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Attitude as one of the factors affecting the performance of Technical and Vocational Education and Training (TVET) students: a case of NITA College – Nairobi.

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ATTITUDE AS ONE OF THE FACTORS AFFECTING THE PERFORMANCE OF TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING (TVET) STUDENTS: A CASE OF NITA COLLEGE - NAIROBI

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DECLARATION

I declare that this work has not been previously submitted and approved for the award of a degree by this or any other University. To the best of my knowledge and belief, the dissertation contains no material previously published or written by another person except where due reference is made in the dissertation itself.

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ABSTRACT

Kenya has set itself a target of being a middle-income country in the near future as envisaged in the country's Vision 2030. To achieve this, the Kenya Government has in the recent past made many efforts in setting up and equipping new technical institutions across the country to revamp the technical training of young people. But in spite of the many interventions by the Government to improve the technical adequacy of these institutions, many employers still complain about the quality of workmanship of the new recruits from the said institutions. This study delved into this matter and attempted to understand if non-technical factors contribute in any way to this situation. In particular, this study sought to understand the influence of the learners' attitudes in the preparation for the jobs in the manufacturing sector, with a focus on NITA College, Nairobi. A quantitative survey approach was used. Data was collected using questionnaires and the responses captured in a Likert scale. The collected data was then analyzed using appropriate software tools and hypothesis tests carried out. These findings were discussed, implications drawn, and recommendations made. The research collected research data from 94% of the sampled participants from NITA college - Nairobi. The results showed there was a high disparity in the gender of the students with only 12% female students taking the Welding & Fabrication and Electrical Technology courses at NITA college. Furthermore, more female students were more prone to register for ICT courses as opposed to artisan and craft proficiency courses. The analysis of the student performance showed that most of the students attained a grade of 70% in their last Electrical Technology Test in NITA and a score of between 60%-69% in their last Welding & Fabrication tests. Regression tests implied that 55.4% variability in student performance can be accounted for by the variable's attitudes based on intention, attitudes based on subjective norm, attitudes based on perceived behavior control. The study concluded that attitudes based on intention, attitudes based on subjective norm and attitudes based on perceived behavior control positively affect student performance. The study recommends that the institutions should form collaborative partnerships that will encourage the participation of female students in NITA programmes. Further, the institutions should encourage industry players to offer students internship and full-time job opportunities which can spur their academic performance. The study also recommends the institution should engage career advisers to tour secondary schools and provide materials to parents and teachers on the various programmes on offer as this will improve the student intention to enroll in the courses on offer.

Key words: **Student performance, Attitudes, Attitude based on intention, Attitude based on subjective norm, Attitude based on perceived behavior control, TVET institutions**

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ABBREVIATIONS AND ACRONYMS

JAB	Joint Admissions Board
KAM	Kenya Association of Manufacturers
KCSE	Kenya Certificate of Secondary Education
KNEC	Kenya National Examination Council
NITA	National Industrial Training Authority
TTI	Teacher Training Institutes
TVET	Technical and Vocational Education and Training

DEFINITION OF TERMS

Attitude	Incantalupo, Treagust and Koul (2014) refer to an attitude as a psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor.
Attitude based on intention	This is intention being based on a situation that is a part of a decision to achieve a particular action (Albarracin D. , Zanna , Johnson , & Kumkale, 2005)
Attitude based on perceived behavior control	This is seen as the perceived belief that people have what it takes to carry out a certain action (Hsieh et al, 2007),
Attitude based on subjective norm	This refers to the expectations of significant others in peoples' lives have also been known to affect attitudes and the eventual performance of actions (Muhonja, 2012)
Student performance	This is measured by the grade achieved in the student in Welding & Fabrication and Electrical Technology courses.

CHAPTER ONE

INTRODUCTION

The Country's efforts can be summarized as a huge campaign to build up new Technical and Vocational Education and Training (TVET) centers, to equip these institutions and to make this training affordable to young people. But are these measures which are aimed at building the capacity of TVET institutions enough to encourage young people to take up technical training and the resulting blue-collar jobs as a career path and bring about the much desired industrial and manufacturing revolution in Kenya? This chapter contextualized the study by offering some background information. A separate section was dedicated to the Statement of the Problem. Further areas dealt with the research objectives, research questions, scope and significance of the study.

1.1 Background of the Study

The creation of meaningful employment for its citizenry is a major concern for most governments, especially in the developing world (Ayandibu, 2017). Kenya is therefore moving towards the attainment of a middle-income country status as it pursues the country's Vision 2030. Among the important metrics to capture progress in this regard is the ability of the country to take its place among the manufacturing nations of the world as has been the trend with successful economies (Sallam, 2021). Industrialization and production of goods fit for trade in the global market presupposes a high level of workmanship which in turn demands a highly skilled labour force. Granted, Kenya is making major strides in reviving interest in vocational training among young people and in emphasizing this type of training as one that offers worthwhile career choices for young people (Hicks, Kremer, Mbiti, & Miguel, 2011). The study by Khatete and Chepkoech (2018) provided evidence that Technical, Vocational Education and Training (TVET) Institutions can provide the training necessary to impart essential skills and competencies necessary for the realization not only of the economic pillar of Kenya's Vision 2030 but also of the social pillar which addresses among other areas, education, training, gender youth and vulnerable groups.

The global situation is not very different, with the exception of a few developed countries. The share of youth (aged 18 to 24) neither in employment nor education in 2011 ranges from 4 percent (the Netherlands) to up to 20 percent (Italy and Greece) in Europe, 12 percent in Australia and New Zealand, and 15 percent in the US. This rate is seen to soar to highs of 20%

in Latin America and 25% in Africa. (Eichhorst , Rodríguez-Planas , Schmidl , & Zimmermann, 2012). In Kenya, among the post-secondary training options, TVETs are observed to have the highest growth rate across the education sector. The latest Government survey shows that whereas TTIs grew from 267 to 421 between 2014 and 2018 and Universities from 53 to 63 (not counting constituent Universities of the major universities), TVETs on the other hand increased from 755 to 2289 (KNBS, 2019). Among the TTIs, there are Pre – Primary teacher Training Institutions (both Public and Private), Primary Teacher Training institutions (both Public and Private) and secondary Teacher Training Institutions (both public and Private) (Magut & Kihara, 2019).

In Kenya, many young people complete secondary education and seek to advance to a formal professional training programme. The Kenya National Bureau of Statistics reports that the number of Kenya Certificate of Secondary Education (KCSE) candidates grew by 7.1% per cent from 610,501 in 2017 to 653,787 in 2018 (KNBS, 2019). Due to a reduction in the number of students who meet the minimum entry requirements for entry into Universities in Kenya set by the Kenya Universities and Colleges Central Placement Services (KUCCPS), very few secondary school leavers get admission into universities (KNBS, 2019). In fact, only a mere 14% of the secondary school leavers are now joining universities (KNBS, 2019). The Secondary school graduates who don't qualify to join universities and are desirous of continuing with post-secondary education have the option of enrolling in other tertiary training institutions in the country which include but are not limited to Teacher Training Institutions (TTIs), Medical Training Colleges (MTCs) and Technical and Vocational Education and Training (TVET) institutions.

There is a significant increase in investment in TVET institutions in the Kingdom of Saudi Arabia according to Aldossari (2020) whose study linked TVET registration and graduation with development of technical training that is crucial for the labor market. McGrath, et al. (2020) carried out a literature review on the potential of VET on Africa's development and found overwhelming emopirical evidence that there are successful and new ways to utilize TVET institutions to improve livelihoods throughout the continent. In South Africa, for instance, Mampane (2022) showed renewed efforts to increase participation of females in TVET programs as part of the National Development Plan 2030 that contains a pillar of economic independence and inclusion. Ramadan, Chen and Hudson (2018) associated TVET investment with higher acquisition of skills and competencies among prospetcive teachers in

South Sudan. In Kenya, Kirui and Kozicka (2018) study ascertained that TVET institutions are instrumental in transferring training for farmers which can stimulate agricultural development.

Under the big umbrella tag of TVET institutions, there are Youth Polytechnics (both Public and Private), Technical and Vocational Colleges (both Public and Private) and National Polytechnics. All the Public and National Institutions are financed by the Government while the Private ones are mainly faith based or owned and run by Private Trust bodies. The said TVETs are established under the Technical and Vocational Education and Training (TVET) Act 2013 that was Publicized in a Special Issue of the Kenya Gazette Supplement No. 44 (Acts No. 29) on 25th January 2013 and are regulated by TVETA (Technical and Vocational Education and Training Authority). The mandate of TVETA is to coordinate and regulate TVET in Kenya through registration, licensing, accreditation of institutions, programs and trainers, and implementation of the TVET National Quality Assurance System for development of a competent work force (TVETA, 2018). These TVETs offer a variety of courses which are needed in Manufacturing, Agricultural, Building and Construction, Tourism among other industries.

1.1.1 Performance of National Industrial Training Colleges

Every year, over 100,000 students sit various NITA Grade tests in approved Test Centres all over the country. Most of the registered TVET institutions in Kenya offer the NITA course among other accredited courses. As at February 2021, there were 54 different trade tests (NITA, The National Industrial Training Authority, 2021). NITA College Nairobi which is the chosen institution for this study is a public institution offering multiple courses, has a mixed population of boys and girls and with students from all over the Country. NITA College Nairobi is one of five premier NITA training Centres in Kenya. The others are NITA College Mombasa, NITA College Kisumu, NITA College Athi River and NITA Textile Training Institute. It is the oldest of the five, having been established in 1967. As such, the institution has a long-standing track record and experience of over 50 years in offering technical training of courses leading up to jobs in the manufacturing sector (GOK, The National Industrial Training Authority, 2020).

These attributes of NITA College Nairobi offer a good population to sample from in understanding the attitudes of students in TVET institutions and that will reduce any bias that could arise from an institution with little diversity. The manufacturing sector has been chosen for this study as it specifically accounted for close to 11.1% of all the formal jobs created in

Kenya in 2018 and 7.7% of the GDP. This makes it a significant sector for employment, considering it only comes third to Education and Agriculture, Forestry and Fishing. (KNBS, 2019). The Sector has been identified as a major agenda item together with Housing, Food Security and Nutrition and Health in the Big Four Agenda of the Kenya Government (GOK, 2018). If the Kenya Government is to be in tune with its Vision 2030 (GOK, 2007) and the international push of the Sustainable Development Goals numbers four, eight and nine on Quality Education, Decent Work and Economic Growth and industry Innovation and Infrastructure respectively (United Nations, 2015), then it is worth understanding the factors affecting the skills acquisition that Kenyan employers are looking for and any other undercurrents that could impact youth employability positively or negatively. As much as there could be many opportunities of training in TVET institutions, it is important to understand the attitudes that these students have towards the training they are receiving as this could affect their learning outcomes and eventually impact their performance in industry in future. To analyze these matters, the study examined the collected general feelings and the expectations of the students as the independent variables.

