

**MODERATORS AND MEDIATORS IN THE RELATIONSHIP BETWEEN
CAREER MATURITY AND CAREER DECISION OF SECONDARY SCHOOL
STUDENTS IN KISUMU CITY, KENYA**

BY

QUINTER ANTOINETTE MIGUNDE

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MASENO UNIVERSITY

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ABSTRACT

Kisumu City offers a wide range of career opportunities in various sectors of the economy. This comes as a challenge to students who are in the process of making career decisions since they have numerous career opportunities to choose from hence contributing to their inability to decide on a career. Literature has shown that there exists a relationship between career maturity and career indecision. This relationship may be modified or informed by the addition of third variables such as mediators and moderators. The purpose of this study was to examine mediators and moderators in the relationship between career maturity and career indecision of secondary school students in Kisumu City. The objectives of the study were:-, to determine the relationship between career maturity and career indecision of secondary school students in Kisumu City; to determine the moderating role of social support, self-esteem and age on the relationship between career maturity and career indecision; and to determine the mediating role of career decision making self-efficacy, vocational identity and locus of control on the relationship between career maturity and career indecision of secondary school students in Kisumu City. This study adopted a conceptual model by Baron and Kenny on mediation and moderation. The study used descriptive survey, correlational and cross-sectional research designs. The study population consisted of 9,586 secondary school students. Stratified random sampling technique was used to select 370 students based on their grade. Data was collected using questionnaires. The reliability of the instruments was determined in a pilot study using a sample of 40 students. Internal reliability of the instruments ranged from .71 to .82. Face validity of the instruments was ascertained by supervisors from the Department of Educational Psychology. Data was analyzed using means, standard deviations, multiple regressions and structural equation modeling. The level of significance for the results of the study was set at .05. Results showed that career maturity was significantly negatively correlated to career indecision. Age was found to be a significant moderator in the relationship between career maturity and career indecision. Perceived social support and self-esteem did not moderate this relationship. External locus of control and vocational identity mediated the relationship between career maturity and career indecision. Career decision making self-efficacy did not mediate this relationship. The study concluded that the relationship between career maturity and career indecision is stronger at younger ages and that having clear career goals is more important in reducing career indecision than engaging in career exploration and seeking career information. The study recommends that students should be provided with adequate career guidance and career information at a younger age and that career counsellors should help students develop clear career goals so as to help in reducing their level of indecision. The results of the current study may help career counselors and practitioners develop meaningful interventions that minimize career indecision.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Adolescence and early adulthood are associated with a number of developmental challenges (Downing & Nanta, 2010). One of the developmental challenges associated with adolescence is career decision making (Kunnen, 2013; Vidal-Brown & Thompson, 2001). According to Super's (1990) Theory of Career Development, there are 5 stages of career development: growth, exploration, establishment, maintenance and withdrawal. Adolescent students are at the exploration stage of career development which involves crystallizing and specifying occupational preferences while also making preliminary decisions about career choice.

Not all secondary school students make career decisions easily. According to Talib & Aun (2009), the inability to decide on a career that one wishes to pursue is referred to as career indecision. It is considered a normal developmental phase in career development among young people who are required to make career decisions. It may occur at any stage when individuals are contemplating on their careers especially during transition points such as when choosing school subjects or university programmes (Creed, Patton & Prideaux 2006). According to Creed, Patton and Prideaux (2006), as many as 50% of students experience career indecision before settling on a career. Germeiji and De-Boek (2002) noted that individuals who are in the process of making career decisions often face difficulties. The difficulties have been associated with lack of or inadequate career information, lack of confidence in dealing with the process of career decision making, external barriers to preferred career choices, numerous career options to choose from and some personal conflicts that negatively affect career decision making (Creed, Patton & Prideaux, 2006).

Salami ((2008) defines career maturity as an individual's readiness to make age appropriate career decisions. Salami further explains that when career decision competence is supported by adequate information based on planned exploration, then students develop career maturity which enables them to make appropriate career decisions. According to Creed and Patton (2003), career maturity involves the assessment of an individual's level of career progress relevant to his/her developmental task. De Bruin and Benard-Phera (2002) proposed that individuals who have greater career maturity will have completed more of the relevant career development tasks successfully than individuals who have lesser degrees of career maturity.

With the advancement of the global economy and the present society, students face complex career related problems which require career guidance and counseling. In order for students to make appropriate career decisions, they need to be more informed about the career decision making process and ways of resolving psychological difficulties they may encounter during this process. Strong (2009) proposes that this can only be effectively handled through career guidance and counseling that helps students to create awareness and career planning that will eventually lead to career maturity.

According to Whiston and Blustein (2013), individuals who receive career interventions through career counseling are generally able to negotiate career development tasks with greater ease and effectiveness. Secondary school students who receive career counseling can become more focused on their future when faced with obstacles on career decisions. According to George and Cristiani (2012), lack of career guidance undermines proper career preparation, training, placement and satisfaction.

Stebleton (2007) noted that in the current state of the African Career Guidance System, there is inadequate access to career advice in learning institutions. This has led to insufficient number of Africans studying and developing core competencies in areas on demand.

In developing countries such as Nigeria, Kenya and Zambia, secondary school students select occupations based on their salaries, positions, glamour and prestige attached to them (Adegum & Aremo, 2013; Salami, 2008; Issa & Nwalo, 2008; Kithyo & Petrina 2002; Migunde, Agak & Odiwuor, 2011). It is important that career counselors provide students with appropriate career information and guide them in their career decision making.

In Kenya, the ministry of education through the Basic Education Act 112 of 2006 introduced Guidance and Counseling as a mandatory programme in secondary schools with the aim of helping students develop their academic, social and personal competencies in order to make realistic choices and relevant decisions in life (MOEST 2007). Career guidance in Kenya is one of the main elements of guidance and counseling. The main aim of career guidance is to provide students with adequate career information and guide students in their career decision making so that they can realize their maximum potential (Ombaba et al, 2014). However, there is evidence that secondary school students in Kenya complete their secondary education quite deficient in occupational information (Orange, 2011; Wambu & Fisher, 2015; Obura 2007; Nyamwange, Nyakan & Ondimba, 2012). This has been attributed to lack of career education in schools which limits occupational experiences of adolescents (Omondi, 2007).

Studies on the status of career guidance and counseling in Secondary Schools in Kenya show that career counselors are allocated other school responsibilities and are therefore unable to devote adequate time for providing career guidance to students (Omondi, 2007; Nyamwange, Nyakan & Ondimba, 2012; Osoro, Omundson & Borgen, 2000) . Studies have consistently shown that teachers who have been accorded the responsibility of providing students with career guidance lack the adequate skills and resources to provide this service. In addition, career counselors in secondary schools have reported not having any formal training on career guidance. As a result of these, career counselors are not able to provide students with adequate career information which is necessary for career decision making.

The examination of the processes and conditions under which the relationship between variables occurs will ultimately allow pinpointing of specific areas to target for effective interventions and policies (Tracey, 2010). Research on career decision making has focused on the relationship between two variables; an independent and a dependent variable. According to Hischi (2007), progress in career decision making corresponds to an increase in career maturity. Researches on career maturity and career indecision have found the two variables to be correlated (Patton and Creed, 2007; Park, 2015).

Studies on secondary school students' career maturity and career indecision have not been done in Kisumu City. However, studies that have been done on students' career decision making in Kisumu city have confirmed that students face a number of challenges in regard to their career decision making. According to the Kenya National Bureau of Statistics (2014), Kisumu City offers a wide range of career opportunities in various sectors of the economy.

This comes as a challenge to students who are in the process of making career decisions. A study conducted by Migunde, Agak and Odiwuor (2011) with a sample of 365 students' showed that, 200 (61%) students in Kisumu Municipality find the information offered to them on careers inadequate. This is quite a high percentage of students compared to other regions in Kenya such as Nairobi County where Orege (2011) conducted a study on the status of career guidance and counseling with a sample of 19 career counselors from 19 schools and reported that only 7 (37%) of the schools lack adequate career resources. Furthermore, only 4 (11%) of schools in Kisumu Municipality have an organized process of career guidance (Obura, 2007) compared to Nairobi county where there are several guidance and counseling programmes in the school such as motivational talks in 8(42%) of the schools, career exhibition days in 3 (15%) and organized career trips in 2 (11%) of the schools.

Other challenges that students in Kisumu Municipality experience include inadequate career guidance 221(66.9%), lack of financial resources 261 (79.5%), parental pressure 186 (57.45%), academic qualifications 258 (79.4%) and inadequate career information 200 (61%) (Migunde et al, 2011). Given the challenges that these students face in regard to their career decision making, it is important to establish their level of career indecision. A study in Kisumu Municipality by Omondi (2007), with a sample of 1030 secondary school students, showed that 631 (61%) students had only received career guidance once. In most of the schools 16 (89%) out of 18 career guidance is only offered at the end of Form Two during subject selection exercise and at the end of Form Four during the filling in of university application forms (Omondi, 2007). This implies that by the time students are faced with the challenge of making career decisions, they are inadequately prepared and lack the necessary

career information, and yet career information is necessary for students to develop career maturity which in turn influences career decision making. It has not been established whether the students' level of career maturity is adequate in reducing their level of career indecision. It is therefore important to determine the relationship between career maturity and career indecision of secondary school students in Kisumu City.

