EFFECT OF PERSONALITY TRAITS ON SELF-EMPLOYMENT INTENTION AMONGST STUDENTS IN TECHNICAL, VOCATIONAL EDUCATION AND TRAINING IN KENYA

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ABSTRACT

Entrepreneurship has been identified as a crucial activity to ensure economic growth and employment worldwide. However, this has not been effective in most developing countries. Kenya as an example of such countries, has a high rate of unemployment among the young graduates emerging from universities and tertiary institutions. One of the government challenges is how to change the mindset of students to venture into business rather than seeking jobs. This study thus examined the relationship between personality traits, entrepreneurship education and how these variables influence self-employment intention among Technical and Vocational Education and Training institutions in Kenya. The study objectives were to determine the effect of personality traits and the moderating effect of entrepreneurship education on students’ self-employment intentions. The study adopted a survey research design with mixed approaches. Self-administered questionnaire was developed and administered to 400 diploma engineering finalis students sampled from 41 public Institutions spread in the country using multistage and simple random sampling approach. The data were analysed using descriptive and inferential statistics with the help of the Statistical Package for Social Sciences 20 software. Pearson’s Coefficient Correlation was used to examine reliability of data. Factor analysis was conducted to investigate the internal structure among the set of variables. Multiple linear regressions analysis was used to examine the effect of independent variables on the dependent variable. The results of findings showed that there was a positive and significant relationship between personality traits and self-employment intentions. The results also showed that entrepreneurship education enhances the personality traits and thus strongly influence self-employment intentions.

Key words: Personality Traits, Self-Employment Intenrtions, Entrepreneurship Education
1 Introduction

Flood of manpower from universities and tertiary institutions, unemployment growth rate in Kenya, and lack of positive reaction to find a lasting solution for the unemployment problem for the youth have created an important ground for paying more attention to entrepreneurship. A recent report by the Global Entrepreneurship Monitor indicate that Entrepreneurship activities account for one-third of economic growth in over forty member countries (GEM, 2013). In Kenya, growth in Entrepreneurship activities has not been as swift. Given the rapid change in economic and social circumstances, the result heightened intensity in unemployment of qualified manpower and lack of positive lasting solutions for the unemployment problem among graduates in Kenya. In an attempt to bridge the unemployment gap, the government of Kenya has set up various committees and commissions to revise the educational system inherited from the colonial government to make it more responsive to the need of independent Kenya. The Presidential working party on education and manpower training for the next decade and beyond of 1988 recommended the streamlining of Technical Industrial Vocational Education and Training (TIVET) to facilitate ease of entry into self-employment. The Technical and vocational education and training (TVET) remains a key development strategy for international development agencies and governments (King & Palmer, 2010; McGrath, 2002). In Kenya, TVET is part of the education and training system placed under Directorate of Technical Vocational and Training (DTVET) within the Ministry of Education, Science and Technology (MoEST).

According to economic survey of 2016, public TVET institutions stood at 874, distributed as follows; 816 Youth Polytechnic, 55 Technical and Vocational Colleges, 2 National Polytechnics, and one Kenya Technical Teachers College. The total enrolment in these institutions rose by 4.7 per cent from 148,142 in 2014 to 155,176 in 2015. The increase was partly attributed to expansion of TVET institutions. In addition, Student enrolments in national
polytechnics and technical universities declined by five per cent from 23,583 in 2014 to 22,403 in 2015. The employability of TVET graduates and their ability to start new businesses to employ other Kenyans while contributing to the Country’s economic wellbeing are central to the mission of the Kenya’s education system. Therefore, TVET graduates are well positioned for the purpose of this study. In Particular, considering TVET students admitted through the public TVET institutions across the country was important. In addition, Entrepreneurship education is instrumental in increasing positive attitude towards entrepreneurship among the youth (Potter, 2008). The growth in entrepreneurship education around the world and increasingly in Kenya has been well recognized (Katz, 2003; Kuratko, 2005; Torrance, 2013). Given the persistent unemployment problem among the Kenyan youth, most recently, the government through sessional paper No 1 of 2015 re-emphasized the need for TVET Institutions to incorporate entrepreneurship education as a core unit in TVET education curricular. However, despite the aforementioned government efforts, the anticipated impact of entrepreneurship education on employment creation, high unemployment levels among the youth especially TVET graduates remain a major concern, since only a small percentage actually become entrepreneurs after graduation (Brijlal, 2011). Past studies have identified factors that influence the willingness of an individual to undertake entrepreneurial activity which includes personality traits factors (Gurbuz & Aykol, 2008). Although a number of these investigations have been conducted in universities on students’ entrepreneurial intentions, very few have conducted research on students’ entrepreneurial intentions in vocational institutions who offer unique programmes. This forms the major concern of this study.