1.1.2 Attitude of Students

Incantalupo, Treagust and Koul (2014) refer to an attitude as a psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor. Attitudes have also been popularly defined as general and enduring positive or negative positive feelings about some person, object or issue (Huang, Backman, & Backman, 2010). Although both definitions give important insights on the nature of attitudes, the current trend seems to focus on those definitions which have embraced evaluative aspects of attitudes which in turn make it easier to operationalize the concept. Hence the selected definition for this study was the one by Incantalupo et al (2014), since it encompasses the key features of attitudes, namely, the tendency and its evaluative aspect. With this definition, it was easier to identify the components of attitudes and how to measure the same.

To effectively analyze the effect of attitudes on performance of actions, data of the identified components of attitudes will need to be collected for analysis (Yu, Glanzer, & Johnson, 2021). Huang, Backman and Backman (2010) summarize the various techniques that are widely used to collect data on attitudes as being either direct or indirect. The direct techniques involve asking the subjects to provide a self-report of their attitudes while with the indirect, the subjects' attitudes are measured without them knowing about it. The two main direct techniques are the

Thurstone scale and the Likert scale. The indirect techniques of measuring attitudes include methods like using disguised self-reports secret video tape recordings and use of galvanic skin reflex to measure physiological movements in the subjects that are then used to measure attitudes (Tittle & Hill, 2017).

Researchers agree that direct techniques yield better results in measuring attitudes compared to the indirect ones. This is due to the former's better performance on reliability and validity checks (Marttinen, Fredrick III, & Silverman, 2018). Attitudes have been observed to affect the performance of students in training (Albarracin D. , Zanna , Johnson , & Kumkale, 2005). In a study in Australia, it was observed that the attitudes that students had towards their learning environment did have an effect on how they approached their studies, which in turn affected their eventual performance. The study observed that when students perceived that their studies were hard, say as a result of the work load, the learning outcomes were poor as opposed to when they perceived that their studies were well designed and not a burden to them. In the second case, a lot of deep learning occurred as opposed to the first instance that had surface learning (Brown, et al., 2015).

The expectations of significant others in peoples' lives have also been known to affect attitudes and the eventual performance of actions (Lee, 2016). These are referred to as subjective norms. A study by Muhonja (2012) concluded that although female students from Western Kenya had a generally positive attitude towards science-based courses, their overall performance and ability to complete the course was more affected by the perception (peer) of their parents, especially their fathers, that these students carried with them to the College. The higher the level of education of their fathers, the higher the expectation was of the girls to succeed in their studies.

The perceived belief that people have what it takes to carry out a certain action has also been seen to affect the performance or not of the said action (Huang, Backman, & Backman, 2010). In a study by Hsieh et al, (2007), to determine if students' self-efficacy (belief in themselves to be able to accomplish a task) had any influence in their attrition rate, the results revealed that self-efficacy was positively related to good academic standing and hence reduced attrition. Thus, students taking TVET courses who have a high sense of their ability to absorb their training and make a career out of it are more likely to perform better in their studies while in college.

1.2 Statement of the Problem

Kenya's informal sector accounts for up to 65 percent of national employment and 75 percent of new jobs annually (Chang, 2021). However, Kenya still has a high unemployment rate with employment rates at approximately 11.47% (CEIC, 2018). This high rate of unemployment has been attributed to low skills and poor attitude towards manual work (Watindi & Rono, 2012). The Government of Kenya has identified Vocational Training and the Manufacturing sector as important areas of investment to spur economic growth and employment. In particular, the Government has set aside 17.1 billion Kenya Shillings for TVETs and is committed to increasing the manufacturing sector's contribution to GDP to 15% by 2022, create jobs annually, increase foreign direct investment and improve ease of doing business (GOK, Kenya Budget, 2019). According to Barasa and Festus (2015) empowering technical training institutions is key to creating a workforce that participates in the achievement of the country's development plan, Vision 2030.

In spite of this huge investment by the Government to prepare youth for employment, Muiya (2014) argues that graduates lack the quality expected of them at the end of their training. He states that youth polytechnics are ill-equipped, lack linkages with industries and are struggling to remain relevant in an increasingly service-oriented economy. Further, according to Teane and Gombwe (2022) the efficiency of TVET colleges in meeting their mandate of developing qualified artisans is a matter of intellectual debate. In Oman, Alami (2016) showed that students' poor motivation towards learning and teachers' poor attitude stemming from inadequate teaching resources contribute signifiantly to student performance in TVET institutions. Malaysia's Omar, Zahar and Rashid (2020) showed that the teacher's competency has a significant impact on students' motivation towards TVET programs. Benken et al. (2015) assertst that there is need to address students' attitude in addition to content and skills to improve developmental mathematics success among students.

Teane and Gombwe (2022) were assertive that the students' self-efficacy on the courses contributed to their passivity in class, which resulted in poor performance among students. In south Africa, Munyaradzi and Addae (2019) postulate that students face psychological challenges that impact their performance and that psychological support services improve students' academic performances, attendance, retention, and also enhance college certification rate. According to Ngoveni (2018) fear and negative attitude towards Mathematics contribute

significantly towards the failure rate of students in the TVET sector. Alamineh (2020) investigated students' performance and determined that their entrepreneurial intentions have a significant impact their performance while subjective norms were determined to have an insignifiant impact on student performance. Maina and Nyambura (2019) study shows that both personality factors and cognitive factors have a significant effect on students' self employment intentions and motivation towards their specific courses.

Maina and Nyambura (2019) affirm that despite significant research on the determinants of students' performance in TVET institutions, there is a lack of evidence on combined effect of individual factors. Further, according to Mutua (2021), TVET institutions face the challenge of creating a conducive learning environment, limited teaching and learning resources, poor qualification among the instructors and negative perception about TVET courses from the general public. This has in turn negatively affected student performance and self-efficacy towards the various courses. With minimal empirical research into the impact of individual attitude on student performance, this research will fill the gap and examine the impact of individual attitude on student performance at TVET institutions.

1.3 Objectives of the Study

1.3.1 General Objective

The general objective is to study the effect of attitudes as one of the factors affecting the performance of TVET students.

1.3.2 Specific Objectives

i. To determine the effect of attitudes based on intention on the performance of Technical and Vocational Education and Training Students at NITA College, Nairobi.
ii. To examine the effect of attitudes based on subjective norm on the performance of Technical and Vocational Education and Training Students at NITA College, Nairobi.
iii. To examine the effect of attitudes based on perceived behavior control on the performance of Technical and Vocational Education and Training Students at NITA College, Nairobi.

1.4 Research Questions

From the above Specific objectives, the following research questions was posed:

i. What is the effect of attitudes based on intention on the performance of Technical and Vocational Education and Training Students at NITA College, Nairobi?
ii. To what extent do attitudes based on subjective norm affect the performance of Technical and Vocational Education and Training Students at NITA College, Nairobi?
iii. What is the effect of attitudes based on perceived behavior control on the performance of Technical and Vocational Education and Training Students at NITA College, Nairobi?

1.5 Scope of the Study

This study focused on randomly selected students in NITA College Nairobi who are taking courses leading up to jobs in the manufacturing sector in Kenya. The selected students were those enrolled for courses of Welding & Fabrication and Electrical Technology. These courses have the widest application in different industries in the manufacturing sector in Kenya, as trained in TVETs in Kenya (GOK, The National Industrial Training Authority, 2020). The courses in question were those examined by NITA (National Industrial Training Authority). These courses are organized in three modules of approximately six months each, starting with Grade 3 to Grade 1. The time scope of the study was limited to October and November 2021. The theoretical scope of the study reviewed the theory of reasoned action and the theory of planned behavior. The study conceptualized attitude based on; intention, subjective norm and perceived behavior control. The methodological scope was limited to a quantitative approach in examination of how the study variables were related to each other.

1.6 Significance of the Study

The findings of this study are hoped to be of benefit to the TVET institutions that offer manufacturing related courses since they will come to realize if there are other factors that influence significantly the performance of their students in class and if this influence is positively or negatively significant. The Government of Kenya and other related stakeholders like the Kenya Association of Manufacturers (KAM) which try to improve youth employment statistics and industry productivity in the Country will also benefit from this study since they will be informed if there is need to restructure their investment towards youth training and to redirect investments not just towards physical training facilities but also in addressing personal

underlying issues affecting the trainees. Curriculum development bodies like the Kenya Institute of Curriculum Development (KICD), was authoritatively informed by this study on the need to include or not to include, non – technical content in the syllabus to address attitudes of students in TVETs. The general public especially parents/guardians was informed by this study if it is worth exploring other avenues of post-Secondary school training for their dependents given the revealed significance of their attitudes (if any) towards training in TVETs for the manufacturing sector.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter discussed some of the key literature in the field of attitudes and their effect on performance of a behaviour. The chapter specifically reviewed the theoretical and empirical literature. More specifically, there are studies on the analysis of attitudes by students on their performance. From these discussions, this study identified the specific components of attitudes relevant in analyzing the effect on performance of youth in technical training. The available literature was critiqued, and the proposed theories analyzed in appreciating their utility in explaining this phenomenon. Lastly, the chapter presented the conceptual framework and operationalization of the study variables.

2.2 Theoretical Review

2.2.1 The Theory of Reasoned Action

A noteworthy theory in analyzing attitudes on performance of actions is the theory of reasoned action which posits that behavioral intentions which immediately precede behaviour, are a key predictor about the likelihood that a certain action was performed (Azjen & fishbein, 1980). Simply put, a person is more likely to perform a behaviour if he/she intends to perform it. This intention is determined by the person's own attitude towards performing the behaviour and the perceptions of the expectations of the significant others in his/her life. Thus, attitude and subjective norm are the two main determinants of intention when a person has complete control over a situation.

In this regard, an individual will perform a certain task if the information that they possess about that task is that the outcome of their behaviour was beneficial and in line with the expectations of their social reference group. If the individual is not convinced of the utility of certain actions, based on their knowledge or beliefs, then they will not intend to perform it and subsequently not perform them or at best to perform them with a negative attitude. Similarly, if they consider that the significant others in their life do not look approvingly at the action they are about to perform, then they will most likely not undertake it.

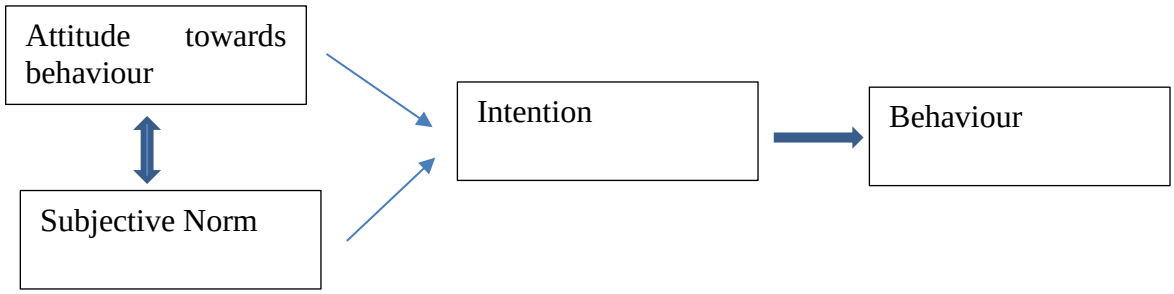

Figure 2.1 Theory of Reasoned Action Model

This theory has an interesting bearing to the situation under study. Applied to the effect of attitudes of TVET students towards performance in training, the above theory would posit that if a student has the belief that taking up a technical training course would not lead to a prestigious career or improve their financial status in future, then he/she will approach the training with a negative attitude that will in turn result to a poor performance. This could well be the case since in Kenya, the wages from craft work, the type of which is acquired from TVET institutions, is lower compared to the wages of jobs obtained after university studies (Agesa, 2011). Similarly, if the significant others of a particular student, for example the parents, consider TVET training to be inferior to a university education, then the student could be dissuaded and end up having a wrong attitude towards the training and eventually perform dismally. As demonstrated by Oketch, Mutisya, & Sagwe (2012), parents in Kenya actually have high educational aspirations for their children. As such a student who did not perform well enough in secondary school to qualify for university education could feel that he or she let the parents down.

