely, the traditional university and the technical university (formerly known as polytechnics and now upgraded to technical university). Also, the level of the student was the number of years they have been in the university. The level captured only those in the penultimate and final years. The second set of variables was made up of latent factors extracted from the correlations among the indicators of predisposition to area of job placement and employment status.

Factor extraction

The indicators (Table 3) reflect respondents' predisposition to specific areas of employment and employment status. The extent of involvement in each of the indicators on a five-point scale is defined as: 1 *certainly not*, 2 *less occasionally*, 3 *occasionally*, 4 *frequently*, and 5 *always*.

These responses constitute the data for the factor extraction. Suppose that out of p = 18 indicators, there are m salient factors that underlie the correlations among them. The factors

$$f_j, \ (j = 1, 2, \ldots, m; \quad m < 18)$$

together are assumed to explain the variation in each of the indicators x_i. Thus, by expressing (Equation 1)

$$x_i = \sum_{j=1}^{m} \alpha_{ij} f_j + \varepsilon_i \qquad i = 1, 2, \ldots, 18; \quad m < 18$$

based on this assumption, we can ignore the factors that are unique to the indicators because of individual uniqueness. From Equation 1, we can find the factors as (Equation 2)

$$f_j = \sum_{i=1}^{18} \beta_{ji} x_i \qquad j = 1, 2, \ldots, m$$

The weights, β_{ji} which are the loadings of the indicators on factor j, are determined by orthogonal factor rotation, and must be high (greater than 0.5) to associate an indicator with a factor. Thus, by factor extraction, the initial 18 variables were represented with a few latent factors that adequately explained the correlation among the initial indicators. Using Equation 2, we obtained data on the new estimated factors f_j represented by their factor scores. These factors were extracted because with a KMO value of 0.810 the correlation matrix was suitable for factor extraction. In addition, the latent dimensions were plausible.

Logistic regression modelling of employment intentions

Two main events have been defined:

1. that an undergraduate would prefer working in the private sector (to public sector) given their gender, age, institution of affiliation, level attained on program, and personal inclinations towards job creation.

2. that an undergraduate prefers to be an employer given their gender, age, institution of affiliation, level attained in program, and personal inclination towards job creation.

Below is a model for the log odds related to the response variable represented by each of the events described: y = 1 represents a classification of a respondent as one who prefers to work in the private sector, and y = 0 if he/she prefers the public sector. If we also represent all the k variables that influence this classification as X, and the probability,

$$\mathrm{P}(y = 1 / X) = p$$

then a transformation of p gives the model (Equation 3)

$$\log\left(\frac{p}{1-p}\right) = \alpha_o + \sum_{r=1}^{k} \alpha_r x_r$$

The probability of the classification into the *i*th (*i* = 1,2) category for a respondent with a specified background information is then determined.

Analysis and results

Suitability of variables

The assessment of the suitability of the four background characteristics in each of the employment intentions is given in Tables 1 and 2.

Table 1 Background characteristics for preferred sector of work

Characteristics		Preferred Sector						Pearson Chi-Square Tests	
		Private		Public		Total		Chi-square	*p*-value
		Freq.	%	Freq.	%	Freq.	%		
Gender	Female	285	35.0	530	65.0	815	57.6	4.625	0.032
	Male	243	40.6	356	59.4	599	42.4		
Age Group	Young	481	36.2	848	63.8	1329	94.0	12.458	0.000
	Old	47	55.3	38	44.7	85	6.0		
Level	300	420	40.0	631	60.0	1051	74.3	12.021	0.001
	400	108	29.8	255	70.2	363	25.7		
Institution	Trad. Univ	297	48.3	318	51.7	615	43.5	55.793	0.000
	Tech Univ	231	28.9	568	71.1	799	56.5		
	Total	**528**	**37.3**	**886**	**62.7**	**1414**	**100.0**		

Table 1 shows that for both genders, over half prefer to work in the public sector. This pattern of preference is the same for the level of the student. Most (94%) of the students were found to be in the youthful category (29 years and below). Among these, almost two-thirds prefer working in the public sector. A little more than half of the older category of the students, who constitute a minority, prefer working in the private sector. For both institutions, more than half of the graduates prefer to work in the public sector. The actual numbers are slightly higher for the technical university students than for the traditional university students.