1.1 Statement of the Problem

In Kenya, over 3 million youth are among the unemployed according to Kenya National Bureau of Statistics (KNBS, 2015). However, the Government has in the past put in several efforts and
initiatives to address the youth unemployment by setting various committees and commissions to reform the education system to make it more responsive to the need of independent Kenya. Unfortunately, the result of such initiatives on unemployment is thus hardly felt. Past studies have investigated the direct effect of entrepreneurship education on entrepreneurial intentions. Considering the various outcomes of entrepreneurship education by previous studies, there is lack of thoroughness in past research studies and unclear results regarding the impact of entrepreneurship education on self-employment intentions.

Although most of these findings provide evidence that entrepreneurship education has a positive impact on university graduates’ entrepreneurial intention there is however, none which has focused on the effect of entrepreneurship education on entrepreneurial intentions among tertiary institutions’ graduates and more specifically TVET institutions in Kenya. Arguably, TVET curriculum is skill and competency based for practical hands-on activities. The entrepreneurial orientation in delivery of the courses is also intended to nurture inclination towards self-employment in the long run. While there has been significant previous research on the causes and effects of entrepreneurship, there is a lack of rigor in past research studies and ambiguous results regarding the effect of entrepreneurship education. In cognizance of these knowledge gaps, it is of theoretical and practical relevance to investigate the effect of personality factors and the moderating effect of entrepreneurship education on self-employment intentions on among TVET students in Kenya.
1.2 The specific objectives of the study

The specific objectives of the study were to:

a) Determine the effect of personality factors (need for accomplishment, locus of control, risk taking inclination) and students’ self-employment intentions.

b) Determine the moderating effect of entrepreneurship education on the relationship between personality traits and students’ self-employment intentions.

1.3 Research hypotheses

The research tested the following hypotheses:

**H₀₁.** There was no significant relationship between personality Traits [a) need for achievement, b) locus of control, c) risk taking inclination] and students’ self-employment intentions.

**H₀₂.** Entrepreneurship education has no significant moderating effect on the relationship between personality Traits and students’ self-employment intentions.

**Figure1: Conceptual model**
2 Methodology

The philosophical paradigm of positivism was considered as the most appropriate research paradigm for the study. The positivist paradigm is a research alignment which assumes that a useful research is based on theory, hypotheses and quantitative data. The current study used survey design. The study population consisted of 50,864 students’ final year diploma students registered during the academic year 2014-2016 in TVET institutions (Economic Survey report, 2015). Further, the study focused on diploma engineering finalist students in their final term of December, 2016. The engineering courses comprises; building construction, civil, electrical and electronic, mechanical and automobile who were the sampling unit. In addition, the study adopted multi-stage sampling as a sampling design. To select the sample size for the study, several stages were involved. The first stage selected the representative institutions from 41 institutions distributed in five regions. The sample size of 10 Institutions was selected. The second stage was used to select the proportionate sampled units of institutions from each region. The third stage was used to select sampled units in specific institution. The Final stage was to select the sample of the respondents from each institution. Based on Slovin’s formula for determining the proportionate sample size of students in the 10 institutions, 400 respondents were selected for the study.