This theory has been used extensively to explain behavioral outcomes. The TRA model aligns individuals' pathway from cognition, through affect (interest) and conation (intention) to performance and avers those beliefs impact behaviors. In the theory, beliefs influence individual attitudes and intentions and, that a combination of the three factors can influence a learner's behavior. This model is useful in this study as it provides a clear understanding of intrinsic factors in student behavior. Liu et al. (2019) applied the theory in examining the effects of entrepreneurial education and entrepreneurial self-efficacy on college students' perfromance. Etherton et al. (2022) used the theory to examine how self-efficacy, self-set goals, and anxiety impact resilience and student performance outcomes. This study will use the TRA to examine how behavioral control and subjective norms affect TVET student's motivation towards the learning process.

2.2.2 The Theory of Planned Behaviour

The limitations of the theory of reasoned action in dealing with behaviors over which people have incomplete volitional control made a case for its extension and the postulation of the theory of planned behaviour. The theory of planned behaviour incorporates the theory of reasoned action's idea that intention is a useful predictor of behavior and that attitude and subjective norms predict intention, but the theory of planned behavior includes a measure of the actor's sense of control over the behavior in question (Ajzen, 1991).

Thus, in addition to intention which is the mainstay of the theory of reasoned action, the theory of planned behaviour states that the actor's perceived behavioral control should be included in predicting the eventual behavior. Azjen (1991) argues that behavioral intention can only find expression in behavior if the behavior in question is under volitional control and so for those that the actors do not have volitional control, then their perceived behavioral control need to be factored in. To explain the concept of perceived behavioral control, Azjen borrows heavily from the works on self-efficacy by Bandura, who states that people's behavior is strongly influenced by their belief in their ability to perform it i.e. perceived behavioral control (Bandura, 1977). Thus, if someone is confident that they have what it takes to accomplish a task or act in certain way, then they will most probably intend to do the action and eventually perform it. The converse is true.

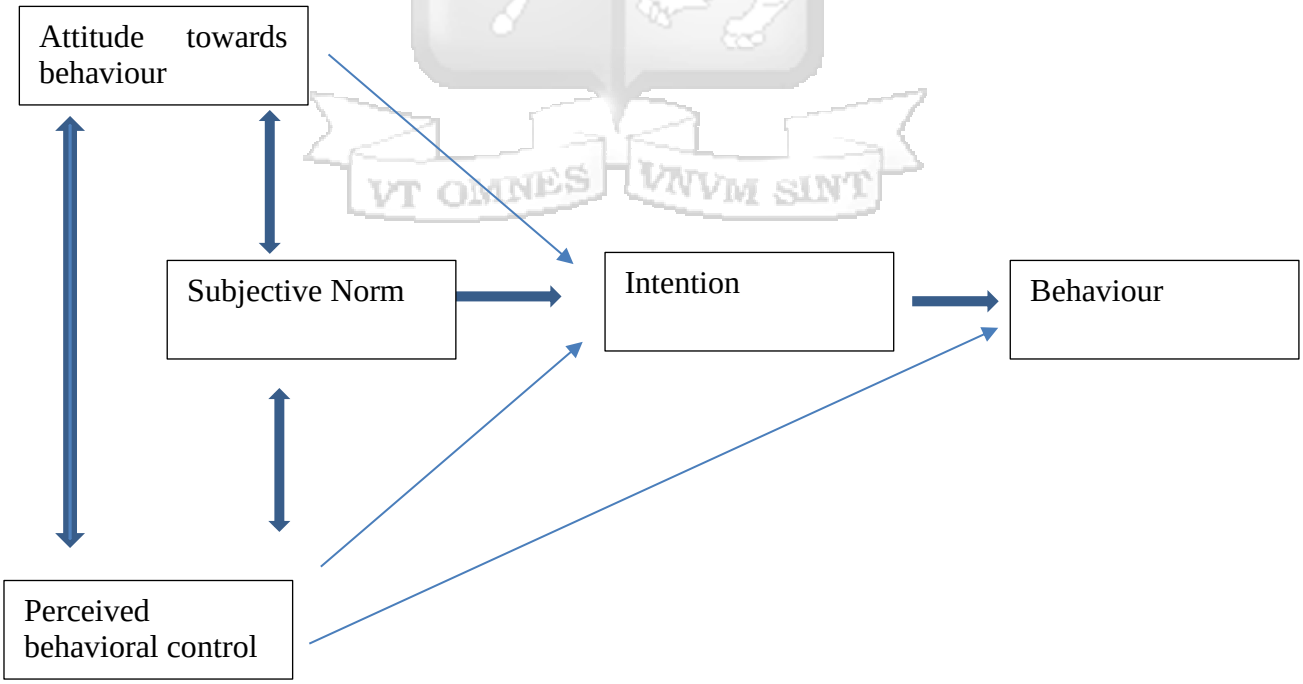

Figure 2.2 Theory of Planned Behavior Model

In relation to the attitudes of young people as a factor affecting their performance in TVET courses leading to jobs in the manufacturing sector, it was important to determine if these youth

(actors) feel that they have what it takes to undertake the said courses. If their perceived behavior is negative, then it was difficult to obtain positive results from their actions in as much as they may continue to be students of the said courses. This perceived behavior was thus be one of the key variables in the inquiry into the attitudes of TVET students under study. According to Pajeras & Urdan (2005), in constructing the measure for this self-efficacy, the respondents should be asked questions phrased as 'can do' as opposed to 'will do'. The former is a statement of capability whereas the latter is a statement of intention. This approach was used when constructing the questionnaire for the respondents.

The theory of planned behavior (TPB) has been employed extensively to predict individual intentions and motivations by considering not only personal characteristics but also social drivers. According to the TPB model, intentions are a function of attitudes towards behavior, subjective norms, and perceived behavioral control (Ajzen & Madden, 1986). TPB thus asserts that personal attraction towards high educational attainment would result in improved student's performance. Further, their perceptions regarding their ability to successfully complete a predetermined task, in this case, passing with high scores. Osakede, Lawanson and Sobowale (2017) used the theory to examine attitudes towards entrepreneurship and its impact on academic perfomance of undergraduate students in Nigeria. Sutter and Paulson (2017) used the TPB to predict collage students intention to graduate. Kyle, et al. (2014) used the TPB to examine how goal setting impacts student performance outcomes. This study will use the TPB to anchor the variables on attitude towards learning, perceived behavioral control and subjective norms and how these explain students' determination to be successful in their respective courses.

2.3 Empirical Review

2.3.1 Attitudes Based on Intention and Performance

Attitudes are beliefs regarding the outcomes of behaviors and the value of these outcomes to their well-being. Attitudes reflect an individual's perceived interpretation of the likely consequences of engaging in a particular behavior. According to Fazio (1995), attitudes can be a product of direct or indirect experience, and that attitudes formed from experiences have a more significant impact on future behavior than attitudes formed by indirect experiences. Attitudes emerging from direct experiences are stronger since they have greater clarity and they are held with greater certainty and confidence. The study by Tanti, et al. (2020) showed that attitude plays a key role in the success of students in sciences and mathematics courses. The

study by Elmalah, et al. (2021) made similar observations, reportnig that attitude has a great impact on student's intentions to take on extra lessons. This study examines whether students' attitude towards TVET institutions impact their performances and decisions to complete their specific courses.

Nawawi et al. (2020) examined the effect of the introduction of an integrated teaching system on students' interest in subjects within the Science, Technology, Engineering and Mathematics (STEM) field in Malaysia. The study sought after 100 pre-university students and examined their perceptions of the STEM education module and its influence on stimulating their interest on STEM. The study adopted a naturalistic inquiry in its examination and interrogated the students before and after the introduction of the system. From the analysis, it was determined that STEM module introduction had a negative impact on students' intention to partake in STEM programs in the future. However, it was determined that the module increased confidence and self-belief in the ability of students who were interested in STEM programs in the future. The study concluded that implementing outreach programs with attractive activities can improve students' intrinsic motivation for science and mathematics learning.

Saraih et al., (2020) sought after how the three tenets of Theory of Planned Behaviour (TPB) relate to entrepreneurial intention among TVET students in Malaysia. The descriptive survey study involved 163 fourth year students in one technical secondary school. Correlation analysis was used in measuring the relationships between the predictor variables and entrepreneurial intention. The analysis revealed that only subjective norm had a strong positive effect on students' entrepreneurial intent. Attitude and perceptions of self-efficacy all had minimal impacts on student's intention to succeed and open businesses after the training programs. The study suggested that being aware of possible entrepreneurial careers, family support, having strong and dependable supporting networks facilitated by connections with successful entrepreneurs, and role models such as successful alumni can strongly motivate students towards achieving certain career goals. However, attitude towards entrepreneurial practice behaviour and the students' self-efficacy had no significant effect on entrepreneurship intention for the students.

Harvey (2019) investigated the perceptions of the implementation of best practices in TVET centers of education in Jamaica and their impact on student preparedness for career choice. The study focused on one institution and adopted a qualitative research design. The study sourced data through interviews, questionnaires, observations and from stakeholder reports on graduates' quality and preparedness for the technicality of the business world. The analysis showed that lecturers' formal training, their perceptions of the tools afforded, and their soft

skills all shaped their expectations of themselves and of their students. The quality of the lecturers' instructional delivery, skills and approach were also reported to positively influence students' dedication and personal drive to succeed, hence improved their preparedness at various levels of the educational structure in Japan. The study helped in identification of an approach that would move students towards self-empowerment and economic growth.

Andiema and Manasi (2021) sought after factors that drive female students' participation in TVET programs in West Pokot County, Kenya. This study was motivated by the low registration rate among women in the county. The study collected data using interviews and documentary evidence. Analysis involved both qualitative and quantitative methods. The analysis revealed that only 45% of female enrollees fully completed their programs. The courses offered tended to attract male students compared to female students, and the instructors were also male-dominated. The analysis revealed that socio-cultural factors, lack of role models and poverty were among the barriers affecting female students' enrollment. The study recommended the government introduces female friendly programs that can add valuable skillsets to young women. Further, women should be involved in design and instructional delivery to improve attitude towards the courses and to increase ownership of the courses proposed.