Studies by different authors have shown that there are variables that are correlated to both career indecision and career maturity. These variables include, age (Creed & Patton, 2003; Ortlep et al., 2002), self-esteem (Sari, 2007; Creed, Patton & Bartum, 2004; Santos & Ferreira 2012; Janeiro, 2010), locus of control (Perry, Liu & Griffin, 2011; Duffy, 2010; Hirschi, 2009), decision making self-efficacy (Pesch, 2014; Restubog, Florentino & Garcia 2010; Walker, 2010) and vocational identity (Dipeolu, 2007; Talib & Aun, 2009; Santos & Ferreira, 2012) among others. However, how the mentioned variables affect the relationship between career maturity and career indecision is not known.

Research in career related fields has mainly focused on the examination of direct relationships between career variables. This is evident in the studies cited above (e.g. Santos & Ferreira 2012, Sari 2007, Janeiro 2010 & Walker 2010). According to Fairchild and Mckinnon (2009), relationships between variables are often more complex than simple bivariate correlations between an independent and dependent variable. Mckinnon (2011) explains that, with only two variables, there are limited number of causal relationships between them. The relationship between career maturity and career indecision may be modified or informed by the addition of a third variable. Examples of third variables in

research include; mediators and moderators (Fairchild & McKinnon, 2009). Hence the purpose of this study was to determine the possible mediators and moderators in the relationship between career maturity and career indecision.

A moderator is a variable that changes the strength of a relationship between two variables. Moderators indicate when or under what conditions a particular effect can be expected. It may increase the strength of a relationship, decrease the strength of a relationship or change the direction of a relationship. Moderators and predictors are at the same level with regard to their roles as causal variables in that they function as independent variables (Baron & Kenny, 1986). The moderator hypothesis is supported if the interaction between the predictor and the moderator are significant. There may also be significant main effects for the predictor and moderator but these are not directly relevant conceptually to testing the moderator hypothesis. In this study, social support, self-esteem and age were selected as possible moderators due to their existing associations with career indecision in previous studies

Mediator variables, on the other hand, specify why or how a particular relationship occurs. According to Baron and Kenny (1986), mediators explain how external events take on internal psychological significance. For a variable to qualify as mediator, the independent variable must be correlated to the dependent variable. This establishes that there is an effect that may be mediated. The independent variable must be correlated to the mediator. The mediator must also be correlated to the dependent variable (Baron & Kenny, 1986). Since literature has shown that career decision making self-efficacy, vocational identity and locus of control are related to career maturity and career indecision, the present study went a step

further to determine whether these variables mediate the relationship between career maturity and career indecision.

1.2 Problem statement

Kisumu City is the third largest city in Kenya. It offers a wide range of career opportunities in various sectors of the economy. Among these are careers in education institutions, livestock and crop farming, fisheries production, forestry, transport and communication, limestone and sand mining, co-operative societies, health facilities, trade, industry, financial services, tourism and housing. This comes as a challenge to secondary school students in Kisumu City who are in the process of making career decisions since there are so many career options available. Other than the availability of numerous career options, studies conducted in Kisumu City among secondary school students have also shown that the students lack adequate career guidance and career information. Some of the students also lack adequate financial resources to pursue their careers of interest. These challenges may eventually lead to career indecision. By the time students are faced with the task of making career decisions, they are inadequately prepared and lack the necessary career information and yet this is necessary for them to develop career maturity. It is not known whether the students' level of career maturity is adequate in reducing their level of career indecision.

Although literature has shown that there seems to be a linear relationship between career maturity and career indecision, this relationship may be modified or informed by the addition of third variables such as mediators and moderators. Career maturity and career indecision have been associated with variables such as career decision making self-efficacy, vocational identity, locus of control, social support, self-esteem and age; however, previous studies have mainly focused on the bivariate relationships existing between the mentioned variables,

career maturity and career indecision, how these variables affect the relationship between career maturity and career indecision is not known.

1.3 Purpose of the Study

The purpose of this study was to determine the mediators and moderators in the relationship between career maturity and career indecision of secondary school students in Kisumu City.

The objectives of this study were to:-

1. Determine the relationship between career maturity and career indecision of secondary school students in Kisumu City.
2. Determine the moderating role of social support, self-esteem and age on the relationship between career maturity and career indecision of secondary school students in Kisumu City.
3. Determine the mediating role of career decision making self-efficacy, vocational identity and locus of control on the relationship between career maturity and career indecision.

1.4 Research Questions

The above objectives were addressed by the following research questions:-

1. What is the nature of relationship between career maturity and career indecision of secondary school students in Kisumu City?
2. What is the moderating role of social support, self-esteem and age on the relationship between career maturity and career indecision of adolescents in Kisumu City?

3. What is the mediating role of career decision making self-efficacy, vocational identity and locus of control on the relationship between career maturity and career indecision of adolescents in Kisumu City?

1.5 Assumptions of the Study

This study assumed that:-

1. All schools follow the Ministry of Education policy on career guidance and counseling. As a result, all secondary schools have career counselors who offer career information and career counseling to students.
2. Adolescents in secondary schools are in the process of making career decisions and are facing challenges in regard to career decision making.
3. As students progress in their secondary education from form one to form four, they acquire career information and continue to involve themselves in career exploration which in turn increases their career maturity.

1.6 Scope of the Study

This study focused on students from both public and private secondary schools in Kisumu City, Kenya. It involved students from form one to four. Secondary school students were chosen for the study because it is during this time that students are actively engaged in career exploration and career planning (Tang et al, 2008) and as a result, career development undergoes great progress (Gonzalez, 2008).

The study also focused on students' career maturity, career decision status, self-esteem, perceived social support, age, career decision making self-efficacy, vocational identity and locus of control.

1.7 Limitations of the Study

1. Even though the sample size for the study was fairly large, it may not be representative of the population from which it was drawn. This may limit generalization of the results.
2. The study also used self-report measures which are not always 100% accurate since some participants may lie intentionally or give responses that are socially desirable.
3. The study also used cross-sectional research design to address causal hypothesis which limits ability to draw inferences regarding causal relationships between age, career maturity and career decision.

1.8 Significance of the Study

Information on students' career decision making may help personnel dealing with students to be aware of factors that might explain students' inability to choose a career or subjects to study and factors that might help in improving students' career decision making. The examination of processes and conditions under which the relationship between career maturity and career indecision occurs will ultimately allow pinpointing of specific areas to target for effective career interventions by career counselors.

1.9 Conceptual Model

The present study adopted Baron and Kenny (1986) model of mediators and moderators to help explain career decision making. A moderator is a qualitative or quantitative variable that affects the direction and or strength of relationship between the dependent and the independent variable. A mediator is a quantitative variable that accounts for the relationship between a predictor and an outcome variable. A moderator effect is said to occur when the

direction or strength of correlation changes. Baron and Kenny further explain that a basic moderator effect can be represented as an interaction. Baron and Kenny (1986) designed a path diagram for capturing both the correlational and experimental views of a moderator variable. The essential properties of a moderator variable are presented in Fig 1.

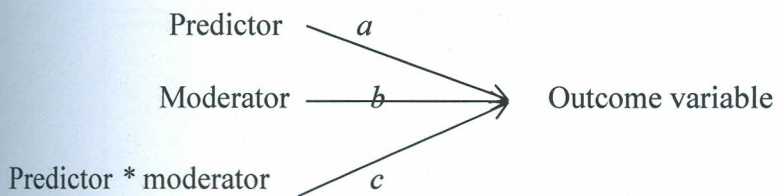


Fig 1: Moderator Model

The model in Fig 1 has 3 causal paths feeding into the outcome variable. The predictor (path *a*), the moderator (path *b*) and the interaction between the predictor and moderator (path *c*). The moderator hypothesis is supported if the interaction (path *c*) is significant. Moderators and predictors are at the same level in regard to their role as causal variables. Within this framework, moderation implies that the causal relationship between two variables changes as a function of the moderator variable.

Based on review of literature, the study proposed that perceived social support, self-esteem and age will interact with career maturity to predict career indecision. The proposed moderator models are presented in Fig 2. For example, social support and the interaction between career maturity and social support are expected to predict career decision. If the interaction term is found to be statistically significant, then social support is a moderator in the relationship between career maturity and career indecision.