The study employed a self-administered questionnaire to collect primary data from diploma engineering finalist students from public TVET institutions (referred to as respondents). The reliability of the instrument was tested using Cronbach's Alpha coefficient which is used to assess the internal consistency or homogeneity among the research instrument items. To ensure the validity of the research questionnaires, the researcher used face validity where a panel of experts gave their input and confirmed that the instrument met the criterion. A pilot survey was conducted before the actual research to establish the content validity of the instrument and improves questions, format, and scales (Creswell, 2009).
The statistical processes which were employed in the analyses of the data comprised descriptive statistics, analysis of variance (ANOVA) and inferential statistics. The descriptive statistics comprised frequency distributions, measures of central tendency (means) and measures of dispersion (standard deviation). Inferential statistics which comprised, factor analysis, Pearson correlation analysis, multiple regression analysis involve measurement of relationships among the variables and differences between samples and thus form basis for conclusions. In order to assess the existence of relationship between the dimensions of personality traits, entrepreneurship education as a moderating factor and self-employment intention, the Pearson’s correlation coefficient ‘r’ was computed.

In addition, multiple regression analysis was conducted to examine the relationships between independent variables and the dependent variable in determining the individual contribution of each of the individual variables to the dependent variable, both in direction and magnitude using multiple regression model.

Equation of the multiple regression models for the study is given as:

\[ Y = \beta_0 + \beta_1P + \epsilon \] \hspace{1cm} (1)

\[ Y = \beta_0 + \beta_1PT + \beta_2PTEE + \epsilon \] \hspace{1cm} (2)

Where: \( Y \) is the self-employment intention (SEI); \( \beta_0 \) is the intercept term; \( \beta_i \) (i=1, 2…) are the regression coefficients; PT is Personality Traits; EE is Entrepreneurship Education; and \( \epsilon \) is the random error term. To determine the effect of Personality Traits on self-employment intention on the one hand and moderation effect of entrepreneurship education on the relationship between personality Traits and self-employment intention on the other hand. The products of the moderator and the independent variables were regressed with the dependent variable.
The findings were presented using tables and figures to summarize responses for further analysis and facilitate comparison.

3 Findings

Of the targeted 400 respondents, 377 managed to fill the questionnaires, thus yielding to a response rate of 94.3%. The study responses were considered high and as such the responses were well spread across the varying regions. The Cronbach Alpha Value obtained for the independent variables was 0.966 meaning that they were above the critical value of 0.7 and hence all questions were retained in the study.

The first objective was to determine the effect of personality traits (need for achievement, locus of control and risk taking propensity) on students’ self-employment intentions in TVET institutions in Kenya. In addition, the first objective related to the testing of null hypothesis $H_0$ that stated: *There is no significant relationship between personality factors [a) need for accomplishment, b) internal locus of control, c) risk taking inclination] and students’ self-employment intentions.*

a) In order to test the factor effect of the 10 items measured on 5-point Likert scale type of need for accomplishment, under investigation, factor analysis was undertaken. In order to improve the interpretability of factors, varimax rotation was performed on the extracted component matrix. Two components were extracted. The two new components are described in Table 1 (appendix 1).

The first need for accomplishment factor was labelled ‘Intrinsic Motivation’. The second component involves pressure exerted by the expectation of others. The second need for accomplishment factor was therefore labelled ‘Extrinsic Motivation’.
The multiple regression models of the two components assumed the form:

\[ Y = \beta_0 + \beta_1 X_{IM} + \beta_2 X_{EM} + \varepsilon_0 \]

\( Y \) = Self-Employment Intention,

\( X_{IM} \) = Intrinsic Motivation Component

\( X_{EM} \) = Extrinsic Motivation Component

Multiple Regressions was used to test the first hypothesis. The first null hypothesis \( H_{01a} \) that was tested stated: *There is no significant relationship between need for accomplishment and students’ self-employment intentions*

The multiple regression models were summarized as:

Self-Employment Intention = 12.24 + .534 (Intrinsic Motivation Component) + .483 (Extrinsic Motivation Component). These results are summarized in Table 2.