Magudha (2015) looked into the effect of the determinants of programme implementation on student's performance in youth polytechnics in Siaya County. Specifically, the study sought after students' attitude, extent of provision of teaching and learning resource, qualifications of instructors and managers' and supervisor practices influenced program implementation within youth polytechnics. A descriptive survey research design was adopted and data was collected using questionnaires and an observation checklist. The analysis showed that the polytechnics in the county had inadequate teaching and learning resources such as training equipment, classrooms and libraries. They were also short on quality human resources since the teachers lacked recommended qualifications, have limited experience and are inadequate in number. These factors negatively impact the students' intention to enroll in these institutions. Further, polytechnics had negative public perception since they accepted students with low marks. This resulted in a negative attitude among potential students who did not want to be associated with those perceived to have failed in high school. Conclusions were that increasing teaching and learning resources through technologies adoption, changing societal perceptions and improving the quality of facilities and enrollees would result in a positive attitude and improved performance among students and teachers at the institutions.

2.3.2 Attitudes Based on Subjective Norm and Performance

Ajzen and Fishbein (1977) defined subjective normative beliefs as an individual's impression of the acceptability of a certain behavior by the larger society, peers or their idols. Subjective norms evaluate the degree to which one believes that their actions will be approved by significant others, or whether significant others will be willing to engage in certain behaviors. Operationally, Ajzen (2002) asserts that subjective norms can be split into injunctive norms and descriptive social norms. Injunctive norms concern the social approval of others (what important other people think), while descriptive social norms concern perceptions of what important people do. According to Muliadi and Mirawati (2020) subjective norms have a significant impact on motivation to behave in a certain manner and can spur interest in particular subjects. Aji, Berakon and Riza (2020) are assertive that social pressures increase individuals' awareness and arouses usage intentions. This study will assess whether significant members of the society can impact students' intentions to pursue and succeed in technical courses.

Zhi and Atan (2021) investigated the factors that influence student's attitudes towards TVET institutions by examining the how teacher influence, parent influence, peer influence, future career, grades in school, job potential and socio-economic background influence intention to enroll into the UTHM Johor technical courses class. Descriptive and correlational analyses were adopted in analysis of the relationships between the study variables. The analysis determined that while all the variables impacted students' attitude towards the courses offered, peer influence and parent influence were the most significant predictors of TVET students' choice and success at courses. Joint programs were recommended as a means of increasing motivation for key courses. Parents and peer groups could be trained in such seminars on how to motivate specific groups of students.

Rugengamanzi (2018) investigated the factors that influence Students towards Acquisition of Technical and Vocational Skills in IPRC Kigali. Specifically, the study sought after the effect of students' attitude towards Technical and Vocational Skills, to examine Gender, Social Status, parental influence and student's perception towards technical work; and to establish the relationship between the above factors and acquisition of technical and vocational skills. The study adopted a descriptive survey design and randomly sampled 186 students and staff at the IPRC Kigali. Data was collected through observations, interviews and questionnaires. The study analyzed the relationships using the Pearson Correlation Coefficient. The analysis determined that female students had a poor attitude towards technical subjects and this affected their enrolment, but had an insignificant impact on their performance. However, although parents supported the acquisition of technical skills, it was noted that parents were skeptical

about the job opportunities available with the skills acquired. They were worried vocational skills would negatively impact marriage opportunity since demands associated with the job could result in unscheduled work demands and incompatibility of vocational profession with mother's care at work. The study also showed that students' perceptions on their basic skills, parental influence and gender affected perception of vocational skills. The study called for increased incentives to change female students' perceptions and attitudes towards TVET institutions.

In another study on facilitators of TVET student performance in Malaysia, Ibrahim (2015) carried out an investigation into the impact of entrepreneurial training on technical students' entrepreneurial intent. The study sourced data from 289 final year students from National Youth and Skills Institutes and community colleges. The qualitative study used random cluster sampling in selection of the population. The study determined that the students had high entrepreneurial intent owing to the high development of entrepreneurial education programs. Entrepreneurial education increased student awareness about careers that exist in the entrepreneurial field, and increases their confidence in success in business. The study called for technical schools to establish a culture of entrepreneurship, and thus increase student intention to choose entrepreneurship as a career path.

Okwelle and Ayonmike (2014) sought to proffer a positive value re-orientation program that could improve the youth's perspective on TVET institutions in Nigeria. The researchers noted high negative perception of TVET institutions among the youth. The study sampled 66 TVET instructors from three TVET institutions. The study determined that TVET educators were aware of their essential role in promoting sustainable development. However, students' perception was that TVET education was not as valuable as general education. This negative perception impacted societal value and investment into TVET institutions. This was reflected in high investment into universities and low proportionate investment into TVET institutions. Further, the government's impression appears to suggests that TVETs are meant to keep track of 'drop outs'. This has hindered development of TVET institution and has impacted the quality of education delivered, thus negatively impacting student outcomes. The study ascertained the need to develop value re-orientation of youths on the relevance of TVET institutions to the country's sustainable development. The government was also urged to mount a favorable policy and legislative environment to change the image of TVET to the public.

Maina and Nyambura (2019) sought after the combined impact of personality factors and cognitive factors on self-employment intentions among TVET students in Kenya. The study adopted a cross-sectional survey research design and sourced data from 41 TVET institutions

in Kenya. Pearson's Coefficient Correlation was used in examination of the relationship between students' internal locus of control, need for accomplishment, perceived social valuation and personal attraction and students' intention to pursue entrepreneurial practice. The analysis determined a significant and positive relationship between combined effect of the study variables. Further, although personality and cognitive factors influenced entrepreneurial intent, combining both of the variables enhanced the effect further especially among students undertaking engineering courses.

Ohanya, Kiplangat and Ngala (2020) aimed to establish the relationship between selected psychological factors and female students' choice of TVET institutions to advance their careers. A descriptive research design was adopted in this study and the study looked into how social-cultural, economic, psychological and institutional context factors influence female students' career paths. Census and proportionate sampling were utilized in selection of the study respondents. The analysis found a negative and significant relationship between psychological factors and female students' career choice in science TVET Programmes. The study therefore concluded that psychological factors have a significant influence on the type of institution that female students choose. The students' perceived intellectual capacity, attitude towards TVET courses, perception of complexity of TVET courses, and level of aspiration to take a technical career influenced students' choices significantly. Recommendations were for TVET institutions to increase program offering to ensure different female demographics can be attracted to TVET institutions.

2.3.3 Attitudes Based on Perceived Behavior Control and Performance

According to Ajzen (1991), perceived behavioral control refers to an individual's belief regarding their ability to accomplish something, or that their actions are a result of their own volition. Operationally, PBC can be assessed by investigating the ease or difficulty of accomplishing the behavior. PBC is a component of Ajzen's theory of planned behavior and has been credited to explain a wide range of human motivations and intention to engage in a certain behavior such as exercise (Tilga, Hein, Koka, Hamilton, & Hagger, 2019), purchase certain types of food (Aitken, Watkins, Williams, & Kean, 2020), and even succeed in certain courses (Etherton, Steele-Johnson, Salvano, & Kovacs, 2022). According to Ajzen (2002), perceived behavioral control encompasses perceived self-efficacy (one's belief about their own ability) from Bandura (1991), and perceived controllability which is an individual's belief that their behavior is within their control (Ajzen, 2002). This study will investigate how these factors influence students' ability to attain high scores in TVET institutions.

Paryono, Spottl, Schroder and Goh (2017) examined the relationship between personal trait and entrepreneurial intention among students in tourist vocational training institutes in Badung Province, Indonesia. The study sampled 114 students in different schools in two cities. Data was collected using structured questionnaires and interviews. The analysis employed an ex-post facto method in ascertaining the determinants of entrepreneurship intention of catering class students. From the analysis, the researchers were able to determine that self-efficacy is a significant predictor of student success. It was determined that the respondents' self-confidence, belief in their own abilities and attitudes were the main factors determining students' success in exploring business as a career. This study the study also determined that students' personal background, age and sex did not predict entrepreneurial intention among students. Recommendations were for teachers to employ learning methods that would instill confidence and attract learners towards entrepreneurial careers.

Esau (2018) carried out a study with a specific aim to determine how students' perception of parental involvement in facilitating education influences their performance. The study postulation was that involvement of parents in education has significant influences on students' emotional, intellectual and social development. The qualitative study focused on a single institution and collected data using semi-structured interviews and a focus group discussion. The data was guided by the interpretivist paradigm. The study determined that encouragement from parents, assistance during enrollment, financial and emotional support in continuation of studies, and challenging to achieve more positively impacted the performance of the students. The analysis determined that students who perceived to receive support from parents at various stages of their education fared well in school, highlighting the importance of parental involvement in mediating students' individual and academic success.

Yasir, Liren and Mahmood (2019) sought to assess the effect of entrepreneurial education on students' business intention and whether self-efficacy played any mediating role. The study adopted a cross-sectional descriptive research design and there were 500 respondents. The study inquired about respondents' attitude, entrepreneurial intention, attitude, subjective norms, such as normative beliefs, perceived behavior control, self-efficacy, and education. Chi-square tests were used to examine the relationship between the study variables. The analysis revealed that most of the respondents had high entrepreneurial intention and had high self-belief in their own success due to their perceptions of the benefits of entrepreneurial education. The respondents agreed that entrepreneurial training increases respondents' understanding of generative innovative ideas and builds confidence in their business management skills. Further, students' perception of family support was also reported to influence their intention to start new

businesses. This study failed to establish a relationship between the variables and student performance.

Abdullah, Husin, Paimin, Mohamed and Mahat (2021) investigated the effectiveness of a TVET program and an entrepreneurship training program among prisoners in Malaysia. The study adopted a quantitative review approach. Pearson's Correlation was used in analysis of the relationships between the variables and inmates' perception about the effectiveness of the programs. From the analysis, the researcher determined that the prisoners who had enrolled into the two programs considered them highly effective to improving their likelihood of re-integration into society. It was determined that prisoners perceived the programs to be important, the skills being taught easy to master, interesting, and that the instructors had high skills in the field taught. TVET and entrepreneurship programs were identified as a means of reducing recidivations and unemployment rate among ex-inmates. The study called for the government to establish a re-integration support program to assist in sustainable re-integration into society. This study specified TVET performance among prisoners.

Tarnongu (2016) carried out an investigation into the impact of intrinsic motivation on students' performance in TVET institutions in Nairobi and Nakuru counties in Kenya. The study acknowledged the existence of negative perception of TVET institutions but sought after the driving factor for success among TVET students. The study adopted a cross sectional research design and collected data from 354 respondents. Descriptive analysis revealed that the students in the sampled institutions had an overall high intrinsic motivation. However, the study established no immediate link between intrinsic motivation and student performance, noting that even underperforming students still had high recorded levels of intrinsic motivation. Conclusions were that student performance was influenced by other factors not related to the students' intrinsic motivation. This study focused on intrinsic motivation and did not assess how perceived control and subjective norms impact students' performance.