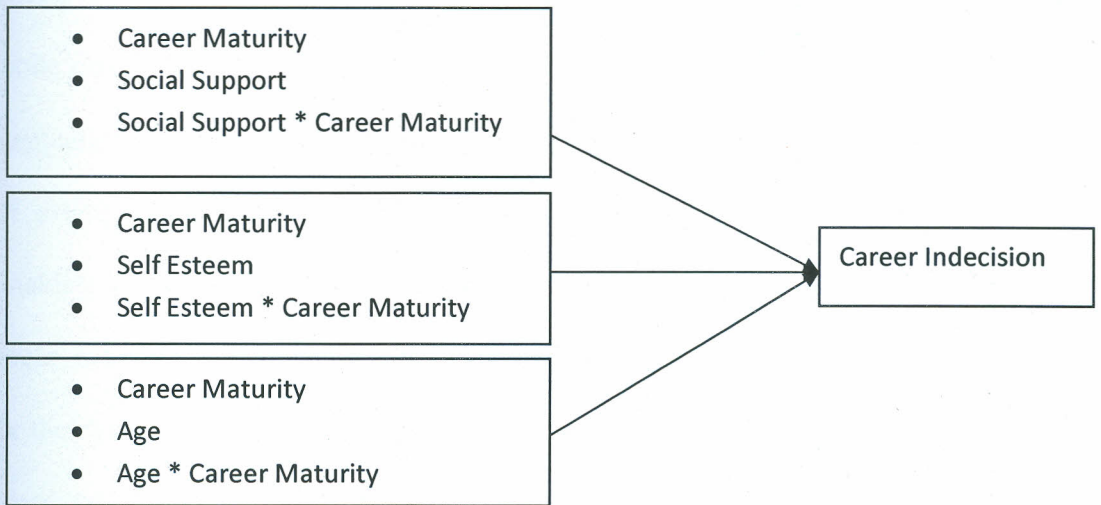


Fig 2: Proposed Moderator Models

According to Baron and Kenny (1986), mediators explain how or why the relationship between predictor and outcome variable occurs. The essential properties of a mediator model are presented in Fig 3. This model assumes a three variable system such that there are two causal paths feeding into the outcome variable: the direct impact of the predictor variable (path *c*) and the impact of the mediator (path *b*). There is also a path from the predictor variable to the mediator (path *a*).

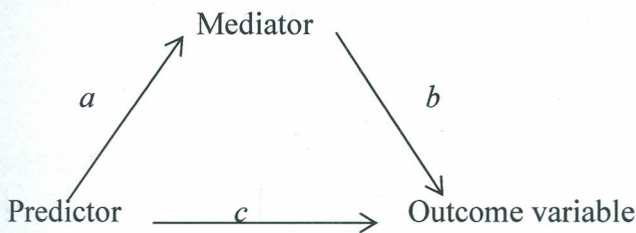


Fig 3: Mediator Model

The path from the predictor variable to the mediator (path *a*), the path from the mediator variable to the outcome variable (path *b*) and the path from the predictor variable to the outcome variable (path *c*) has to be significant. In this study, career indecision was

conceptualized as the outcome variable, career maturity was conceptualized as the predictor variable while career decision making self-efficacy, vocational identity and locus of control were conceptualized as mediator variables. The proposed mediator models are presented in Fig 4. For example, career maturity is expected to predict career indecision and career decision making self-efficacy. Career decision making self-efficacy is also expected to predict career indecision. The path *ab* is expected to be statistically significant and to account for the change in the path *c*. If this happens then career decision making self-efficacy will have mediated the relationship between career maturity and career indecision.

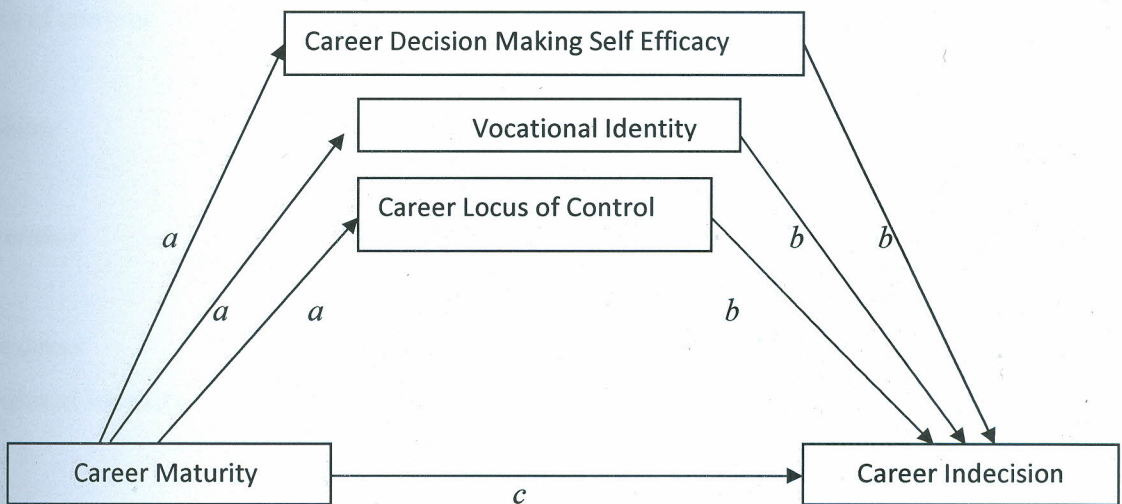


Fig 4: Proposed Mediator Models

1.10 Operational Definition of Terms

Adolescents	Secondary school students from age 15 to 24
Career Decision Making	The process of deciding on a career
Career decision making self-efficacy	Belief that one can successfully complete a task necessary to make a career decision
Career guidance	The process of providing career related assistance to students based on their ability, capability and interests so that they can make informed decisions
Career indecision	Inability to make a decision on a career
Career maturity	Individual's readiness to make well informed career decisions
Grade	Form level in secondary school
Locus of control	Belief that career outcomes are dependent on either one's own actions or on forces outside one's control
Mediator	A variable underlying the relationship between independent and dependent variable.
Moderator	A variable which affects the direction or strength of relationship between dependent and independent variable.
Self esteem	Negative or positive attitude towards the self
Vocational identity	Possession of clear and stable picture of one's career goals

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviews relevant literature relating to career maturity, career indecision, the possible moderator variables which include perceived social support, self-esteem and age and the possible mediator variables which include career decision making self-efficacy, vocational identity and career locus of control.

2.2 Relationship between Career Maturity and Career Indecision

Career decision making is an important task for young people. According to Creed, Yin and Hood (2009), it is a central task to career development and involves the understanding of one's self and the world of work. Career decision making begins to emerge when children are in primary school. During this time, children develop interests and begin to understand how their ability relates to the world of work (Hartung, Porfeli & Vondracek, 2005). The ever evolving technology and changes in the job market are some of the primary reasons for complexity in career decision making. The variety of career opportunities available to individuals now are more than those that existed decades ago (Sharf, 2009). This comes as a challenge for most individuals who are in the process of making career decisions.

In career decision making, career indecision has been defined as the inability to make decisions about the career one wishes to pursue (Guay, Senecal, Gauthier, & Fernet, 2003). It has also been referred to as being undecided about the career path one wishes to pursue Lukacs and Orosz (2013). It is considered a normal response when young people are required to make career related decisions. According to Creed, Patton & Prideaux (2006), it may

occur at any moment when individuals are contemplating on their careers most especially during transition points such as when choosing school subjects or university programmes. Creed et al further explain that career indecision is a developmental appropriate experience which may fluctuate depending on a variety of situational factors which is likely to be resolved with the assistance of proper interventions such as appropriate career related information.

Career indecision has been closely linked to career maturity (Prideaux & Creed, 2001). The concept of career maturity has its origins in Super's (1990) developmental/self-concept theory of career behaviour. Super defined career maturity as one's readiness for career decision making. This theory proposes that the selection of an occupation is a process that spans for a considerable number of years from late childhood to early adulthood. According to Creed and Patton (2003), career maturity involves the assessment of an individual's level of career progress relevant to his/her developmental stage. Each phase through which an individual moves has specific career developmental tasks that are relevant to the developmental phase. De Bruin and Benard-Phera (2002) proposed that individuals who have greater career maturity will have completed more of the relevant career development tasks successfully than individuals who have lesser degrees of career maturity. According to this theory, individuals should increasingly gain skills and ability to make sound career decisions. Failure to gain these skills results into career indecision (Talib & Aun, 2009).

The Developmental Theory of career behaviour proposed five stages of development: growth, exploration, establishment, maintenance and withdrawal. A description of each of

these stages is presented in Table 1. Secondary schools students are at the exploration stage of this developmental theory. According to the complete model of career maturity proposed by Super, Savickas and Super (1996), when decision making competence is supported by adequate information based on playful exploration, individuals become sufficiently mature and are able to make appropriate career decisions.