**Table 2: Regression analysis of the Effect of Need for accomplishment on Self–Employment Intention**

<table>
<thead>
<tr>
<th></th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>T</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>B</strong></td>
<td><strong>Std. Error</strong></td>
<td><strong>Beta</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Constant)</td>
<td>12.24</td>
<td>.528</td>
<td>23.2</td>
<td>.000</td>
</tr>
<tr>
<td>Intrinsic Motivation</td>
<td>.534</td>
<td>.018</td>
<td>.579</td>
<td>34.9</td>
</tr>
<tr>
<td>Extrinsic Motivation</td>
<td>.483</td>
<td>.019</td>
<td>.685</td>
<td>41.2</td>
</tr>
</tbody>
</table>

*Significant at \( P=0.05 \) levels; \( R^2=59.8\% \); \( F=3.279, p=0.000 \)

From the analysis of variance, the results are significant at \( .05 \) levels (\( F=3.279, p=0.000 \)). This implies that there is a significant relationship between need of accomplishment and self-
employment intention. The study thus concluded that the two components namely; intrinsic motivation and extrinsic motivation have a positive effect on self-employment intention.

The null hypothesis that there is no significant relationship between need for accomplishment and students’ self-employment intentions among students in TVET in Kenya was rejected.

b) Ten items measured on 5-point Likert scale type in the structured questionnaire were used to measure personality traits of risk taking inclination in the current study. Factor analysis produced two components with Eigenvalues greater than unity extracted accounting for 90.17% of the total variance of the nine items of risk taking inclination. The two components are ‘Within Individual Risk’ component and ‘Without Individual component’. Constructs within the items guided naming of the two components. This information is presented in Table 3 (appendix 2).

To tests hypothesis in this section, multiple regression model was conducted.

The multiple regression models assumed the form:

\[ Y = \beta_0 + \beta_1 X_{W1} + \beta_2 X_{W2} + \varepsilon \]

- \( Y \) = Self-Employment Intention
- \( X_{W1} \) = Within Individual Risk Component
- \( X_{W2} \) = Without Individual Risk Component

The first null hypothesis that was tested was stated: There is no significant relationship between risk taking inclination and students’ self-employment intentions

The multiple regression models were summarized as:

Self-Employment Intention = 11.14 + .478 (Within Individual Component) + .397 (Without Individual Component). These results are summarized in Table 4.
From the analysis of variance, the results are significant at .05 levels (F=21.212, p=0.000). This implies that there is a significant relationship between risk-taking inclination and self-employment intention. The study thus concluded that the two components namely; Within Individual and Without Individual have a positive effect on self-employment intention.

The null hypothesis H₀1b) that there is no significant relationship between risk-taking inclination and students’ self-employment intentions among students in TVET in Kenya was rejected.

c) Seven items, 5-point Likert scale type questions measured the internal locus of control constructs. Factor analysis using Principal Component, Varimax Rotation method with Kaiser Normalization checked the existence of structures within the items. Items loading greater 0.5 for each component combined to form three new factors namely ‘Capability Component’, ‘Hard work Component’ and Action Component’. This information is presented in Table 5 (Appendix 3).
The multiple regression models assumed the form:

\[ Y = \beta_0 + \beta_1 X_C + \beta_2 X_H + \beta_3 X_A + \varepsilon_0 \]

\( Y \) = Self-Employment Intention
\( X_C \) = Capability Component
\( X_H \) = Hard work Component
\( X_A \) = Action Component

The null hypothesis \( H_{01c} \) that was tested stated that: \textit{There is no significant relationship between internal locus of control and students’ self-employment intentions}

The multiple regression models were summarized as:

Self-Employment Intention = 12.42 + .516 (Capability Component) + .460 (Hard Work Component) + .386 (Action Component). These results are summarized in Table 6.

\textbf{Table 6: Regression analysis of the Locus of Control on Self-Employment Intention}

<table>
<thead>
<tr>
<th>Coefficients</th>
<th></th>
<th>Coefficients</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unstandardized</td>
<td>Standardized</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Error</th>
<th>12.42</th>
<th>.638</th>
<th>19.4</th>
<th>.000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capability Component</td>
<td>.516</td>
<td>.232</td>
<td>.409</td>
<td>.515</td>
</tr>
<tr>
<td>Hard Work Component</td>
<td>.460</td>
<td>.048</td>
<td>.686</td>
<td>41.0</td>
</tr>
<tr>
<td>Action Component</td>
<td>.386</td>
<td>.045</td>
<td>.579</td>
<td>34.8</td>
</tr>
</tbody>
</table>