In a similar study on students' entrepreneurial intention, Kamau (2016) focused on examining Kenyan higher technical institute students and students at the United States International University Africa. The study specifically sought to determine the effect of personal attitude, subjective norm and perceived behavior control on students' entrepreneurial intent. The study sourced data using structured questionnaires from face-to-face survey collected from 300 students. Analysis involved Exploratory Factor Analyses (EFA) and structural equation modeling. The study analysis revealed that personal attitude is the most significant predictor of students' entrepreneurial intentions. However, the study determined that personal attitude had to be complemented by the students' perceived behavioral control since it was also determined

to affect an individual's decision-making process. Subjective norms were discovered to have a significant but inverse effect on students' entrepreneurial intention. The research was however not focused on a TVET institution which was the focus of the current survey.

2.4 Summary of Research Gaps

The above studies have been shown varied factors that have a significant influence on the performance of students at TVET institutions, with most focusing on how various concepts of people's attitudes affect their intention to pursue entrepreneurial practice, a key goal of TVET institutions being to facilitate the transfer of technical skills and knowledge to students to enable them to be self-sufficient in their own businesses. Most of these studies affirm a positive effect of attitude factors on students' intent to pursue entrepreneurial careers. The identified gaps are discussed below. Esau (2018) assessment revealed that parental support through the courses offered and in acquisition of technical study tools had positive effects on the performance of TVET students at the Stellenbosch University, South Africa. This study was based in South Africa, which, although similar, has different economic pressures, policies and cultural outlook on technical institutes' role in the economy. In the study by Kamau (2016), it was determined that while personal attitude and perceived behavior control positively impacted students' intention to explore entrepreneurial practice, subjective norm had a significant negative effect. These two studies were case studies while the current study sought to explore performance factors in multiple institutions. Tarnongu (2016) determined that intrinsic motivation had an insignificant impact on student performance, affirming that other factors could impact student's ability apart from internal desire. This study specified on investigating only one aspect of attitude; intrinsic motivation. The current study reviewed various sources of motivation and their impact on student performance. The study by Abdullah (2021) examined the impact of TVET education on prisoners' re-integration and failed to assess student aspects. In the study by Paryono, Spottl, Schroder and Goh (2017), tourist technical training institutes were the focus; and the study adopted ex-post facto method in analysis of collected data. In Uganda, Rugengamanzi (2018) examined the effect of social status, gender and parental influence; this study did not out how attitude difference impacts their performance. The study by Ohanya, Kiplangat and Ngala (2020) and Andiema and Manasi (2021) also focused on female student's performance; the current was not discern the gender of the respondents. Maina and Nyambura's (2019) study was a cross-sectional survey featuring TVET institutions in multiple counties in Kenya; the current study focused on institutions in Nairobi, the country's capital. In Siaya County, Magudiia (2015) specified on determinants of program implementation; it did not

specifically assess student drivers to succeed in the implemented programs. The study by Nawawi et al. (2020) specifically sought after the effect of introduction of STEM module in secondary schools on high schoolers' career choice, it did not assess students in the TVET institutions and factors that motivate them to pursue their careers. These gaps were addressed by specifically examining the effect of attitude based on intention, subjective norms and perceived behavior impact student performance.

2.5 Conceptual Framework

This section outlined the conceptual framework by setting out the constructs of this study through a diagrammatic representation. Using the above literature review, the conceptual framework highlighted the relevant variables to be used in the study, how these variables are to be defined during data analysis and how to finally interpret model results. In line with the literature review informing this study, the independent variables were the data collected on intentions of the students, the expectation of the significant others (subjective norms) and the perceived behavioral control of the of TVET students towards their training. The dependent variable is the performance of the students in their TVET training.

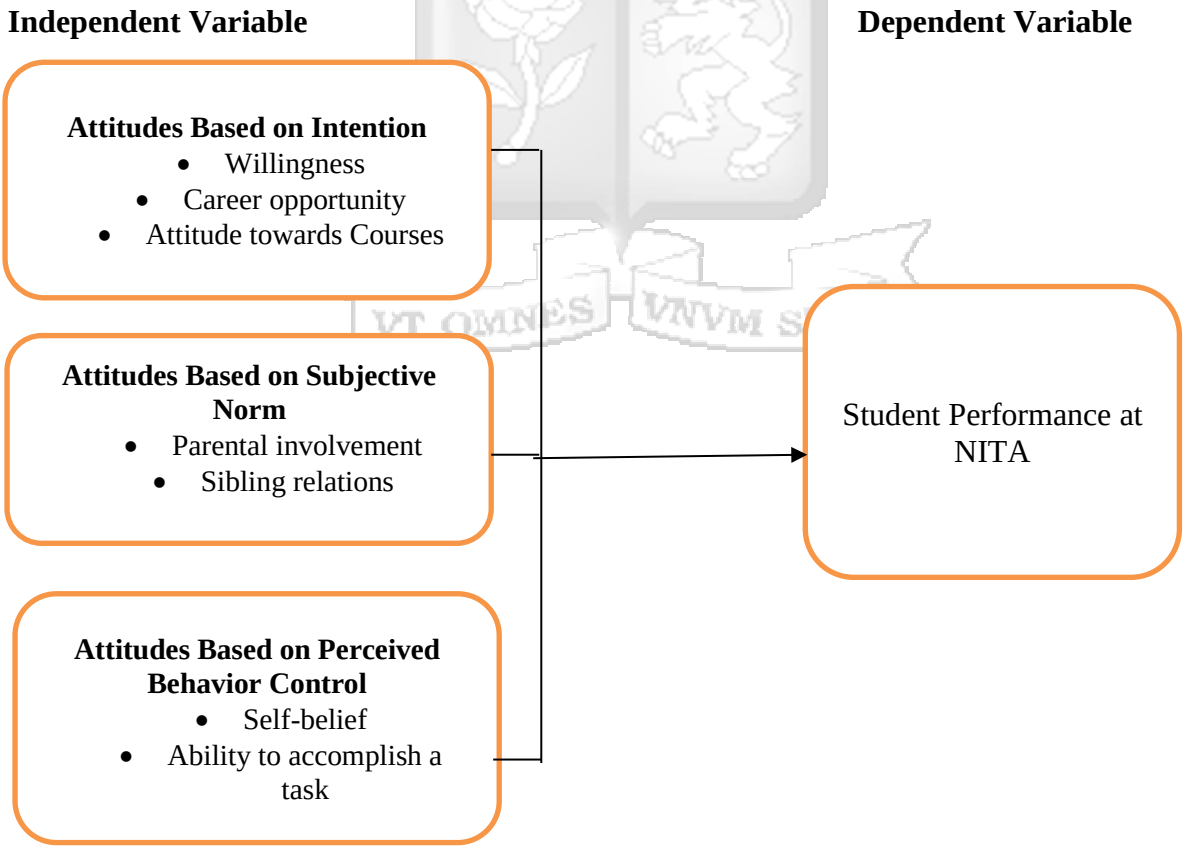

Figure 2.3 Conceptual Framework

The above conceptual framework identified the hypothesized interaction based on the effect of the attitudes on the performance of TVET students towards training for courses leading to jobs in the Manufacturing sector in Kenya.

Table 2.1 Operationalization of Study Variables

Variable	Indicator	Measurement	Supporting Literature
Attitudes Based on Intention	Willingness Career opportunity Monetary gain	Likert scale measurement	Nawawi et al. (2020); Saraih et al., (2020); Harvey (2019)
Attitudes Based on Subjective Norm	Parental involvement Sibling relations	Likert scale measurement	Zhi and Atan (2021); Rugengamanzi (2018); Okwelle and Ayonmike (2014)
Attitudes Based on Perceived Behavior Control	Self-belief Ability to accomplish a task	Likert scale measurement	Paryono, Spottl, Schroder and Goh (2017); Yasir, Liren and Mahmood (2019); Tarnongu (2016)
Student Performance at NITA	Grade Electrical Technology Test Grade Welding & Fabrication tests	Likert scale measurement	Incantalupo, Treagust and Koul (2014)

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter addresses the research methodological approach, the method of data collection, the method of data analysis and give a justification on the methodological choices used in analyzing attitudes as factor affecting the performance of TVET students towards training for the manufacturing sector in Kenya. It covers the issues relating to the sampling process, the sample size and the validity and reliability of the data used.

3.2 Research Philosophy

According to Saunders , Lewis and Thornhill (2009), a research philosophy can be said to be a conviction about how information about a wonder ought to be accumulated, investigated, and utilized. This investigation embraced a positivist exploration theory. Positivism is related to a self-comprehension of logical action in which sociology is free of the truth it portrays (Riley, 2007). The positivist worldview declares that genuine occasions can be watched observationally and clarified with a sensible examination (Kaboub, 2008). This philosophy was key in guiding this research study that was based on a quantitative approach in determining the association between attitudes and the performance of TVET students.

3.3 Research Design

The research design gives an overall view of the method chosen and the reason for that choice (Saunders , Lewis , & Thornhill, 2009). This section captures the structure of the research and provides an indication to the kind of research methods that was employed, i.e., the sample, measures, and methods of data collection that was used to address the central research questions. This study employed a survey study approach in collecting data on attitudes of students towards TVET training for the manufacturing sector. Price et al, (2015) notes that a survey study approach is a quantitative method where the variables of interest are measured using self-reports. The research design also was critical to determining the extent of the relation between the selected research variables.

3.4 Target Population

The population for this study is the whole lot of students in NITA College Nairobi taking TVET courses leading to jobs in the manufacturing sector (Welding & Fabrication and Electrical Technology) and were admitted in the last two intakes. This population provides a good basis for this study because it not only captures the technical training modules under study, but the institution has a diverse group of students, both male and female, of different ages, levels of study and from different parts of the Country. This is important to ensure that any biases arising out of any special categories of students are eliminated. The population for this study is 375 students (NITA Nairobi Register).

3.5 Sampling Design and Sample Size

The sampling frames as a conglomeration of events and happenings from which a sample be drawn. It contains a list of individuals, items, or events, which the research can sample for the study (Burns & Grove, 2003). The sampling frame was drawn from registered students at NITA college Nairobi. A sample is a proportion of a population selected for observation and analysis and used to make an inference to the population from which it was obtained (Cooper & Schindler, 2008). The sample for this study was derived from the 375 students at NITA college. The research applied convenience random sampling in the selection of participants for the study. The selection criteria ensured that all students within the school had an equal chance of being involved in the study and there was no bias in the selection of participants. The sample size for the study was calculated using the Yamane formula as shown below;

$$n = \frac{N}{1 + N(e2)}$$

Where: n is the sample size, *e* is the error term, and N is the total target population

N = 375

$$n = \frac{375}{1+375\ (.05\ x\ .05)}$$ = 193 respondents

The final sample for the study was 193 students that were drawn from NITA College Campus in Nairobi County.

3.6 Data Collection Instruments

This study utilized questionnaires to collect primary and quantitative data for analysis. The respondents in this study were asked to voluntarily participate in the survey by filling in a questionnaire, i.e., self-administered. The data from the questionnaire was collected using a Likert scale. The questions of the questionnaire were drawn from the discussed variables of the intention of the student, the expectation of the significant others and the perceived behavioral control of the student towards his/her TVET training.