The exploration showed a general inclination for preference for the public-sector employment irrespective of the background of the student. This observation was reflected in the test of association between the preferred sector and the demographic characteristics of students. The test was significant for all the demographic characteristics. This indicated that there was an association between the preferred sector and their gender, age, level of study and the institution they attend.

It is observed in Table 2 that there is a general acceptance for employee status. For each of the genders, close to two-thirds would prefer to be employed by someone. This pattern of preference was the same for the level of the student. Among the youthful category, close to two-thirds prefer to be employed by someone. However, for the older students, just a little over a half preferred to be employees. It is also interesting to note that preference for employee status was popular among students of technical universities. However, almost half of the university students would prefer to be employers. This pattern of preference was the same for older students. Thus, the acceptance for employee status was not overwhelming for specific background characteristics.

Table 2 Background characteristics for intended employment status

Characteristics	Intended Employment Status	Pearson Chi-Square Tests

		Employee		Employer		Chi-square	*p*-value
		Freq.	%	Freq.	%		
Gender	Female	495	60.7	319	39.1	1.286	0.257
	Male	382	63.8	217	36.2		
Age Group	Young	833	62.7	496	37.3	3.559	0.059
	Old	44	51.8	40	47.1		
Level	300	627	59.7	423	40.2	9.605	0.002
	400	250	68.9	113	31.1		
Institution	Univ.	325	52.8	290	47.2	39.327	0.000
	Tech. Univ.	552	69.1	246	30.8		
	Total	**877**	**62.0**	**536**	**37.9**		

This implies that it would be difficult to determine one's employment status based on only characteristics. This observation was reflected in the test of association between the preferred employment status and the demographic characteristics. The tests show that only the level of study and institution were significantly associated with employment status, but age was barely significant.

Determination of influential factors for job creation

Table 3 shows a four-factor rotated solution obtained from the correlation matrix of the indicator variables.

Table 3 Rotated component matrix

Behavioural characteristics	Component			
	1	2	3	4
Take bold action by venturing into the unknown	0.050	-0.001	**0.672**	0.146
Willing to invest a lot of time and/or money on something that might yield a high return	0.185	0.369	0.275	-0.013
Act "boldly" in situations where risk is involved	0.052	0.112	**0.580**	0.148
Like to try new and unusual activities that are not typical but not necessarily risky	0.040	0.038	**0.627**	0.006
Prefer a strong emphasis in projects that are unique, one-of-a-kind approaches rather than revisiting tried and true approaches used before	0.123	0.192	**0.530**	0.023
Prefer to try my own unique way when learning new things rather than doing it like everyone else does	0.179	0.417	0.399	-0.083
Favour experimentation and original approaches to problem-solving rather than using methods others generally use for solving their problems	0.019	0.358	0.422	0.135
Usually act in anticipation of future problems, needs or changes	0.011	**0.525**	0.270	0.051
Plan on projects	0.122	**0.755**	0.040	0.045
Prefer to "set-up" and get things going on projects rather than sit and wait for someone else to do it.	0.150	**0.707**	0.039	0.072
Belong to student organisations	0.129	0.307	0.029	**0.494**
Applied for scholarship	-0.028	-0.011	0.080	**0.815**
I have a scholarship	-0.051	-0.114	0.055	**0.803**
Actively participate in student competitions	0.149	0.133	0.181	**0.566**
Thinking about a business idea, if unable to find a job	**0.662**	0.249	0.119	-0.035
Already working on a business idea	**0.816**	0.039	0.071	0.090
Have a business idea	**0.843**	0.077	0.120	0.023
Like participating in career fairs	0.472	0.406	0.030	0.233