Table 1: Super's Life Career Stages

Stage	Age	Task
Growth	Birth – 14	Development of self concept, attitudes, interest, needs and general understanding of work
Exploration	15 - 24	Development of hobbies, skills and making of tentative choices
Establishment	25 - 44	Entry level skill building and stabilization through work experience
Maintenance	45 - 64	Continual adjustment process to improve position
Decline	65 +	Reduced output and preparation for retirement

Research on the relationship between career maturity and career indecision has found a significant relationship between the two variables. In order to predict two components of career maturity in school based adolescents, Creed and Patton (2003) conducted a study involving 367 high school students from grade 8 to 12 in one school in Southern Australia using the Career Development Inventory Knowledge and Attitude subscales by Supper, Thompson, Jordan and Myers (1981). The authors found career maturity to be significantly negatively correlated to career indecision such that those who had high levels of career maturity were less undecided. Further multiple regression analysis showed that career indecision was a significant predictor of career maturity. The above study was done in only

one school hence the sample may have been too homogeneous in nature. The present study was however conducted in 12 schools within Kisumu City. The authors of the above study were interested in determining the predictors of career maturity and therefore it is not known whether career maturity could also predict career indecision. It is possible that changes in career maturity can also account for changes in career indecision. This study therefore sought to determine whether career maturity could predict the career indecision of secondary school students.

In a study to determine the relationship between career variables and occupational aspirations /expectations, Patton and Creed (2007) conducted a study with 925 high school students in two suburban high schools in Australia and found career maturity to be negatively correlated to career indecision. The authors measured career maturity using both the Career Development Attitude and Career Development Knowledge subscales of the career development inventory. The sample for the above study was considerably large compared to the sample for this study. The authors performed bivariate correlation analysis which only provided the strength and direction of relationship between career maturity and career indecision but did not perform linear regression analysis to determine by how much career indecision changes with a given change in career maturity. This study will however not stop at determining the direction and strength of the relationship between career maturity and career indecision but will make a step further to determine whether career maturity scores can be used to predict career indecision scores.

In order to determine the role affect spin in the relationships between, personality, career indecision and career maturity, Park (2015) conducted a study with 70 college students using the Korean Career Maturity Scale in South Korea and found career maturity to be negatively correlated to career indecision. The authors were only interested in the strength and direction of relationship between career maturity and career indecision. It is not known whether career maturity can predict career indecision. This study will however not stop at determining the direction and strength of the relationship between career maturity and career indecision but will make a step further to determine whether career maturity scores can be used to predict career indecision scores. The above study was conducted with college students while the present study focuses on secondary school students. The sample size for the above study was also considerably small compared to the sample size for this study which consisted of 370 students. The authors also used the Korean version of the Career Maturity Inventory by Kim (1997) which is an old version of the Career Maturity Inventory by Crites and Savickas (1996). This study however used the current version of the career maturity inventory by Savickas and Porfelli (2011).

The above studies have focused on the bivariate relationship between career maturity and career indecision without studying the factors that affect the relationship between them. It is not known whether there are factors that may affect the direction and strength of this relationship. Since a relationship exists between the two variables, this study therefore sought to determine factors that may affect this relationship. In order to assess career maturity, the present study employed the use of the Career Maturity Inventory by Savickas and Porfelli (2011) which is the most recently revised version of the career maturity inventory. Previous

research such as Prideaux and Creed (2006) proposed that career maturity constructs be reconstructed so as to become more relevant to contemporary career patterns and diverse cultures. Career adaptability, which is the capacity to change in order to meet new circumstances was proposed as a more useful conceptualization. It was on this basis that the Career Maturity Inventory-Adaptability was preferred for this study.

2.3 Moderator Variables

Moderation implies that the causal relation between two variables changes as a function of the moderator variable. The present study hypothesizes that social support, self-esteem and age will moderate the association between career maturity and career indecision.

2.3.1 Social Support

Individual's cognitive and intellectual development have been thought to occur alongside their psychosocial and identity development, early adolescence has been considered to be a critical time in which significant others such as family members may influence adolescents' development (Turner & Lapan, 2002). Constantine, Wallace and Kindaichi (2005) suggested that it may be important to address the significance of social support in promoting optimal career development. Savickas (2005), Schultheiss (2003) and Schmidt, Miles and Welsh (2011) have all acknowledged that contextual support variables have a role in shaping career paths of most individuals.

To determine the influence of social support on career development and college adjustment, Schmidt, Miles and Welsh (2011) conducted a study with a sample of 189 undergraduate students and found career indecision to be negatively correlated to perceived social support. Further regression analysis identified perceived social support as a significant predictor of

career indecision. The study by Schmidt, Miles and Welsh was conducted on college students. It is not known whether perceived social support would predict the career indecision of secondary school students. This implies that it is not known by how much career indecision of secondary school students' changes with a given change in perceived social support.

In yet another study examining contextual factors in the career decision status of African American adolescents, Constantine, Wallace and Kindaichi (2005) used the Career Support Scale that assesses parental support with regard to career goals and found that perceived parental support was a negative predictor of career indecision of African American high school students. The authors of the above study only assessed parental support in regard to career decision making. There are several social support systems such as teachers and friends that are available to secondary school students whom they may consult with when making career decisions. It is important to study the effect of all these support systems on secondary school students' career decision making. This study used the multidimensional social support scale that measures perceived social support from several sources to determine the relationship between perceived social support and career indecision.

Studies on the relationship between career maturity and perceived social support have found positive correlations between the two variables. In a study on the social support and career maturity of Kosovo adolescents, Gashi (2013) conducted a study with 600 high school students and found career maturity to be positively correlated to perceived social support. The author of the above study used a considerably large sample compared to the sample for

this study. However, the author only performed bivariate correlation analysis and did not conduct regression analysis to determine the direction of prediction in the relationship between career maturity and perceived social support. This study apart from determining the relationship between perceived social support and career maturity also determined whether perceived social support interacts with career maturity to predict career indecision.

In yet another study by Bozgeyikli, Dogan and Isiklar (2010) to examine the relationship between gifted students career maturity levels and their perceived social support levels, the authors conducted bivariate correlation analysis with a sample of 275 high school students and found a significant positive relationship between the two variables. The above study focused on gifted students while this study was conducted with normal students. It is also important to note that the above study only conducted bivariate correlation analysis between career maturity and perceived social support. It has not been established whether perceived social support can interact with career maturity to predict career indecision.

The above studies suggest that the absence of social support could negatively affect adolescents' career decision making process, resulting in career related challenges such as uncertainty and indecision. The above studies have only focused on the relationship between career indecision and perceived social support; however, they have not shown how social support interacts with other variables such as career maturity to influence career indecision. In addition, some of these studies focused on parental support while this study focused on multidimensional social support. This study, therefore, sought to determine the moderating role of perceived social support on the relationship between career maturity and career indecision.

2.3.2 Self Esteem

Self-esteem has been defined as a negative or positive attitude towards the self. According to Woolfolk (2007), if people evaluate themselves positively, they have high self-esteem and if people evaluate themselves negatively, they have low self-esteem. Studies on the relationship between self-esteem and career indecision have found the two variables to be negatively correlated. In order to determine the effects of impetuous, exploratory and overall indecisiveness on self esteem, Sari (2007) conducted a study with a sample of 320 undergraduate students and found self esteem to be negatively correlated to indecisiveness. The above study was conducted with a sample of undergraduate students while this study focused on secondary school students. The author of the above study also assessed the relationship between self esteem and general indecisiveness while this study sought to determine the relationship between self esteem and career indecision.

In yet another study on internal and external barriers, cognitive style and the career development variables of focus and indecisiveness, Creed, Patton and Bartum (2004) conducted a study with a sample of Australian high school students and found a negative relationship between self esteem and career indecision. Similar results have also been reported by Santos and Ferreira (2012) with a sample of 362 12th grade Portuguese students. The authors were interested in determining the relationship between career indecision and self esteem among other variables. The results of their study showed that as self-esteem increases, career indecision and general indecisiveness decreases. These studies have only reported the relationship between the two variables but do not tell us the direction of prediction in the relationship between career indecision and self-esteem. This study,

however, sought to determine whether a relationship exists between career indecision and self esteem and whether self esteem can predict career indecision.

Significant positive correlations have been found between self-esteem and career maturity, although Janeiro (2010) reports that the correlations have generally been low in magnitude. With the aim of predicting change over time in career planning and career exploration for high school students, Creed et al. (2007) conducted a bivariate correlation analysis between a number of variables including self esteem, career decision making self efficacy and career maturity and found a significant positive relationship between career maturity and self-esteem. The sample for their study consisted of 166 high school students in grade 8 and later in grade 10. In both instances, a positive relationship was found between career maturity and self esteem. The authors of the above study were interested in determining whether there existed any significant changes in the relationship between the two variables with time. They however did not determine the direction of prediction in the relationship between the two variables. This study however sought to determine whether career maturity interacts with career maturity to predict career indecision.

Similar results have also been reported by Janeiro (2010) with a sample of 620 Portuguese students enrolled in grade 9 and 12. The students in grade 9 were enrolled in a regular curriculum while students in grade 12 were either attending humanity or scientific option of the Portuguese system. Janeiro used a fairly large sample compared to the sample for the current study. The current study also involved students in grades 9-12 attending a regular school programme in Kenya. These studies have focused on the bivariate relationships that

exist between self-esteem and career maturity but do not tell us whether self-esteem can interact with other variables to predict career indecision. Based on the relationship that exists between self-esteem and career indecision, this study sought to determine the moderating role of self esteem in the relationship between career maturity and career indecision.