\textit{Significant at P=0.05 levels; R^2=58.7%; F=111.0, p=0.000}

From the analysis of variance, the results are significant at .05 levels (F=111.0, p=0.000). This implies that there is a significant relationship between internal locus of control and self-employment intention. In this the study, locus of control variable is measured using three components namely Capability, Hard Work and Action Components. The results show that the three components have a positive effect on self-employment intention.
The null hypothesis that *there is no significant relationship between internal locus of control and students’ self-employment intentions among students in TVET in Kenya was rejected.*

The second objective was used to determine the moderating effect of entrepreneurship education on the relationship between personality traits and self-employment.

In order to confirm a third variable making a moderation effect on the relationship between the two variables, personality traits and self-employment intention, the study showed that the nature of this relationship changes as the values of the moderating variable change.

The hypothesis $H_0^2$ testing the influence of entrepreneurship education on the relationship between personality traits and self-employment intention stated: *Entrepreneurship education has no significant moderating effect on the relationship between personality traits and students’ self-employment intention.* The results of the multiple regression analysis undertaken are presented in Table 7.

**Table 7 Results for the Moderating Effect of Entrepreneurship Education on the Relationship between Personality Traits and Self-Employment Intentions**

<table>
<thead>
<tr>
<th>Mode</th>
<th>R</th>
<th>Adjusted R</th>
<th>Square</th>
<th>Std. Error of Estimate</th>
<th>Change in R</th>
<th>Change F</th>
<th>df</th>
<th>Sig. F</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.53</td>
<td>.578</td>
<td>.567</td>
<td>1.983</td>
<td>.537</td>
<td>1121.51</td>
<td>2</td>
<td>.000</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>.60</td>
<td>.678</td>
<td>.662</td>
<td>1.833</td>
<td>.211</td>
<td>1346.74</td>
<td>1</td>
<td>.004</td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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Table 7 shows that Model 2 with the interaction between entrepreneurship education and personality traits accounted for significantly more variance than just entrepreneurship education and personality traits by themselves, $R^2$ change = 0.211, $p = .004$, indicating that there is potentially significant moderation between entrepreneurship education and personality traits on students’ self-employment intentions in TVET institutions. Examination of the interaction process showed an enhancing effect that as entrepreneurship education is continuously given to students enrolled in engineering courses in TVET institutions, majority of the 2016 student cohort felt that they would rather be entrepreneurs than be employed.

Based on these findings, the hypothesis that the entrepreneurship education has no significant moderating effect on the relationship between personality traits and students’ self-employment intention was rejected.

A comprehensive analysis of the contribution of the individual variable to the effect on the dependent variable was undertaken. Additionally, it was considered necessary to develop model of overall influence on the dependent variable based on an aggregation of all the independent variables. This study adopted the following general statistical model for the linear relationship between the independent and dependent variables:

$$Y = \beta_0 + \beta_1 PT + \beta_2 PT*EE + \epsilon$$

Where: Where $\beta_0$ is the constant coefficient $\beta_1$ and $\beta_2$, are the model regression coefficients that approximate the change in Y (Self-Employment Intentions) for a unit change in X (independent variable).
PT = Personality Traits
PT*EE = A Product of Personality Traits and Entrepreneurship Education
\( \varepsilon_0 \) = the error term

To find the overall influence of the independent variables on the dependent variable, one general hypothesis was tested and it stated: There was no significant effect on the moderated relationship between personality traits and on students’ self-employment intentions. The multiple regression models were summarized as:

Self-Employment Intentions = 5.311 + PT + .593 PT*EE

The \( F \)-ratio in the ANOVA analysis tests whether the overall regression model is a good fit for the data. The result shows that the independent variables significantly predict the dependent variable, \( F(4, 373) = 871.580, p=0.000 \).