*Developed from Langkamp Bolton & Lane, 2012, Individual entrepreneurial orientation: Development of a measurement instrument

From Table 3, using a threshold of 0.5 for the factor loading, some indicator variables of the factors have their factor loading (highlighted) exceeding 0.5; making them a good representation of their respective factors. For the first factor, three indicators exceeded the factor loadings of 0.5. These variables relate to entrepreneurial inclination characteristics. Also, on factor two, three indicators had loadings exceeding the threshold of 0.5. These items relate to characteristics of pro-activeness. The third factor had four items with factor loadings exceeding the cut-off value. These items are related to risk-taking characteristics. The fourth factor has high loading on three indicators which relate to competitive behaviour. Thus, in order of importance, the four factors that influenced one's job creation tendency were entrepreneurial tendency, pro-activeness, risk-taking, and competitive inclination.

Models for determining preferred sector of job and employment status

Model 1: Determining preferred sector of work

The second column (B) in Table 4 gives the coefficients of the model in Equation 3. Only three variables were significant in the model. These are age (1) (i.e., an old student, above 30 years), institution (1) (i.e., technical university), and pro-activeness. The odds that an old student (above 30 years) would prefer working in the private sector were up to a little more than half that of a young student. This is an indication that young students were about twice more willing to work in the private sector than the elderly. Moreover, the odds that a technical university student would prefer work in a private sector were up to three times that of a traditional university student. This means that a technical university graduate would prefer working in the private sector much more than a traditional university graduate. Furthermore, the odds that a pro-active student would prefer to work in the private sector were 0.878 times working in the public sector. Thus, pro-active graduates would be more willing to work in the public sector slightly more than in the private. However, the confidence limit showed that such graduates could be as willing to find job in the private sector as in the public.

Table 4 Model for determining likely preference for work in private sector

Variables	B	SE	Sig.	Exp(B)	95% CI for EXP(B)	
					Lower	Upper
Gender (1)	-0.129	0.116	0.265	0.879	0.700	1.103
Age (1)	-0.928	0.239	0.000	0.395	0.248	0.631
Level (1)	0.059	0.160	0.712	1.061	0.775	1.453
Institution (1)	0.825	0.138	0.000	2.281	1.742	2.988
Entrepreneurial Intention	0.027	0.058	0.639	1.028	0.917	1.151
Pro-activeness	-0.131	0.058	0.025	0.878	0.783	0.983
Risk taking	0.047	0.057	0.405	1.049	0.938	1.173
Competitiveness	-0.101	0.057	0.078	0.904	0.808	1.011
Constant	0.090	0.120	0.453	1.094		

Note. Reference categories: public, female, young, level 300, traditional university

Additionally, the odds of the intercept of the model showed that if job creation factors remain the same, the odds of willing to work in the private sector was almost 1 for a young female student in traditional university who was in the penultimate year. Thus, such a student was as willing to find work in the private sector as in the public. In the model, Gender (1) (i.e., male), for example was not significant.

Model 2: Determining intended employment status

Table 5 contains the information on the model for determining the preference for being an employer instead of being an employee in terms of the eight variables used in Table 4. All except two variables were significant in the model. The two variables that were not significant were *level of the student* and *pro-activeness*.