2.3.3 Age

Career maturity as implemented by Supper (1990) in his Career Development Theory is developmental in nature. According to Themba (2010), it is expected that as students grow, they will learn more about the careers they have interest in, become more independent, have a clear picture of what they want and become more aware of alternative careers. Although theoretical assumptions suggest uniform development in career maturity, practical considerations such as planning activities needed for immediate decisions at transition points imposed by the education system suggest uneven development. Researchers who have investigated the relationship between career maturity and age have reported mixed results. For example, in an attempt to establish differences in career maturity for high school students with and without paid work experience, Creed and Patton (2003) performed bivariate correlation analysis between age and career maturity and reported a significant positive relationship between career maturity and age. The authors conducted their study with a sample of 1,279 Australian high school students, which is quite large compared to the sample for this study. The authors assessed career maturity using the career Maturity inventory by Lokan (1984), which is an older version of the Career Maturity Inventory. The authors found that levels of career maturity increased with age.

On the contrary, in a study on career maturity, career decision making self efficacy and career aspirations of black learners of different school settings in South Africa, Ortlep et al (2002), with a sample of high school students found a negative relationship between career maturity and age. Their results showed that levels of career maturity decreased with age. On the other hand, Amadi, Joshua and Asagwara (2007) assessed the career maturity of adolescent students in Owerri Education Zone in Nigeria and reported no significant age difference in career maturity for students of different ages. The authors conducted their study with a sample of 600 secondary school students. The authors conducted independent sample t-test to test for differences in levels of career maturity for students of different ages. Despite the study being conducted using a very large sample of students, the authors of the above study did not perform correlation analysis to analyse the relationship between age and career maturity.

The above studies assessed the relationship between career maturity and age and the differences in levels of career maturity by age. However, they did not assess whether age can interact with career maturity to predict other variables. This study sought to determine whether career maturity interacts with age to predict career indecision.

Researchers have also studied the relationship between career indecision and age and found no significant relationship between the two variables. To determine the predictors of career indecision among three racial groups of college women, Lopez and Ann-Yi (2009) conducted a study with a sample of 359 undergraduate students and did not find a significant relationship between age and career indecision. It is important to note that the above study

was conducted on three racial groups. However, this study focused on one racial group. Similar results have also been reported by Schmidt et al (2011) with a sample of college women. The two studies were conducted on female undergraduate students, unlike this study which was conducted on both male and female secondary school students.

In yet another study on the predictors of career indecision among Malaysian undergraduate students, Talib & Aun (2009), with a sample of 1440 undergraduate students, found a non significant relationship between career indecision and age. It is worth noting that the sample for the study by Talib and Aun was quite large compared to the sample for the current study.

The reviewed studies on career indecision and age all show that there is no significant relationship between career indecision and age. However, age has been associated with career maturity. It is not known whether age can interact with career maturity to influence career indecision. The study samples used in studying the relationship between age and career indecision are mostly undergraduate students. In this study the relationship between career indecision and age was determined with a sample of secondary school students. Since age is considered a contextual variable that may help in explaining career decisions in the social cognitive career theory by Lent et al. (2002), it is important to determine if age has some underlying role in predicting career decision. Hence, this study sought to determine the moderating role of age in the relationship between career maturity and career indecision.

2.4 Mediator Variables

A mediator in any study is presumed to cause the outcome variable. Baron and Kenny (1986) have discussed four steps that are important in establishing mediation. The first step is to

show that the independent variable is correlated with the dependent variable. This step establishes that there is an effect that may be mediated. The second step is to show that the initial variable is correlated with the mediator. This step involves treating the mediator as if it were an outcome variable. The third step is to show that the mediator affects the outcome variable. The fourth step is to establish that the mediator variable mediates the relationship between the initial variable and the outcome variable. In this study, career decision making self-efficacy, vocational identity and locus of control were selected as possible mediator variables due to the existing relationships between them, career maturity and career indecision.

2.4.1 Career Decision Making Self Efficacy

Related to the construct of career maturity and career indecision is the concept of career decision making self-efficacy. Career decision making self-efficacy has been defined as the extent to which individuals believe that they can evaluate themselves, collect career information, select goals, make plans and solve problems relevant to career decision making (Wang, Zang & Shao, 2010).

The Social Cognitive Theory by Bandura proposes that individuals' beliefs and confidence in their ability to perform given tasks successfully influence their choice, performance and persistence in these tasks and behaviours. As a result, low self-efficacy can lead to avoidance of specific behaviour while high self-efficacy leads to approaching behaviour. Based on Bandura's concept of self-efficacy, if one has high self-efficacy in his/her ability to make a career decision he/she is likely to make a career decision. However, if one has low self-

efficacy in his/her ability to make a career decision then he/she would be undecided and will avoid making such a decision (Houle, 2010; Patton & Watson, 2003).

According to Patton and Creed (2003) career decision making self-efficacy is important in the career development of an individuals in that, individuals with high levels of career decision making self-efficacy tend to be more active and positive in their career decision making while those with low levels of career decision making self-efficacy tend to be more passive and negative when choosing careers. Career decision making self-efficacy scores have been linked to both career maturity and career indecision.

A review of accrued research on career indecision, career maturity and career decision making self-efficacy by Prideaux and Creed (2001) revealed that these three constructs are related. In order to determine the causal relationship between career indecision and career decision making self efficacy, Creed, Patton and Prideaux, (2006) conducted a study with a sample of 166 grade 8 high school students and later when in grade 10. The authors found that contrary to expectations, changes in career decision making self efficacy did not result in changes in career indecision despite significant negative associations between the two variables at both times. The sample used by Creed et al. was considerably small compared to the sample for this study. The above study also used a longitudinal cross lagged research design while this study used a cross sectional research design consisting of students from form one to four.

Similar results have also been reported by Parishani and Nilforooshan (2014). The authors were interested in determining the predictive role of career decision making self efficacy on career indecision. The authors conducted their study with a sample of 400 Iranian high school adolescents and found career decision making self efficacy to be a significant predictor of career indecision. Thus, an increase in levels of career decision making self efficacy resulted in a decrease in levels of career indecision. These studies suggest that higher career decision making self-efficacy is associated with lower career indecision. The studies however did not look at the manner in which career decision making self efficacy can affect the relationship between career indecision and a second variable. This study sought to determine the mediating role of career decision making self efficacy on the relationship between career maturity and career indecision.

An investigation of the relationship between career maturity and career decision making self-efficacy by Walker (2010), with a sample of 347 post-secondary school students found a positive relationship between career maturity and career decision making self-efficacy. Further regression analysis showed career decision making self efficacy as a significant predictor of career indecision. The above study was conducted with post secondary school students however, this study focused on secondary school students.

In yet another study to test the social cognitive Career Theory, Ziebel (2010) proposed a model in which career maturity and career decision making self efficacy, among other variables, were tested as factors that promote viable career choice goals. The study was conducted with 220 high school students from grade 10 to 12. The proposed model supported

the relationship between career maturity and career decision making self efficacy. Career maturity positively predicted career decision making self efficacy.

The above studies have focused on bivariate relationships existing between career maturity and career decision making self-efficacy and between career indecision and career decision making self-efficacy. The studies found career decision making self-efficacy to be correlated to both variables. However, these studies have not explored how career decision making self-efficacy may affect the relationship between career maturity and career indecision. This study, therefore, sought to determine the mediating role of career decision making self efficacy on the relationship between career maturity and career indecision.

2.4.2 Vocational Identity

Tuner and Lapan (2005) defined vocational identity as the integration and crystallization of an individual's energy, aptitudes and opportunities into a consistent sense of uniqueness of himself/herself in order to fit into the vocational world. Vocational identity formation has been considered a central developmental task that adolescents have to cope with (Koumoundourou, Kounenou, & Siavara, 2012). Individuals with concrete vocational identity are considered as having more ease in making career decisions (Scott & Ciani, 2008). This is because they are considered as having a clear sense of their interests, personality characteristics and stable career related goals. They are also considered as having greater ease and confidence in career decision making (Gushue et al, 2006). According to Diemer and Blustein (2007), developing vocational identity and future orientation to career planning and development have been considered central tasks in the theories of adolescent

development. Clarity regarding vocational identity facilitates adolescents' connection to the process of career exploration and their vocational future.

In an effort to determine the relationship between career maturity and vocational identity, Dipeolu (2007) conducted a study with a sample of 86 high school students with learning disabilities and found career maturity to be positively correlated to vocational identity. The above study was conducted specifically on learners with disabilities. However, it has not been established whether a similar relationship between vocational identity and career maturity exist for normal high school students. Unlike the above study, this study was conducted with a sample of normal secondary school students. The sample for the study by Dipeolu was also considerably small compared to the sample for this study which consisted of 370 students. It is important to note that the author of the above study did not conduct regression analysis to determine whether career maturity is a predictor of vocational identity. This study did not only assess the relationship between career maturity and vocational identity but also went a step further to determine the mediating role of vocational identity in the relationship between career maturity and career indecision.