3.7 Data Collection Procedures

A copy of the questionnaire used to collect the required data using a Likert scale is attached in the appendix. The questionnaire has been chosen as the mode of data collection based on its merits in this study type. The data collection exercise was at the TVET institution (in the classes). The students filled the questionnaire online with the researcher providing them with a tablet to fill in their responses in the created Google form. In the event that the respondents were not available in a classroom set up, then the same survey was transmitted to them through the online platform and the respondents given a channel to raise queries using the same platform. The latter method is cheaper and convenient if a majority of the respondents have access to the online platform. The data collection exercise was embarked on as soon as possible

3.8 Research Quality

To safeguard the quality of the research, the process was tested for reliability and validity. The pretest of the study instrument was conducted with a 10% of the sample participants of the survey. This was key to ascertaining the two key metrics on the research quality.

3.8.1 Validity Tests

Validity tests determine the extent to which the instrument measures what it was designed to in terms of accuracy and meaningfulness (Saunders, Lewis & Thornhill, 2009). Various ways through which validity tests can be carried out include: face to face validity, content validity, construct validity, criterion (predictive) validity and convergent validity. In this study content validity was adopted as it is a fairly straight forward and quick way to check if the responses from the survey are meaningful. This was achieved by confirming some key responses with reliable secondary data that is already available. For example, NITA College already has data

on the gender and age ranges of the students and this provided a good estimate of what is to be collected through the survey when similar questions are asked. In addition, in this research, a tried and tested tool (questionnaire) was employed for data collection after trial tests of this said tool is conducted. Through the trials, any arising inconsistencies in the instrument for data collection was highlighted and corrected A similar study analyzing the attitudes of learners that was done in the United Kingdom used a similar approach. The information collected was then quantified and an in-depth analysis done to measure the various variables of the study (Sturges et al, 2000).

3.8.2 Reliability Tests

According to Cooper and Schindler (2011) reliability is the extent to which the measuring procedure is consistent in producing the same results in repeated trials and is free from random errors and validity is the is extent to which the questions measure what the researcher wishes to measure. To check for reliability, the study utilized the Cronbach coefficient. According to Ercan, Yazici, Sigirli, Ediz, & Kan (2007) the reliability of a scale can be examined through different ways like, by applying the scale once, applying the scale twice or applying the equivalent scales once. In case of applying the scale once, the quest is to unravel the reliability of internal consistency. The resulting coefficient ranging between 0 and 1 is referred to as the Cronbach coefficient or Cronbach alpha after Cronbach (1951).

Table 3.1 Reliability Results

Construct	Cronbach's Alpha	N of Items
Attitude based on intention	.860	3
Attitude based on subjective norm	.850	3
Attitude based on perceived behavior control	.934	3
Student performance	.740	2

Source: Survey Data (2021)

The research tool was pretested with 20 students at NITA College campus and were not involved in the final research. The analysis showed that the research constructs had all attained Cronbach Alpha scores of above 0.7, as presented in the Table 3.1 above; hence they were utilized in the primary research without further alterations in the research survey instrument.

3.9 Data Analysis and Presentation

The data earlier collected in a Likert scale and has various numbers assigned to each response, was entered and coded in Microsoft Excel and SPSS for data editing and analysis. Given that this study uses quantitative data, both descriptive and inferential techniques was employed in the analysis (Price, Jhangiani, & Chiang, 2015). The descriptive analysis comprised of means and standard deviation as well as percentages. The inferential analysis involved utilization of Pearson correlation and multiple linear regression. A regression model was used in checking for magnitude of relationship between the dependent and independent variables.

$$Y = \beta_o + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$$

Where:

Y= Performance of the students

β_o – Constant term

β_1 – Beta coefficient of variable i used as a measure of the change in Y to change in i

X_1 – Attitudes Based on Intention

X – Attitudes Based on Subjective Norm

X_3 – Attitudes Based on Perceived Behavior Control

3.9.1 Diagnostic Tests

Normality tests to establish was done to establish if the data set is well-modelled by a normal distribution. If the data passes this test, then it can be deduced that the population from which the sample was selected is also normally distributed. The study used the Shapiro-Wilk test for this (Asghar & Saleh , 2012). Multicollinearity tests to check whether there is any inter-correlation among the explanatory variables. Multicollinearity occurs when two or more independent variables are highly (but not perfectly) correlated with each other. If the multicollinearity is unacceptably high then the reliability of the model cannot be affirmed (DeFusco, McLeavey, Pinto, Runkle, & Anson, 2015).

3.10 Ethical Considerations

As this study involved human participants to collect primary data, appropriate permissions was obtained from relevant institutions. These authorizations was sought in writing from Strathmore University's Institutional Ethical Review Board (IERB) and another permit sought from

Kenya's National Commission for Science Technology and Innovation (NACOSTI). Further to these, a consent to carry out the research from NITA College Nairobi was obtained from the institution. Another body of key stakeholders in the study are the students (respondents) of NITA College Nairobi. Before the survey is conducted, the identified students was informed of the identity of the researcher, the purpose of the study, what the researcher plans to do with the data collected, the usefulness of the information from the study not just for them but for many other different groups. Their full and free consent was obtained, and they were equally informed that their responses was treated with utmost confidentiality. Their personal details were not asked for since they responded to the survey questions anonymously. For those interested in the results of the study, the same was communicated to them and as such they were asked to submit their email addresses separately.

CHAPTER FOUR

PRESENTATION OF RESEARCH FINDINGS

4.1 Introduction

This chapter was employed in the study to present the findings that were derived from the analysis of the collected study data. The research focused on the student performance from NITA with the collected data analyzed utilizing quantitative analysis techniques. The chapter comprised of the background information, descriptive analysis, correlation and regression tests. Lastly, the chapter summary was presented.

4.2 Response Rate

The study focus was on collecting research data from students drawn from NITA College Nairobi taking TVET in Welding & Fabrication and Electrical Technology courses. The study sample was 193 participants with the study able to obtain responses from 94% (n=182) students with only 6% (n=11) students not able to be included in the survey within the specified research period. This response rate was adequate for application in the quantitative analysis and making inferences on the larger population.

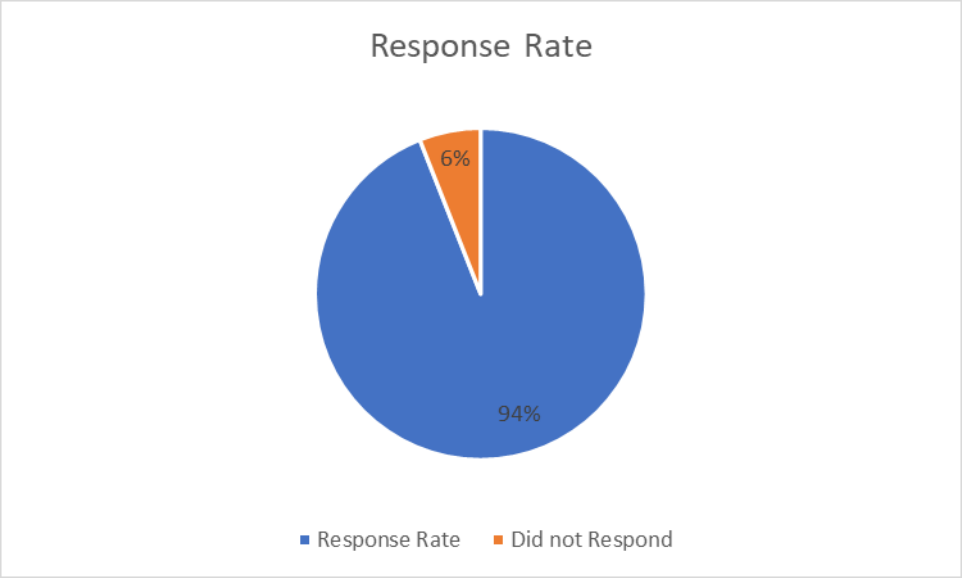

Figure 4.1 Research Response Rate

4.3 Background Information

The study considered various demographic profile of the students to obtain a background of the participants that were included in the survey. The analysis of the responses obtained is presented in this section.

4.3.1 Age of the Students

The study analyzed the age distribution of the participants included in the survey and the findings showed that 99% (n=181) of the students were between age 18-35 years and 1% (n=1) were below 18 years of age.

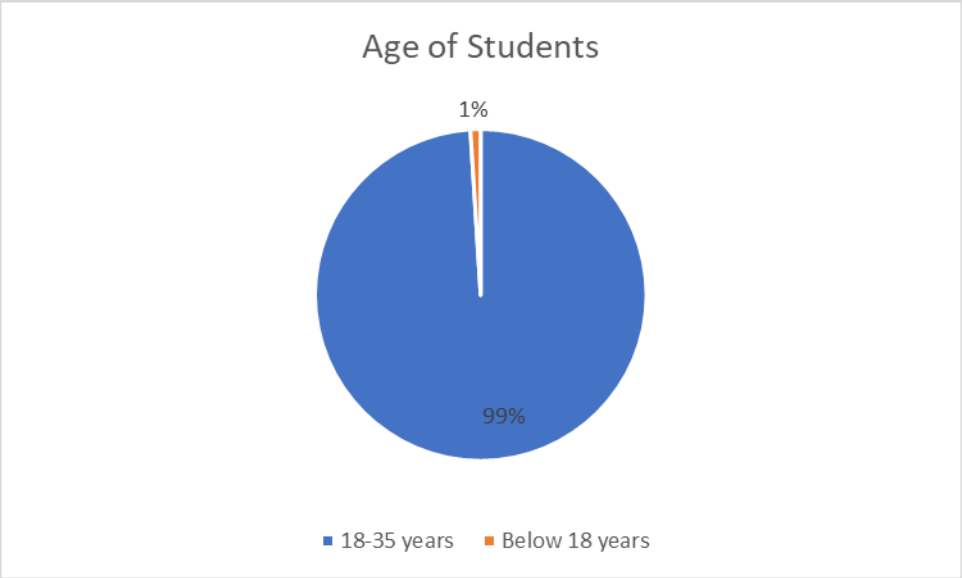

Figure 4.2 Respondents Age

4.3.2 Gender of the Students

The research was focused on determining the gender profile of the students' undertaking courses within NITA college. The analysis revealed that 88% (n=161) of the participants were male students with 12% (n=21) being female students. The findings are an indication that there is still low involvement of female students in STEM colleges within our tertiary institutions.