Table 5 Model for determining preference for being an employer

	B	SE	Sig.	Exp(B)	95% CI for Exp(B)	
Variables					Lower	Upper

Gender (1)	-0.286	0.121	0.018	0.751	0.593	0.951
Age (1)	0.602	0.243	0.013	1.826	1.134	2.941
Level (1)	-0.089	0.163	0.583	0.915	0.665	1.258
Institution (1)	-0.627	0.141	0.000	0.534	0.406	0.704
Entrepreneurial Intention	0.648	0.066	0.000	1.913	1.679	2.178
Pro-activeness	0.002	0.060	0.975	1.002	0.891	1.127
Risk-taking	0.202	0.060	0.001	1.224	1.089	1.376
Competitive	0.144	0.059	0.014	1.155	1.030	1.296
Constant	-0.313	0.123	0.011	0.731		

Note. Reference Categories: employee, female, young, level 300, traditional university

From the model, male students' preferences for starting his own business were 0.751 times that of a female student. This means that female students had a greater preference for starting their own business compared to their male counterparts. Again, it was evident that the preferences of an older graduate starting his/her own business were up to three times that of a young graduate starting his/her own business. This means that older students preferred to start their own businesses than young students. The preference of a technical university graduate would start his/her own business was about half that of a non-technical university graduate starting his/her own business.

Again, a student with entrepreneurial intention who has a higher preference to start his/her own business after graduation was almost twice that to being employed by someone. A student who prefers to take risks to start his/her own business were about one and a half times that students who preferred being employed by someone. However, risk-takers students indicated a similar level of preference to being employees as being employers themselves. Preferences of risk-takers were almost the same as those who were competitive-minded.

Discussion

Assessment of extracted models

A logistic regression analysis was performed to assess prediction of preferred sector and employment status based on the extent of their income, gender and age group. The Hosmer and Lemeshow test statistic (in Table 6) indicates a good fit for both models with significance values much greater than 0.05. This indicates that the predictors significantly distinguish between preferred sector and intended employment status. Both models also achieved almost a two-third correct classification of observations.

Table 6 Model Summary for Sector Preferred and Employment Status as Dependent variables

Model Summary			Hosmer and Lemeshow Test			Overall Percentage Classification
Model	-2 Log likelihoods	Nagelkerke R Square	Chi-square	df	Sig.	
1 Sector Preferred	1784.427	0.079	7.546	8	0.479	63.9
2 Employment Status	1702.326	0.157	4.764	8	0.782	67.4

Comparison of the two models

Although gender, age, level and institution were established as having a significant relationship with sector preference, Model 1 indicated that only age and institution were statistically significant in determining the likely preferred sector of work when job creation behavioural characteristics are considered. It is interesting to note that whereas pro-activeness was significant in Model 1, its influence in Model 2 was not significant. This means that pro-activeness may only be relevant in helping a graduate to secure employment, either in the private or public sector, but does not play a significant role in a graduate establishing his or her own business.

Some results appear inconsistent but are not incorrect. For example, it is noticed that in Table 1, 28.9% of technical university students expressed intention to work in the private sector, whilst 48.3%

of university students expressed similar intention. Thus, based on institution attended alone, the ratio was lower for technical university on the desire to work in the private sector. However, it was also noticed that in Model 1, the odds that a technical university student would prefer work in the private sector are up to three times that of a traditional university student. This result is obtained in the presence of other equally significant variables such as pro-activeness and age. This result is consistent with the result from Model 2 in Table 5. It was observed that, in that table, the odds of an old graduate starting his/her own business were up to three times that of a young graduate starting his/her own business. Thus, age is crucial in self-employment and hence, working in the private sector. The age distributions of the students showed that technical university students were generally older than traditional university students.

Contributions of Home Economics education

Home Economics education intervention

According to Roldan (2017), Home Economics education is a field that "integrates concepts, skills principles and theories of different subjects including foods and nutrition, housing and interiors, clothing, crafts, family life and child development for teaching and life application" (College of Home Economics Catalogue, 2006-2010, p. 157). In Ghana, the course is offered in three major areas namely foods and nutrition, clothing and textiles and management in family living. These areas of study have embedded entrepreneurship factors meant to equip students with knowledge, skills and competencies for sustainable job creation. Home Economics education is meant to prepare students to seek solutions to problems from multiple disciplines, tailoring them to suit specific populations (Brandes, 2017). Consequently, the need to have a critical look at Home Economics education for sustainable job creation in Ghana is key to the reduction of unemployment.