**Table 8 Summary of Regression Results showing the moderating Effect of Predictor Variables on Self-Employment Intention**

<table>
<thead>
<tr>
<th>Coefficients</th>
<th>Standardized</th>
<th>T</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>B</strong></td>
<td><strong>Std. Error</strong></td>
<td><strong>Beta</strong></td>
<td></td>
</tr>
<tr>
<td>(Constant)</td>
<td>5.311</td>
<td>2.145</td>
<td>2.476</td>
</tr>
<tr>
<td>PT</td>
<td>.456</td>
<td>.066</td>
<td>.806</td>
</tr>
<tr>
<td>PT*EE</td>
<td>.593</td>
<td>.002</td>
<td>-.730</td>
</tr>
</tbody>
</table>

Significant at \( p=0.05 \) levels; \( R^2=66.43\% \); \( 871.580, p=0.000 \)

The results shown in Table 8 on regression coefficients indicate that the combined effect of the personality traits and entrepreneurship education, PT*EE (\( \beta = .593 \)); is much greater than the
effects of the individual predictors, personality traits ($\beta=.456$) on self-employment intention respectively.

4 Discussion

Personality traits have been found to be a significant predictor especially of entrepreneurial start-up intentions. Pearson correlation coefficient between personality traits and self-employment intention variables ($r=.544$, $p=.000$; $r=.537$, $p=.000$; $r=.469$, $p=.000$) shows positive and significant results at .05 levels. This shows that self-employment intentions among student are dependent on individual’s need of achievement, risk taking propensity and internal locus of control. The first need for achievement factor labelled ‘Intrinsic Motivation’ indicate that intrinsic motivation is an important ingredient for need for achievement and consequently an important factor in student’s self-employment intention. The second need for achievement factor labelled ‘Extrinsic show that expectations of others for one’s achievement drive students into self-employment intentions after college life. The results show that there is significant relationship between need for accomplishment and self-employment intention among TVET students in Kenya.

The first risk inclination factor ‘Within Individual Risk’ variable indicated that decision to invest in a new business according to a majority of students in TVET institutions largely depends on the risk-taking involved and more specifically within the individual. The second component factor loadings corresponded to ‘Without Individual Risk’ variables showed that students’ decision either to be self-employed or not largely depends on risk factors outside an individual. The study findings are consistent with findings by Tang et al. (2008) who indicated that risk-taking propensity was an important factor in explaining the entrepreneurial intentions. The first component factor of locus of control labelled ‘Capability Component’ showed that capability influence of a student does affect self-employment intentions. The second
component factor loading was labelled ‘Hard Work Component’ indicate that one of the key factors in self-employment intention among students is individual hard work. These findings are in agreement with Yosuf et al. (2007) who found that there is positive relationship between self-employment intentions and personality traits especially locus of control.

The hypothesis testing the influence of entrepreneurship education on the relationship between personality traits and self-employment intention was stated as: **Entrepreneurship education has no significant moderating effect on the relationship between personality traits and students’ self-employment intention.**

Model with the interaction between entrepreneurship education and personality traits accounted for significantly more variance than just entrepreneurship education and personality traits by themselves, $R^2$ change = 0.211, $p = .004$, indicating that there is potentially significant moderation between entrepreneurship education and personality traits on students’ self-employment intentions in TVET. Examination of the interaction process showed an enhancing effect that as entrepreneurship education is continuously given to students enrolled in engineering courses, majority of the 2016 student cohort felt that they would rather be entrepreneurs than be employed. These findings are congruent with other recent studies on the need for achievement, which have shown that it can evolve over time, especially by obtaining an advanced education (Zhang & Bruning 2011). The theory of the need to achieve claims that individuals who have a strong need to achieve commonly find their way to entrepreneurship and their success rate is higher than that of other entrepreneurs (Littunen 2000: 296-297). Robinson et al. (1991) adds that internal control leads to a positive entrepreneurial attitude and most students who receive entrepreneurship education may develop a higher level of control and self-efficiency. Study findings of Koh, (1996) and Gurol and Atsan, (2006) show that entrepreneurially inclined students have significantly higher scores in risk-taking than non-
entrepreneurially inclined students. Yosuf et al. (2007) suggests that there is positive relationship between self-employment intentions and personality traits.