In order to determine the predictors of career indecision, Talib and Aun (2009) conducted a study with a sample of 1440 Malaysian undergraduate students and found vocational identity to be significantly negatively correlated to career indecision. Further regression analysis showed vocational identity to be a significant predictor of career indecision with vocational identity being the strongest predictor compared to occupational information and academic achievement. The above study was conducted with undergraduate students. However, this

study focused on secondary school students. A study conducted by Santos and Ferreira (2012) on the career decision making status with a sample of 362 Portuguese 12th grade students enrolled in urban public high schools provides additional evidence that vocational identity is significantly negatively correlated with career indecision. Santos and Ferreira conducted their study with 12th grade students only, unlike this study which focused on secondary school students from grade 9 to 12. The authors of the above study also conducted their study in public schools only, while this study was conducted on students in both public and private secondary schools.

The above studies have focused on simple bivariate relationships between career maturity and vocational identity, between career indecision and vocational identity which only shows the direction and strength of relationships and found vocational identity to be correlated to both variables. It is not known whether vocational identity may affect the relationship between career maturity and career decision, or whether career maturity can predict vocational identity. Given the nature of relationship between vocational identity and career maturity, and between vocational identity and career indecision as depicted by the cited studies, this study sought to determine the mediating role of vocational identity in the association between career maturity and career indecision.

2.4.3 Career Locus of Control

Locus of control is one of the most widely studied attitudinal constructs. There are two types of locus of control: internal and external locus of control. According to Miller and Shevlin (2007), internal locus of control can be defined as the expectancies held by adolescents related to how projected career outcomes are perceived to be within their personal control

through behaviour and decision making, whereas an external career locus of control refers to expectancies relating to how career related outcomes are contingent on factors outside of their personal sphere of behaviour such as luck, fate, chance and powerful others.

As a psychological variable, locus of control has influenced the study of career decision making (Brown & Rector, 2008). Scholars in the field of career development have generally concluded that an internal locus of control, or the belief that life rewards are the result of personal behaviour is linked with adaptive career outcomes while external locus of control or the belief that rewards are dependent upon forces outside of one's own efforts are linked with maladaptive career outcomes (Perry, Liu & Griffin, 2011). Studies have associated locus of control with the capacity to make career decisions.

In order to determine predictors of generalised indecision, Santos (2001) conducted a study with a sample of 345 11th and 12th grade secondary school students. The authors examined the contributions of anxiety, locus of control and self esteem to generalised indecision and found that the capacity to make career decisions is related to internal locus of control while career indecision is associated with external locus of control. Further regression analysis showed that locus of control was not a predictor of generalised indecision. The author used the generalised indecision scale to assess indecision, unlike this study which made use of the career decision scale to measure career indecision, which has been developed specifically to assess career indecision. Internal locus of control has also been associated with greater initiative when looking for career information, less decision making difficulties and career adaptability (Lease 2004; Duffy 2010). These studies however, did not determine the

direction of prediction in the relationship between career indecision and career locus of control.

With the aim of comparing levels of maturation, locus of control, attribution style and career indecision, Johnson (2007) conducted a study with a sample of 95 9th grade secondary school students and found that career indecision is not a significant predictor of locus of control. Johnson performed regression analysis to predict locus of control from career indecision. However, this study sought to predict career indecision from locus of control. The sample for the above study was also considerably small compared to the sample for this study which consisted of 370 students. It is important to note that, Johnston studied locus of control as one construct while the current study will assess the internal and external locus of control of students and determine the relationship between each of them and career maturity. The author of the above study used the Children's Nowicki Strickland Internal External Locus of control Scale by Nowicki and Strickland (1973) to measure locus of control, while his study made use of the career Locus of Control which is specific to career decision making.

In yet another study by Startica (2012) with a sample of 99 12th grade high school students, career indecision was found to be positively correlated to career locus of control. Further regression analysis showed that career locus of control was the strongest predictor of career indecision among other variables such as neurotism, parental support and academic self esteem. The above study was conducted on students in only one grade while this study focused on secondary school students from grade 9 to 12. The sample for the above study was also considerably small compared to the sample for this study.

The above studies have focused on the direction and strength of relationship existing between locus of control and career indecision. It has not been established whether locus of control can interact with other variables to influence career indecision. This study, however, did not limit itself to determining the relationship between career maturity and career indecision; it also sought to determine the moderating role of locus of control in the relationship between career maturity and career indecision.

Researchers have also attempted to explore the relationship between career maturity and locus of control. With the intention of determining the predictors of career maturity, Hirschi (2009) conducted a study using a sample of 330 Swiss 8th grade high school students and found internal locus of control to be positively correlated to career maturity. Duffy (2010) on the other hand conducted bivariate correlation analysis with a sample of 1991 incoming first year students to determine the relationship between career maturity and locus of control and found career maturity to be strongly correlated to locus of control. Further regression analysis showed that career maturity was a significant predictor of locus of control. The sample in the study conducted by Duffy was quite large compared to the sample for the current study. The study was conducted with undergraduate students, but this study focused on secondary school students.

Similar results have also been reported by Dhillon (2005) with a sample of 500 secondary school students in India. Dhillon, who was interested in studying the career maturity of school children, conducted bivariate correlation analysis to determine the relationship among career maturity attitude, career maturity competence, self concept, locus of control and

achievement motivation and found significant negative correlation between career maturity and locus of control. Dhillon used the Locus of control Scale by Lumpkin (1985) to measure general locus of control. This study, however, made use of the career locus of control scale which is specific to career decision making to measure both internal and external locus of control.

In an attempt to determine the personality and cognitive correlates of career maturity Coertse and Schepers (2004) conducted a study with 1479 first year students at a South African university. The study was done across different ethnic groups. The authors used Turkey's Honestly Significant Difference to determine whether the mean of career mature students significantly differed from that of career immature students with respect to measures of locus of control. The authors found that career mature students had high mean scores on internal locus of control while career immature students had high mean scores on external locus of control. Even though the sample for the above study was quite large, the authors tested for the relationship between locus of control and career maturity using an analysis of variance which is inappropriate for testing relationships between variables.

The above studies have shown that a relationship exists between locus of control and career indecision and between locus of control and career maturity, but have not studied the effect of locus of control on the relationship between career maturity and career indecision. This study went beyond determining the relationship between career locus of control and career indecision to determining whether career locus of control moderates the relationship between career maturity and career decision.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes methods and procedures used to answer the research questions. It describes the research design, study area, target population, the sampling techniques used, type of data, data collection instruments, data collection procedures and methods of data analysis used in the study.

3.2 Research Design

The current study used descriptive survey, correlational and cross sectional research designs. In descriptive survey research design, a sample is chosen to represent a large population. A series of questions are then asked about their behaviour, thoughts and attitudes (Kombo & Tromp, 2006). This research design was considered appropriate for this study because it is easy to administer and can be used to gather a lot of information within a short period of time.

Correlational research design allows testing of expected relationships between and among variables, and the making of predictions (Siddhart, 2011). This research design was considered appropriate for the current study because the study proposed models which involve the testing of relationships existing between variables.

Cross sectional research design focuses on studying and drawing inferences from existing differences between people or subjects at one point in time (Trochim, 2006). This research design was considered appropriate for this study because it was conducted on learners of

different ages and in different levels in the secondary school system. All the proposed variables were measured at one point in time.

3.3 Area of Study

The area of study was Kisumu City. It lies within longitude $34^{\circ}46' 4''\text{E}$ and $34^{\circ} 47' 51''\text{E}$ and latitude $0^{\circ}0' 38''\text{N}$ and $0^{\circ} 08' 34''\text{S}$ (latlog.net, 2015). It covers a total area of 417KM^2 . Out of this, 297KM^2 is land while 120KM^2 is under water. It borders Nyando district to the East, Nandi District to the North East, Vihiga District to the North, Maseno Division to the west and Kadibo Division to the South. Kisumu City is the third largest city in Kenya. In the current government structure Kisumu City is located in Kisumu County and covers the following sub counties: - Kisumu Central, part of Kisumu East and part of Kisumu West. The main economic activities are wage employment both in the public and private sector, fishing and subsistence farming (Maoulidi, 2008).

Kisumu City has a wide range of career opportunities in various sectors of the economy. Among these are careers in educational institutions ranging from early childhood development centres to tertiary institution, careers in livestock and crop farming, careers in fisheries production, forestry, transport and communication, limestone and sand mining, co-operative societies, health facilities, manufacturing industries, bakeries, hotel and tourism, commercial banks, micro-finance institutions, building and construction, insurance companies, wholesale and retail trade. According to the Kenya National Bureau of Statistics (2014), Kisumu County has 997 early childhood education centres, 706 primary schools, 12 tertiary institutions, 314 co-operative societies, 88 health facilities, 27 manufacturing industries, 16 bakeries, 42 hotels, 27 commercial banks, 14 micro finance institutions, 2

building societies, 25 insurance companies, 96 trading centres and an international airport. The wide range of career opportunities in the municipality may contribute to secondary school students' inability to decide on a career since they have many options to choose from.