The existing gap in entrepreneurship abilities in university graduates in Ghana suggests the need for educational institutions to take Home Economics education at all levels seriously. In this vein, we propose that:

1. Entrepreneurial aspects of Home Economics courses should be strengthened to equip students with the ability to cost their practical lessons to identify profit margins. This will make students entrepreneurially oriented as they move from one level to another.

2. Emphasis should be laid on developing students' competitive mindset using case studies, and competitions among other strategies.

3. Home Economics departments in universities should create environments that encourage undergraduates to be inquisitive, proactive, innovative and risk-taking.

4. Home Economics teachers should equally develop their entrepreneurial abilities to effectively impart knowledge and skills to students. Also, they must be assertive in showing the importance of the course to school authorities to get their buy-in.

5. There is the need to make efforts to offset the drawback of the age factor that does not inspire young graduates to venture into self-employment. A way to overcome this drawback may be to include mentorship programs in the curricula.

These suggestions if taken into consideration may enable our graduates to translate their knowledge and skills into establishing their own businesses.

Conclusion

The study involved 1,414 students in technical and traditional universities in Ghana. It covered data on behavioural characteristics of students that are indicators of inclination to job creation, preferred sector of work, intended employment status, level of study, institution of study, gender and age of the students. The paper extracted the latent factors that underlie the indicators of inclination to job creation and found that only four factors are plausible. The four factors, in order of importance, were entrepreneur intention, pro-activeness, risk-taking and competitive factors.

The four identified factors, in addition to four background variables which were gender, age, level of program and the institution attended, were used to obtain separate models for preferred sector of employment and intended employment status after graduation.

There was a general inclination for work in the public sector among students irrespective of background. However, using the logistic regression modelling, it was observed that the preferred sector of work may quite reliably be determined by one's age, institution of study and pro-activeness of the student. On the other hand, the intended employment status could be determined by gender, age, institution of study, entrepreneur intentions, risk-taking and competitiveness inclinations of the individual.

However, it requires a lot of human capital to be an employer. Home Economics education in Ghana could champion this crusade through strengthening the entrepreneurial aspects of its courses to develop this human capital in universities for the benefit of entrepreneurship.

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References

Afenyadu, D., King, K., McGrath, H., Rogerson, C., & Visser, K. (2001). *Learning to compete: Education, training and enterprise in Ghana, Kenya and South Africa*, DFID, UK No. 2.

Albuquerque, R., & Hopenhayn, H. A. (2004). Optimal lending contracts and firm dynamics. *The Review of Economic Studies*, *71*(2), 285-315.

Amorós, J. E., Cristi, O., & Minniti, M. (2009) Driving forces behind entrepreneurship: Differences on entrepreneurship rate level and its volatility across countries. *Frontiers of Entrepreneurship Research: 29*(16) 1-15.

Aryeetey, E. (2011). Jobs are our greatest worry. *Business and Financial Times*, Ghana, September.

Badal, S. (2010). *Entrepreneurship and Job Creation: Leveraging the Relationship*. Gallup Inc.

Bilić, I., Prka, A., & Vidović, G. (2011). How does education influence entrepreneurship orientation? A case study of Croatia. *Management, 16*(1), 115-128.

Brandes, K. (2017). Service Learning within Communities of Practice. *International Journal of Home Economics, 10*(1), 3-11.

College of Home Economics Catalogue (2006-2010). University of the Philippines, Diliman, Quezon City.

Douglas, E. J., & Shepherd, D. A. (2005). *Entrepreneurial human capital and the self-employment decision*. Paper presented at the Entrepreneurial Research Exchange, Swinburne University, Melbourne, Australia.

European Commission Report (2012). *Effects of entrepreneurship programmes in higher education*. European Union.