5 Summary of the findings

Using factor analysis, rotations converged in three iterations and two components with Eigenvalues greater than unity extracted accounting for 91.17% of the total variance of the 10 items of need for achievement. The two components are: Intrinsic Motivation and Extrinsic Motivation components. The multiple regression models thus contained the two component factors. From the analysis of variance, the results were significant at .05 levels (F=3.279, p=0.000). This implies that there is a significant relationship between need of achievement and self-employment intention. The null hypothesis that there is no significant relationship between need for achievement and students’ self-employment intentions among students in TVET in Kenya was rejected. Factor analysis produced two components with Eigenvalues greater than unity that accounting for 90.17% of the total variance of the nine items of risk taking propensity. The rotated component matrix for the two risk taking propensity factors are ‘Within Individual Risk’ component and ‘Without Individual component’. These two factors were included in the multiple regression analysis of risk-taking propensity and self-employment intention. From the analysis of variance, the results were significant at .05 levels (F=21.212, p=0.000) implying that there was a significant relationship between risk-taking propensity and self-employment intention. The null hypothesis that there is no significant relationship between risk-taking propensity and students’ self-employment intentions among students in TVET institutions in Kenya was rejected. With Eigenvalues greater than unity, the results produced three components which accounted for 100% of the variance. Items loading greater 0.5 for each component combined to form three new factors namely ‘Capability Component’, ‘Hard work Component’ and Action Component’. The three factors were included in the Multiple
Regression Analysis. From the analysis of variance, the results are also significant at .05 levels (F=111.0, p=0.000). This indicates that there is a significant relationship between locus of control and self-employment intention. The null hypothesis that there is no significant relationship between locus of control and students’ self-employment intentions among students in TVET in Kenya was rejected.

To test the influence of the moderator variable, an interaction term was made by creating a product term for the predictor and moderator variable. The interaction term was added to the previous model, to check for a significant R^2 change as well as a significant effect by the new interaction term. The results of finding showed that with the interaction between entrepreneurship education and personality traits, the model accounted for significantly more variance than just entrepreneurship education and personality traits by themselves, R^2 change = 0.211, p = .004, indicating that there is potentially significant moderation between entrepreneurship education and personality traits on students’ self-employment intentions in TVET institutions. Examination of the interaction process showed an enhancing effect that as entrepreneurship education is continuously given to students enrolled in engineering courses, majority of the 2016 student cohort felt that they would rather be entrepreneurs than be employed. Based on these findings, the hypothesis that the entrepreneurship education has no significant moderating effect on the relationship between personality traits and students’ self-employment intention was rejected.

The results of multiple regression analysis indicated that the combined effect of the personality traits and entrepreneurship education, PT*EE (β = .593); is much greater than the effects of the individual predictors, personality traits (β=.456) on self-employment intention respectively. This implies that a unit change in any of the moderated variables will yield a corresponding greater change in self-employment intention compared to any of the unmoderated variables.
6 Conclusion

Based on the summary of the findings, personality traits were found to be fairly associated with self-employment intention among engineering students in TVET in Kenya. This study therefore, concludes that although personality traits positively influenced self-employment intention among engineering students in TVET institutions in Kenya, this association could be termed as weak. However, with the introduction of entrepreneurship education as a compulsory course among engineering students in TVET institutions, more students indicated that they would rather be entrepreneurs rather than be employed. This study therefore, concludes that the inclusion of entrepreneurship education as a compulsory course enhanced personality traits and these moderated variables strongly influenced self-employment intention among engineering students in TVET. The study findings further showed that exposure to entrepreneurship education does enhance self-employment intention levels by significant proportions. Specifically, exposing engineering students to entrepreneurship education resulted to a positive change in coefficient of determination (16.2% and 21.1%) thus confirming as having a moderating effect upon introduction of entrepreneurship education to personality traits. The finding of this study consequently confirms that the relationship helps to predict the effect of entrepreneurship education in self-employment intention. The major conclusion that can be deduced from the findings is that the compulsory entrepreneurship education course introduced in TVET institutions has major influence in modifying personality traits and these modified behaviour enhances students’ self-employment intention. The effect of entrepreneurship education among TVET engineering students is expected to motivate them towards self-employment as opposed to formal employment after graduating.
7 Reference