According to 2009 census, Kisumu City has a population estimate of about 409,928 people. It has one of the highest levels of poverty in the country. The proportion of city residents living under the poverty line is estimated to be 70% (Kenya National Bureau of Statistics, 2014). Due to the high poverty rates, students may not be able to pursue their career of choice since they may not be able to pay for the programmes related to their careers of interest at the university level; this may contribute to the inability of students to decide on appropriate careers.

In 2011, Kisumu had an adult literacy rate of 65.8% (Commission of Revenue Allocation, 2011). Adult literacy level is important in this study since adults play a key role in supporting students in their career decisions or helping students in their career decision making. This also affects the kind of career information provided to students.

3.4 Study Population

The study population consisted of 9,856 secondary school students drawn from 36 secondary schools in Kisumu City.

3.5 Sample Size and Sampling Technique

The sample size for students was 370. This was obtained using a formula developed by Krejcie and Morgan (1970). This formula was used in this study because it is an efficient method of determining the sample size needed to be representative of a given population.

The formula is presented below:-

$$S = \frac{\chi^2 NP(1-P)}{d^2(N-1) + \chi^2 P(1-P)}$$

Where:

S = Required sample size

N = The population size

P = The population proportion (assumed to be .05 since this would provide the maximum sample size)

d = The degree of accuracy expressed as a proportion (.05)

χ^2 = The table value of chi-square for one degree of freedom which is 3.841 for the .95 confidence level.

$$S = \frac{3.841(9856)(0.05)(1 - 9856)}{[(0.05)^2(9856 - 1)] + 3.841(0.05)(1 - 0.05)}$$
$$= 370$$

Simple random sampling technique was used to select 12 schools in which the study was conducted. This gave each school the same probability of being chosen for the study. The researcher used stratified random sampling technique to select 370 students based on grade. This was done in order to ensure a wider age range for the study sample. The sample frame is presented in Table 2.

Table 2: Sample Frame

	Population	Sample for pilot study	Sample size for actual study
Schools	36	2	12
Students	9,856	40	370

3.6 Data Collection Instruments

3.6.1 Questionnaires

Questionnaires were used to gather information about students' opinion on career decision making and the various variables that affect their career decision making. The questionnaire consisted of 8 subsections with each sub section measuring a different construct in the study. Questionnaires were used in the current study because they enable the researcher to gather information in a standard way and are relatively quick to collect information. The questionnaires were filled in by the students. The following questionnaires were used to gather information from the respondents:-

3.6.1.1 Demographic Questionnaire

Demographic questionnaire was used to gather basic information about the students such as age, gender and grade in school (See appendix B).

3.6.1.2 Career Maturity Inventory

Career Maturity Inventory- Readiness (CMI; Savickas & Porfeli, 2011) which has a total of 18 items was used to measure career maturity of the students on a 5-point likert scale. The instrument consists of 3 subscales measuring concern, curiosity and confidence. The internal reliability coefficient for this instrument has been reported as satisfactory. The authors of the

instrument reported a coefficient alpha of .86, which shows that the instrument was quite reliable. The internal reliability for the present study was .74 (See appendix C).

3.6.1.3 Career Decision Scale

The Career Decision Scale (CDS; Osipow et al, 1976) was used to measure career indecision. The scale consists of 16 items which measure the following aspects of indecision; - lack of structure and confidence in one's decisions, lack of career guidance, personal conflicts and lack of interest. The career indecision of respondents was measured on a 4-point likert scale. High scores indicate higher levels of indecision while low scores indicate lower levels of indecision. The scale also consists of 2 items which measure career certainty. The authors of the instrument tested the reliability of the instrument and reported a coefficient alpha of .81, which shows that the instrument was quite reliable. The instrument has consistently shown high reliability in subsequent studies. For example, Wang et al (2006) reported a reliability coefficient of .91, Patton and Creed (2007) reported a Cronbach's alpha of .89. The internal reliability for the present study was .79 (See appendix D).

3.6.1.4 Multidimensional Social Support Scale

The 12 item scale of Multidimensional Scale of Social Support (MSSS; Zimet et al, 1988) was used to assess the sources and level of social support of students in the study. The scale measures the following sources of social support: friends, family and significant others. The internal reliability coefficient for this instrument has been reported as satisfactory. The authors of the instrument reported a coefficient alpha of .88. The internal reliability for the present study was .81 (See appendix E).

3.6.1.5 Self Esteem Scale

The Rosenberg Self Esteem Scale (RSE: Rosenberg, 1965) was employed to assess the students' self-worth. The scale consists of 10 items with 5 of the items positively oriented and the other 5 negatively oriented. The internal reliability coefficient for this instrument has consistently been reported as satisfactory. The authors of the instrument reported a coefficient alpha of .83. Subsequent studies have continued to report acceptable reliability coefficients for the instrument as follows: Creed Patton and Bartum (2004) .85, Guay (2005) .88 and Santos and Ferreira (2012) .89. The internal reliability for the present study was .71 (See appendix F).

3.6.1.6 Career Decision Making Self-Efficacy Scale

The Career Decision Making Self-Efficacy Scale (CDSES-SF; Betz, Klein, & Taylor, 1996) was used to assess the career decision making self-efficacy of students in the study. This instrument measures an individual's degree of belief that he/she can successfully complete tasks necessary for career decisions. It consists of 25 items and has five subscales which measure self-appraisal, occupational information, goal selection, career planning and problem solving. The internal reliability coefficient for this instrument has consistently been reported as satisfactory. The authors of the instrument reported a coefficient alpha of .93. Subsequent studies have continued to show acceptable reliability coefficients for the instrument as follows Nilsson, Schmidt, and Meek (2002) reported reliability coefficients of .83, Wang et al (2006) reported a reliability coefficient of .94, Patton and Creed (2007) reported a reliability coefficient of .95. The internal reliability for the present study was .88 (See appendix G).

3.6.1.7 Vocational Identity Scale

Vocational identity of the students was measured using the Vocational Identity Scale (VIS; Holland, Daiger & Power, 1980) which consists of 18 items. This scale measures the possession of a clear and stable picture of one's career goals and career interest in terms of choices, certainty and career knowledge. The internal reliability coefficient for this instrument has consistently been reported as satisfactory. The authors of the instrument tested the reliability of the instrument and reported reliability coefficients ranging from .86 to .89. Subsequent studies have continued to report acceptable reliability coefficients for the instrument as follows:- Santos et al (2004) reported a reliability coefficient of .78, Wang et al (2006) reported Cronbach's alpha of .85, Hirschi and Herman (2007) reported a reliability coefficient of .85. The internal reliability for the present study was .74 (See appendix H).

3.6.1.8 Career Locus of Control Scale

The Career Locus of Control Scale (CLCS; Millar & Shevlin, 2007) was used to measure career locus of control of the respondents. The scale consists of 20 items measuring both internal and external locus of control. The external locus of control measures the belief that one's career outcomes are dependent on luck, powerful others and helplessness. The internal reliability coefficient for this instrument has consistently been reported as satisfactory. The authors of the instrument reported a coefficient alpha of .86. Subsequent studies have continued to report acceptable reliability coefficients for the instrument. For instance, Santos and Ferreira (2012) reported an internal consistency coefficient of .69. The internal reliability for the present study was .85 (See appendix I).

3.7 Reliability and Validity

3.7.1 Reliability

In order to test the reliability of the instruments, a pilot study was conducted with a sample of 40 students from 2 schools. This is about 10% of the projected sample size as proposed by Connelly (2008). The instruments were administered to the 40 students on one occasion. The reliability of the instruments was calculated using Cronbach's alpha. Cronbach's alpha test was run using the reliability command in SPSS for each of the instruments. This was done to estimate how well items that reflect the same construct yield similar results. (Santos, 1999).

3.7.2 Validity

Face validity of the instruments was ascertained by supervisors from the department of Educational Psychology. The supervisors were given the questionnaire to ascertain whether the instruments measure the constructs they purport to measure.

3.8 Data Collection Procedures

Before undertaking the study, the researcher sought ethical approval from Maseno University Ethics Review Committee (MUERC) through the School of Graduate Studies (SGS). The researcher also paid a courtesy call on the County Director of Education and the District Directors of education to brief them about the study. The researcher then visited the sampled schools for introduction and familiarity with the schools and the principals. The visit was also meant to seek permission from the principals to conduct the study in their school and agree on the date to conduct the study. A second visitation was made to collect data.

Prior to administering the instrument, the participants were briefed on the nature of the research. The participants were advised that their responses would be anonymous and would

be used for the purpose of research only. Participation was voluntary; those who agreed to participate in the research were given consent forms to append their signatures. Participants were then issued with the questionnaire which they filled in. The filled-out questionnaires were collected by the researcher.