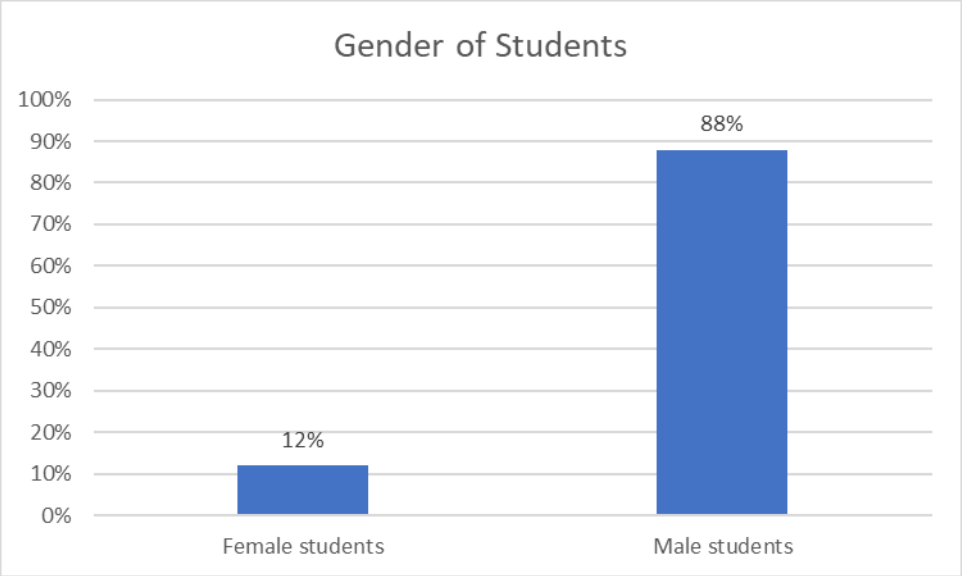

Figure 4.3 Respondents Gender

4.3.3 Courses Taken at NITA College

The survey examined the courses that the participants were taking within the NITA college and the recorded responses are presented in Table 4.1 below.

Table 4.1 Course Taken at NITA

Course	N	Percentage
Electrical Technology course	109	59.90
Electrical Technology and Welding and Fabrication related	2	1.09
Welding and Fabrication course	69	37.92
Other	2	1.09
Total	182	100.0

The findings presented demonstrated that atleast 60% (n=109) were taking an Electrical Technology related course, 38% (n=69) were taking Welding and Fabrication related courses. This showed that the participants of the study were at a position to respond on the student performance on Welding & Fabrication and Electrical Technology courses.

4.3.4 Intention to Join University

The study explored whether the students had any intention to join a university in order to realize their career of choice and the survey showed that 97% (n=176) noted that university was key to achieving their career of choice with only 3% (n=6) disagreeing as shown below.

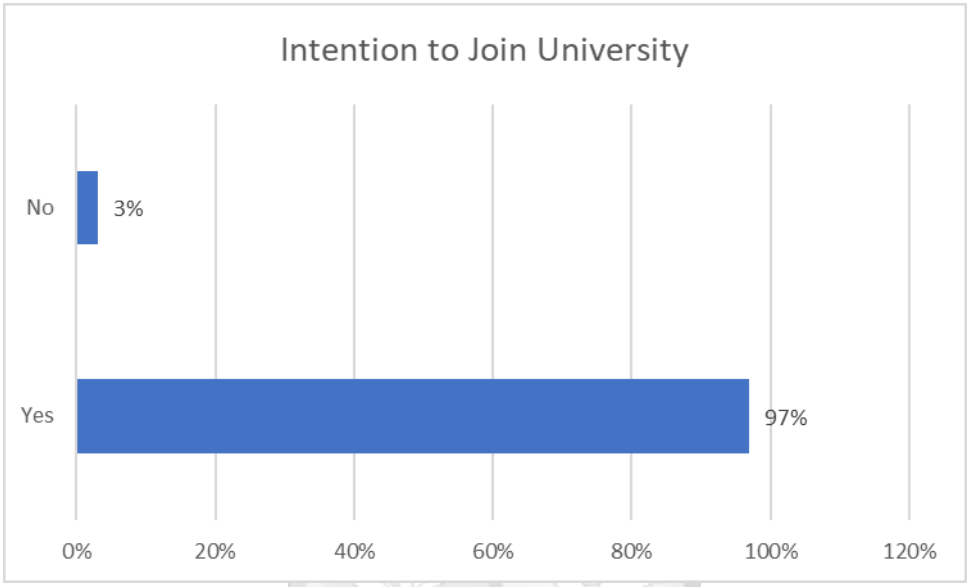

Figure 4.4 Intention to Join University

4.4 Descriptive Analysis

The research reviewed the effect of the attitudes on the performance of TVET students towards training for courses leading to jobs in the Manufacturing sector in Kenya. The study used quantitative analysis techniques such as means and standard deviation to summarize the responses obtained from the students. The analysis was arranged in line with the research objectives.

4.4.1 Student Performance

The dependent variable assessed the performance of the student in Welding & Fabrication and Electrical Technology courses.

Table 4.2 Student Performance

	N	Mean	Std. Deviation

What was your Grade in your last Electrical Technology Test in your NITA course?	184	4.2957	.85237
What was your Grade in your last Welding & Fabrication in your NITA course?	184	4.1685	.80224

The students were presented with Likert scale statements to indicate their performance in the courses and based on the mean of 4.296 the results showed that majority of the students had a grade of above 70% in their last Electrical Technology Test in NITA. The survey results indicated a mean of 4.169 showing that the students had a score of between 60%-69% in their last Welding & Fabrication tests.

4.4.2 Attitude based on Intention

The study measured the students attitude based on intention and a summary of their responses is presented below.

Table 4.3 Attitude based on Intention

	N	Mean	Std. Deviation
I always wanted to do the course I am now taking	184	4.3098	.81948
I want to take up a job in future that is related to my current course	184	3.6359	.84480
My current course will give me a job with a high salary in future	184	3.6304	.82604

Students' responses showed a strong agreement that they always wanted to do the course they are now taking as revealed by the high mean value of 4.309 and moderate deviation of .819. There was agreement that the students want to take up a job in future that is related to their current course as indicated by mean of 3.636 and moderate deviation of .845. The study results established agreement that the student's current course will give them a job with a high salary in future as shown by mean of 3.630.

4.4.3 Attitude based on Subjective Norm

The research assessed the students attitudes further based on the subjective norm and the summary of responses is presented in Table 4.4.

Table 4.4 Attitude based on Subjective Norm

	N	Mean	Std. Deviation

My parents/guardians expected me to be taking my current course after Secondary school	184	3.9239	1.42755
My siblings expected me to be taking my current course after Secondary school	184	3.7011	1.51596

The students agreed that their parents/guardians expected them to be taking their current course after Secondary school as noted by a mean of 3.924 with high dispersion in responses of 1.428. Results revealed agreement that siblings expected the students to take the current course after Secondary school as indicated by mean of 3.701.

4.4.4 Attitude based on Perceived Behavior Control

The third measurement of attitude of students was based on the perceived behavior control and the recorded responses are presented in Table 4.5 below.

Table 4.5 Attitude based on Perceived Behavior Control

	N	Mean	Std. Deviation
I have what it takes to perform excellently in this course	184	3.7283	.68717
I am confident that I will assimilate the technical skill expected of me in this course	184	3.7500	.63805
I am proud to be taking the course I am enrolled in	184	3.7391	.72984

The students agreed that they are confident they will assimilate the technical skill expected of them in this course as demonstrated by a mean of 3.75 and minimal deviation of .638. With a mean of 3.739 the results showed agreement that the students are proud of taking the course they are enrolled in. The mean value of 3.728 revealed agreement that the students indicated they have what it takes to perform excellently in the course they are enrolled in.

4.5 Correlation Analysis

To estimate the linear association between two or more variables the study employed the Pearson correlation and the summary of the tests is shown in Table 4.6.

Table 4.6 Correlation Test

		Student Performance	Attitudes Based on Intention	Attitudes Based on Subjective Norm	Attitudes Based on Perceived Behavior Control
Student Performance	Pearson Correlation	1			
	Sig. (2-tailed)				
	N	182			
Attitudes Based on Intention	Pearson Correlation	.685**	1		
	Sig. (2-tailed)	.000			
	N	182	182		
Attitudes Based on Subjective Norm	Pearson Correlation	.447**	.610**	1	
	Sig. (2-tailed)	.000	.000		
	N	182	182	182	
Attitudes Based on Perceived Behavior Control	Pearson Correlation	.548**	.566**	.599**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	182	182	182	182

**. Correlation is significant at the 0.01 level (2-tailed).

The correlation coefficient for attitudes based on intention was r= .685, sig = .000<.05 which established there existed a strong positive and significant relation between attitude based on intention and student performance at NITA College. The findings showed a coefficient of r=.447, sig = .000<.05 signifying there existed a moderate positive and significant association between attitudes based on subjective norm and student performance at NITA College. The results revealed a correlation coefficient r=.548, sig = .000<.05 which was an indication of a positive relation between attitudes based on perceived behavior control and student performance at NITA College.

4.6 Diagnostic Analysis

4.6.1 Normality Tests

Normality tests to establish was done to establish if the data set is well-modelled by a normal distribution. The test results are presented in Table 4.7

Table 4.7 Normality Test

	Shapiro-Wilk Test		
	Statistic	***Df***	***Sig.***
Student performance	0.786	182	0.276
Attitudes Based on Intention	0.684	182	0.189
Attitudes Based on Subjective Norm	0.728	21	0.226
Attitudes Based on Perceived Behavior Control	0.745	21	0.174

*. This is a lower bound of the true significance.
a. Lilliefors Significance Correction

The test stipulates that in normally distributed data, the sig. the value should exceed 0.05. The study findings demonstrated that the considered research variables had a significance value higher than 0.05 which affirmed that the research observations were obtained from a normally distributed population.

4.6.2 Collinearity Test

Multicollinearity tests to check whether there is any inter-correlation among the explanatory variables. The results of the test are shown in Table 4.8

Table 4.8 Collinearity Test

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Attitudes Based on Intention	.565	1.770
	Attitudes Based on Subjective Norm	.533	1.878
	Attitudes Based on Perceived Behavior Control	.577	1.732

a. Dependent Variable: Student Performance

The above findings showed that attention based on intention (VIF = 1.770), attitude based on subjective norm (VIF = 1.878) and attitude based on perceived behavior control (VIF = 1.732). Based on these consistently low VIF values that were less than the standard value of 10, this was an indication that the research did not violate collinearity assumption in the selected variables.

4.7 Regression Analysis

The study was interested in determining the effect of attitudes on the performance of TVET students towards training for courses leading to jobs in the Manufacturing sector in Kenya. A regression model was adopted as the most suitable method of estimating the magnitude of relationship between the study variables.

Table 4.9 Regression Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.773[a]	.597	.554	2.19294

a. Predictors: (Constant), Attitudes Based on Intention, Attitudes Based on Subjective Norm, Attitudes Based on Perceived Behavior Control

b. Dependent Variable: Student Performance

Regression analysis was carried out to determine the underlying relationship between the independent variable and the dependent variable. The computations deduced an adjusted R square value of (0.554). This implies that attitude accounts for 55.4% variability in student performance and 44.6% variability is attributed to factors outside the attitude factors.