## Appendix 1

### Table 1: Need for Accomplishment Rotated Component Matrix

<table>
<thead>
<tr>
<th>Statements</th>
<th>Components and factor loading</th>
</tr>
</thead>
<tbody>
<tr>
<td>My aim in life is to make a long list of successful achievements</td>
<td>.999</td>
</tr>
<tr>
<td>For pressure and happiness one must enrich the record of one's achievement</td>
<td>.999</td>
</tr>
<tr>
<td>I am happiest when I am successful in my work</td>
<td>.999</td>
</tr>
<tr>
<td>As an achiever I tend to take my own risk</td>
<td>.999</td>
</tr>
<tr>
<td>I feel I am a self-starter who is driven by a strong desire to compete,</td>
<td>.999</td>
</tr>
<tr>
<td>pursue and attain challenging goals</td>
<td></td>
</tr>
<tr>
<td>Achievements motivate me more than anything</td>
<td>.997</td>
</tr>
<tr>
<td>I have a great need for performance feedback</td>
<td>.997</td>
</tr>
<tr>
<td>I like to do the best in whatever work I undertake</td>
<td>.997</td>
</tr>
<tr>
<td>I often desire to be successful in doing something very significant</td>
<td>.997</td>
</tr>
<tr>
<td>Establishing my own business is one of my major personal goals</td>
<td>.997</td>
</tr>
</tbody>
</table>

**Reliability coefficient: Cronbach alpha(overall=.912)**

*Extraction Method: Principal Component Analysis.*  
*Rotation Method: Varimax with Kaiser Normalization.*  
*a. Rotation converged in 3 iterations.*
Appendix 2

Table 3: Risk Taking Inclination Rotated Component Matrix

<table>
<thead>
<tr>
<th>Statements</th>
<th>Components and factor loading</th>
</tr>
</thead>
<tbody>
<tr>
<td>The entrepreneurship education course has greatly improved your risk taking propensity towards self-employment</td>
<td>.998</td>
</tr>
<tr>
<td>If the possible reward will be very high, I would not hesitate putting my money into a new business that will fail</td>
<td>.998</td>
</tr>
<tr>
<td>I will take a serious risk starting a new business after graduation</td>
<td>.998</td>
</tr>
<tr>
<td>Taking risks does not bother me if the gains involved are high</td>
<td>.998</td>
</tr>
<tr>
<td>I would always avoid taking unnecessary risks rather take calculated risks in my business</td>
<td>.998</td>
</tr>
<tr>
<td>I would enjoy trying every means to make way into exclusive business</td>
<td>.998</td>
</tr>
<tr>
<td>The thought of investing into a business excites me</td>
<td>.998</td>
</tr>
<tr>
<td>People have told me that I seem to enjoy taking chances</td>
<td>.998</td>
</tr>
<tr>
<td>I would enjoy the challenges of a project that could mean either a promotion or loss of a job</td>
<td>.998</td>
</tr>
</tbody>
</table>

Reliability coefficient: Cronbach alpha (overall=0.854)

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 3 iterations.
Appendix 3

Table 5: internal locus of control Rotated Component Matrix

<table>
<thead>
<tr>
<th>Statements</th>
<th>Components and Factor Loading</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td>My leadership depends mostly on my ability.</td>
<td>.999</td>
</tr>
<tr>
<td>I prefer work that requires original thinking.</td>
<td>.999</td>
</tr>
<tr>
<td>original ideas have occurred to me at almost any time of the day</td>
<td>.999</td>
</tr>
<tr>
<td>I believe my accomplishment and setbacks are within my control and can affect the outcome of my actions as an entrepreneur.</td>
<td></td>
</tr>
<tr>
<td>When I get what I want is usually because of working hard for it.</td>
<td></td>
</tr>
<tr>
<td>I can pretty much determine what will happen</td>
<td></td>
</tr>
<tr>
<td>My life will be determined by my own action as an entrepreneur.</td>
<td></td>
</tr>
<tr>
<td>Reliability coefficient: Cronbach alpha( overall=.747)</td>
<td></td>
</tr>
</tbody>
</table>

*Extraction Method: Principal Component Analysis.*
*Rotation Method: Varimax with Kaiser Normalization.*
*a. Rotation converged in 3 iterations.*