Fayolle, A., & Klandt, H. (2006) *International Entrepreneurship Education—Issues and Newness*. Cheltenham, UK, Edward Elgar.

Fitzsimmons, J. R., & Douglas, E. J. (2005). *Entrepreneurial attitudes and entrepreneurial intentions: A cross-cultural study of potential entrepreneurs in India, China, Thailand and Australia*. Paper presented at the Babson-Kauffman Entrepreneurial Research Conference, Wellesley, MA.

Fosu, R., & Boateng, R. E. (2013). The Scottish university level entrepreneurship education initiative: Lessons for Ghana in dealing with graduate unemployment. *Journal of Education and Practice, 4*(24), 143-151. ISSN 2222-288X.

Gibb, A. (2002) Creating conducive environments for learning and entrepreneurship: Living with, dealing with, creating and enjoying uncertainty and complexity. *Industry and Higher Education, 16*(3), 134-148.

Hipkins, R., Conner, L., & Neill, A. (2005). *Shifting Balances 2: The Impact of the NCEA.Implementation on the Teaching of Geography and Home Economics. Report to the Ministry of Education*. Wellington: New Zealand Council for Educational Research. Retrieved from: http://www.nzcer.org.nz/research/publications/shifting-balances-2-impact-ncea-implementation-teaching-geography-and-home-eco

Hofstede, G., Hofstede, G. J., & Minkov, M. (2010). *Cultures and organizations. Software of the mind. Intercultural cooperation and its importance for survival*. New York: McGraw-Hill.

Hughes, M., & Morgan, R. E. (2007). Deconstructing the relationship between entrepreneurial orientation and business performance at the embryonic stage of firm growth. *Industrial Marketing Management, 36*(5), 651-661.

Kudonoo, E. C., Buame, C. K., & Acheampong, G. (2012). Managing human resources for competitive entrepreneurial advantage in Ghana: A resource-based view. *School of Doctoral Studies Journal, 4*(1), 71-82.

Kuenyehia, E. N. (2012). *Entrepreneurship.* (RDF Business Series), Accra, Ghana: Flipped Eye Publishing.

Langkamp Bolton, D., & Lane, M. D. (2012). Individual entrepreneurial orientation: Development of a measurement instrument. *Education + Training, 54* (2/3), 219-233.

Levie, J., & Autio, E. (2008). A theoretical grounding and test of the GEM model. *Small Business Economics. 31*(3), 235-263.

Lewis, R. D. (2006). *When cultures collide: Leading across cultures* (3rd ed.), Boston, MA: Nicholas Brealey.

Lumpkin, G. T., & Dess, G. G. (1996). Clarifying the entrepreneurial orientation construct and linking it to performance. *Academy of Management Review, 21*(1), p. 135-172

Mensah, M. S. B. (2013). Entrepreneurship education on Wholesale? Considerations on didactics and pedagogy for enhanced graduate employment in Ghana. European *Journal of Business and Management, 5*(15), 2222-2839.

OECD (2009). *OECD Employment Outlook 2009, Tackling the Jobs Crisis*. OECD

Owusu-Ansah, W., & Poku, K. (2012). Entrepreneurship education, a panacea to graduate unemployment in Ghana? *International Journal of Humanities and Social Science, 2*(15), 211-220.

Roldan, A. T. (2017). Home economics research: Instilling hope, re-directing source of happiness in individuals and families of contemporary society. *International Journal of Home Economics, 10*(1), 151-161.

Street, P. (2006). *Home Economics Education in New Zealand: A Position Statement*. Retrieved from: http://nzcurriculum.tki.org.nz/Curriculum-resources/NZC-resource-bank/Health-and-physical-education/Supporting-materials/Home-economics-education-in-New-Zealand-Word-149KB

Wang, C. L. (2008). Entrepreneurial orientation, learning orientation, and firm performance. *Entrepreneurship Theory and Practice, 32*(4). 635-656.