Table 4.10 ANOVA Summary

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1420.081	3	473.360	90.034	.000[b]
	Residual	441.635	179	5.258		
	Total	1861.716	182			

a. Dependent Variable: Student Performance

b. Predictors: (Constant), Attitudes Based on Intention, Attitudes Based on Subjective Norm, Attitudes Based on Perceived Behavior Control

The ANOVA test results presented in Table 4.10, indicate that the Fisher statistics value is 90.034 with a p-value of 0.000. This indicates that; F (3, 179) = 90.034, p = 0.000 (p-value < 0.01). This implied that there exists a significant variance between the independent variable variable's attitudes and the dependent variable student performance. This showed a positive and significant relationship between the attitudes and student performance at NITA College.

Table 4.11 Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.760	.466		3.766	.003
	Attitudes Based on Intention	.470	.098	.268	4.796	.000
	Attitudes Based on Subjective Norm	.352	.065	.788	5.415	.000
	Attitudes Based on Perceived Behavior Control	.239	.055	.175	4.345	.000

a. Dependent Variable: Student Performance

$$Y = 1.760 + .470X_1 + .352X_2 + .239X_3 + \varepsilon$$

With a regression coefficient of $\beta_1 = .470, sig = .000$ the findings imply that there exists a significant statistical association between the variables attitude based on intention and student performance. Thus, a change in attitudes based on intention by a unit can lead to a .470/47% change in the student performance in Welding & Fabrication and Electrical Technology courses.

The findings revealed a beta coefficient $\beta_2 = .352, sig = .000$ which revealed there exists a significant statistical association between the variables attitude based on subjective norm and student performance. Thus, a change in attitudes based on subjective norm by a unit can lead to a .352 or 35.2% change in the student performance in Welding & Fabrication and Electrical Technology courses.

The results noted a beta coefficient $\beta_3 = .239, sig = .000$ which revealed there exists a significant statistical association between the variables attitude based on perceived behavior control and student performance. Thus, a change in attitudes based on perceived behavior control by a unit can lead to a .239 or 23.9% change in the student performance in Welding & Fabrication and Electrical Technology courses.

4.8 Chapter Summary

The study focus was an examination of the student performance in Welding & Fabrication and Electrical Technology courses. The research collected research data from 94% of the sampled participants from NITA college. The findings showed that most of the students were youth with an age profile of between 18-35 years. The results showed there was a high disparity in the gender of the students with only 12% female students taking the Welding & Fabrication and Electrical Technology courses at NITA college. The analysis of the student performance showed that most of the students attained a grade of 70% in their last Electrical Technology Test in NITA and a score of between 60%-69% in their last Welding & Fabrication tests. Regression tests implied that 55.4% variability in student performance can be accounted for by the variable's attitudes based on intention, attitudes based on subjective norm, attitudes based on perceived behavior control. The beta coefficients established that attitudes based on intention had the highest significant magnitude of effect (47%) on student performance followed by attitudes based on subjective norm (35.2%) and the least magnitude of effect was by attitudes based on perceived behavior control (23.9%)

CHAPTER FIVE

DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The fifth chapter of the presented the discussion of the study findings in relation to the various empirical studies adopted in the survey. The study chapter presented the conclusions based on the findings and the various recommendations that can be drawn from the research. Also, areas for further research were mentioned in this chapter.

5.2 Discussion

This section provides a discussion of the research findings in relation to the empirical literature considered in the study.

5.2.1 Attitude based on Intention and Student Performance

The results revealed that the students were undertaking a course of their choice and made the decision based on future career related to their field of the study. The respondents revealed that the choices of the current course were motivated by the opportunity to get a job with a high salary in the future. Saraih et al., (2020) indicated that on the premises of the Theory of Planned behavior the subjective student intention will be a key predictor for future success and attainment of prior set career goals. This mirrors the study results which show that intention and opportunity for future career in the field as significant predictors of success. The findings of the regression test established there is a positive influence of attitude based on intention on the student performance at NITA college. These findings are in agreement with Nawawi et al. (2020) who showed that the student intention to pursue a course in STEM was positively associated with improved student academic performance. The perception of the students was vital to their intrinsic motivation to their learning. Harvey (2019) notes that the soft-skills of educators can be key to preparing graduates and shaping their intention to excel in their studies. Magudha (2015) in a local study revealed that educators are tasked with improving the students intention to enrol within youth polytechnic institutions. This is deemed to be of significant influence on the student attitude which is expected to yield positive impact on the performance of the students. Andiema and Manasi (2021) study found out that improving positive attitude

of youth towards involvement in TVET programs can be key to driving their ownership of the courses and improving their performance.

5.2.2 Attitude based on Subjective Norm and Student Performance

The study showed that the student's selection of the current course after secondary school was highly influenced by the parental/guardians' expectations. Findings noted that siblings also played a key factor in determining the student's selection of the current course. The findings are consistent with Zhi and Atan (2021) who revealed that parental involvement and peer influence were critical factors that affected the student's attitude towards courses offered and success in their studies. T Ohanya, Kiplangat and Ngala (2020) he analysis established a positive and significant influence of attitude based on subjective norm on the student performance at NITA college. Rugengamanzi (2018) study on acquisition of TVET skills indicated that the parental influence played a key role in shaping the students' perceptions of the course and their attitudes towards pursuing the course to completion. Ibrahim (2015) study found out that higher entrepreneurial success emanating from pursuing a particular program resulted in higher confidence among students on the potential success of pursuing particular studies. Maina and Nyambura (2019) in a study of TVET institutions found out that the need for accomplishment, the perceived social valuation and personal attraction contributed to students' intention to pursue engineering courses. Ohanya, Kiplangat and Ngala (2020) research showed that perception of the complexity of the course and aspiration for technical career were among the key predictors for involvement in TVET programmes in the country.

5.2.3 Attitude based on Perceived Behavior Control and Student Performance

The results demonstrated that the students were proud of the course they are currently enrolled in within the college. The findings showed that the students were in agreement they have what it takes to perform excellently in this course. Results suggested that the students were confident they will be at a position to assimilate technical skills expected in their course. Paryono, Spottl, Schroder and Goh (2017) in their research also suggested that self-efficacy was a key contributor to the student success. Their findings showed that belief in own-abilities and opportunity for entrepreneurial success predicted improved performance among students. The regression results established that attitude based on perceived behavior control positively and

significantly influenced the student performance. Consistent with these findings Esau (2018) study found out that parental involvement and individual belief were critical to the student academic success. Yasir, Liren and Mahmood (2019) argued that student self-efficacy, perceptions on entrepreneurial success and building confidence on future managerial skills played a key role in improving the education outcomes of students. Abdullah, et.al. (2021) determined that ease to master skills being taught and likelihood of improving ones' life were key factors to success in TVET programs among students. Kamau (2016) acknowledged that personal attitude complemented by students perceived behavioral control were key future entrepreneurial intention and success among students.

5.3 Conclusions

The study results led to the conclusion that attitude had a positive and significant relationship with students' performance in NITA courses leading to a job in the manufacturing sector. Further conclusions are that attitude based on intention had a positive effect on the student performance. Based on the results the study established that the students desire to take the course, future prospects of a job opportunity and the opportunity for monetary gains based on the current course are key to improving the student performance in both Welding & Fabrication and Electrical Technology courses at NITA college. The study concluded that attitude based on subjective norm had a positive significant influence on the performance of the students. The results revealed that the parental expectations and the role of siblings was a critical predictor of better student performance in Welding & Fabrication and Electrical Technology courses at NITA college. The study found out that attitude based on perceived behavior control positively influenced the student performance. The study concluded that self-belief the students will perform well, task accomplishment and the student proud in the course being pursued significantly contributed to better student performance in Welding & Fabrication and Electrical Technology courses at NITA college.

5.4 Recommendations

Policy-wise the study recommends that the TVET institutions should strive to sensitize female students at an early age of the opportunities within the industry. This will be key to improving the enrolment of female students in courses centered on STEM programmes. This can greatly influence gender balance and help achieve equality in access to education and participation in the job market. The study recommends that the institutions should seek for more collaborations

with the ministry of education to conduct regular boot camps within high schools which will provide students with an opportunity to learn more on the various programs being offered. Further, the institution can incentivize students enrolling for the programs with various items such as scholarship, internship opportunities and free tuition which can encourage involvement in TVET course for students from all backgrounds.

The study recommends that the institution should conduct regular guidance counselling programs to equip secondary school students with knowledge related to the courses offered within the institution. This will help in driving positive intention to enroll in Welding & Fabrication and Electrical Technology related courses in the future. Its further recommended that the schools should strive to provide all relevant information on the future career options as this can lead to increased selection of the courses and also be a vibrant factor of motivating the students to aspire to excel in the programs. The study recommends that the TVET institutions should routinely conduct seminars with parents and students at secondary school level which will provide a channel for promoting parental involvement in the student selection of the course which is seen as a key predictor to academic performance.

The study findings also showed that career job opportunities can be integral to supporting student academic performance. As such its' recommended that the TVET institutions should routinely engage with the manufacturing sector to arrange for not only internships but assimilation of students to full-time jobs. This will positively encourage the students to perform better in their programmes. Further, the study recommends that the institutions should create awareness among students on the attractiveness of the TVET programme and how it can help in achieving a better future career and income-earning opportunity. This will improve the students attachment to the program and spur their attitude towards performing well in the program.

5.5 Suggestion for Further Studies

The study was limited only to students taking part in only two courses within the institution. A more robust study should be considered examining the influence of student's attitude on the academic performance in TVET institutions in the country. The study also covered only student factors; another research work could consider how school-related factors have influenced the academic performance of students in NITA College.

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APPENDICES

Appendix I: Questionnaires

A. How old are you?

1. Below 18 years ( )
2. 18 – 35 years ( )
3. Above 35 years ( )

B. What is your gender?

1. Female ( )
2. Male ( )

C. Which NITA course are you currently taking at the College?

1. Electrical Technology ( )
2. Welding &Fabrication ( )

D. What was your future career of choice when you were doing your Secondary schooling?

_____

E. Were you hoping to join a University to realize your career of choice in 'D' above?

1. Yes ( )
2. No ( )

Likert Scale Questionnaire

USE THE BELOW KEY;

A: 70% and above; B: 60 – 69%; C: 50 – 59%; D: 40 – 49%; E: 39% and below

VARIABLES	**ITEMS**	**GRADE OBTAINED**				
		E	D	C	B	A
Dependent Variable (Y) Performance of the student	Electrical Technology					
	Welding & Fabrication					
VARIABLES	**ITEMS**	**AGREEMENT SCALE**				

		SD	D	U	A	SA
Independent Variables (X1) Attitudes based on intention	I always wanted to do the course I am now taking					
	I want to take up a job in future that is related to my current course					
	My current course will give me a job with a high salary in future					
Independent Variables (X2) Attitudes based on subjective norm	My parents/guardians expected me to be taking my current course after Secondary school.					
	My siblings expected me to be taking my current course after Secondary school.					
	My friends expected me to be taking my current course after Secondary school.					
Independent Variables (X3) Attitudes based on perceived behavioral control	I have what it takes to perform excellently in this course.					
	I am confident that I will assimilate the technical skill expected of me in this course					
	I am proud to be taking the course I am enrolled in.					

Thank you for the Time

Appendix II: Ethical Review Permit

Appendix III: NACOSTI Research License