3.9 Methods of Data Analysis

Prior to performing data analysis, scores were summed up for each scale to get the total score for each respondent on variables under study. Means, standard deviations and correlations were used to describe the data. Linear regression was used to determine the relationship between career maturity and career indecision.

Multiple regression analysis was conducted to determine the moderating role of social support, self-esteem and age on the relationship between career maturity and career indecision. This was done by testing the interaction term between career maturity and each of these variables. Since the variables in the study were quantitative in nature, prior to performing the moderation analysis, all the scores for career maturity, perceived social support, self-esteem and age were standardised. This was done by subtracting individual scores for students on each instrument from the mean score of the entire sample for each instrument.

Confirmatory factor analysis, which is a prerequisite of mediation was conducted in order to determine if the number of factors and the loadings of measured variables on them conform to what is expected on the basis of pre established theory and to test whether the proposed structure for each of the constructs measured is plausible (Schreiber, Nora, Stage, Barlow &

King, 2006). This implies testing measured variables to determine if they measure what they are expected to measure on the basis of pre-established theory.

Structural Equation Modelling (Kaplan, 2009) was used to determine the mediating role of career decision making self-efficacy, vocational identity and locus of control on the relationship between career maturity and career indecision. This was done using Analysis of Moment Structures (AMOS) version 20. Prior to performing mediation analysis, bivariate correlation analyses were conducted to determine the relationship between the possible mediator variables, career maturity and career indecision.

SEM was considered the best for testing mediation in this study because of a number of reasons. According to Schreiber et al (2006), SEM estimates relationships between variables; allows for testing competing models; makes it possible to test more complex models involving a large number of variables; explores direct, indirect and total effects; explores multivariate relationships in an integrated manner; and finally it provides bootstrap confidence intervals and associated statistical significance tests for indirect effects which are regarded as the best methods for testing statistical significance.

Once models were specified as shown in the conceptual model, the overall fit of the proposed models were examined using multiple goodness of fit indices. Hooper et al. (2008) recommend reporting the following goodness of fit indices when determining model fit in structural equation modelling: Chi square together with its degrees of freedom and p-value, Comparative Fit Index (CFI), Standard Root Mean Square Residual (SRMR) and Root Mean

Square Error of Approximation (RMSEA). These goodness of fit indices are considered appropriate since they have been found to be insensitive to sample size, model misspecification and parameter estimates. A description of the various fit indices is presented in Table 3.

Table 3: Goodness of Fit Indices

Goodness of Accepted Threshold Levels

fit index

Chi square	Smaller chi square values indicate better fit for the model. To qualify as having a good fit the chi square would be non-significant indicating no significant discrepancy between model and data. In most cases this does not happen. As a result, the chi square most of the time indicates a poor model. It also increases with large samples and non-normally distributed data (Bentler & Bonnet, 1980).
RMSEA	A value $<.01$ is considered excellent, $<.05$ is good, $<.08$ is acceptable (Hu & Bentler, 1999)
SRMR	A value $<.08$ is considered good (Hu & Bentler, 1999).
CFI and TLI	A value $>.90$ is considered good, $>.95$ is considered very good. If greater than one it is set at one (Hu & Bentler, 1999).

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents results of the statistical analysis and discussion of results. The first section describes the demographic characteristics of respondents who took part in the current study. Thereafter results are presented as per the objectives of the study.

4.2 Demographic Characteristics of the Respondents

The demographic characteristics of the respondents were obtained using the demographic questionnaire (See Appendix A). The age of respondents ranged from 13 to 28 years. The sample consisted of 162 (43.8%) male students and 197 (53.2%) female students. Ninety four (25.4%) students were from form one, 90 (24.3%) students were from form two, 118 (31.9%) students were from form three and 63(17.0%) students were from form four. The results are presented in Table 4.

Table 4: Demographic Variables

Demographic variable		Frequency	Percent	Valid percent
Age	13 – 16	177	47.8	49
	17 - 21	182	49.2	50.5
	22 and above	2	.6	.5
	Missing	9	2.4	
	Total	370	100.0	100.0
Gender	Male	162	43.8	45.0
	Female	197	53.2	55.0
	Missing	11	3	
	Total	370	100.0	100.0
Form	One	94	25.4	25.8
	Two	90	24.3	24.7
	Three	118	31.9	32.3
	Four	63	17.0	17.3
	Missing	5	1.4	
	Total	370	100.0	100.0

4.3 Relationship between Career Maturity and Career Indecision

The first objective was to determine the relationship between career maturity and career indecision of secondary school students in Kisumu City. The career maturity of the respondents was measured using the Career Maturity Inventory (See Appendix B). The minimum and maximum scores for this scale were 24 and 90 respectively. The obtained career maturity scores of respondents ranged from 28-75. The mean career maturity score of the respondents was 51.55 ($SD=8.63$).

Career indecision of respondents was measured using the Career Decision Scale (See Appendix C). The minimum and maximum scores for this scale were 16 and 64 respectively. The obtained career indecision scores of respondents ranged from 19-64. The mean career indecision of the respondents was 42.80 ($SD=8.41$). The mean career indecision for the sample in this study is much higher compared to those reported in previous studies with high school students. For example, Patton and Creed (2007) reported a mean of 32.30, Lopez and Ann-Yi reported a mean of 24.89, and Wang et al (2006) reported a mean of 31.06. It is likely that most students in Kisumu City experience more difficulties in their career decision making in terms of a wide range of career options, inadequate career guidance, inadequate career information and academic qualifications hence exhibiting high levels of career indecision.

Linear regression analysis was used to test if career maturity scores significantly predicted career indecision scores. The career maturity scores were significantly negatively correlated to career indecision scores ($r= -.537, p<.05$). This means that as career maturity increases,

career indecision decreases. Career maturity accounted for 28.8% of the variance in career indecision ($R^2 = .288$, $F = 149.179$, $p < .05$). The linear regression results are presented in Table 5.

Table 5: Regression Analysis for Career Maturity Predicting Career Indecision

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig
	B	Std. Error	β		
Constant	69.799	2.241		31.144	.000
Career Maturity	-.524	.043	-.537	-12.214	.000

Dependent Variable: Career Indecision

The results in Table 5 also show that career maturity was a significant predictor of career indecision ($\beta = -.537$, $p < .05$). These results suggest that when career maturity scores increase by 1 career indecision decreases by approximately half. The results of this study are in agreement with those reported by Patton and Creed (2007) with a sample of 925 Australian high school students, Park (2015) with a sample of 70 Korean college students and Creed and Patton (2003) with a sample of 367 Australian high school students who also found career maturity to be significantly correlated to career indecision. Despite these studies being conducted in different countries and with respondents of different sample sizes, the authors found career maturity to be significantly negatively correlated to career indecision. This implies that an increase in levels of career maturity is associated with a decrease in the levels of career indecision. Career maturity involves making age appropriate career decisions, exploring the world of work and seeking information about occupations and their requirements, having faith in one's ability to make realistic career decisions and seeking advice from others in making career decisions. It is evident from the results in the present

study that students who were actively engaged in the activities that lead to career maturity reported lower career indecision scores.

4.4 Moderation Analysis

This section introduces moderation and presents results on moderation analysis. Moderation analysis was done using multiple regression analysis to assess whether self-esteem, perceived social support and age interact with career maturity to predict career indecision. The moderator variables functions as independent variables as presented on Fig 5.

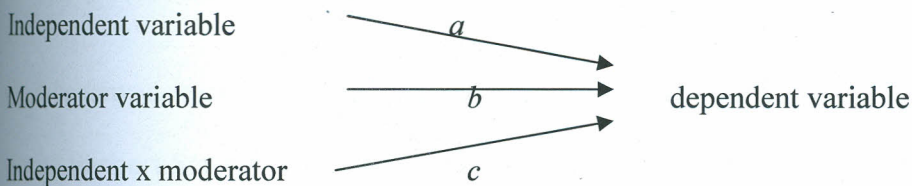


Fig 5: Moderator Model

→ Represents direction of prediction

The moderator hypothesis is supported if the interaction term (path *c*) is significant. There may also be significant main effects for the moderator variables (paths *b*) but this is not directly relevant to testing the moderator hypothesis. The correlation between career maturity, career indecision and moderator variables are presented in Table 6.

Table 6: Correlation Matrix of Variables

	1	2	3	4	5
1 CI	1				
2 CM	-.544**	1			
3 SE	-.003	.130*	1		
4 PSS	-.134**	.121*	.125*	1	
5 Age	-.040	-.046	-.036	-.024	1

Note: CM=Career Maturity, CI= Career Indecision, SE=Self Esteem, PSS=Perceived Social Support.

Since the obtained scores on the predictors for the current study were continuous in nature, prior to forming the interaction terms between career maturity and the possible moderator variables, all the individual scores for each variable were standardized by subtracting individual scores from the study sample mean scores for each variable. This was done to reduce the correlation between the product term and the scores on the predictor variables so that the effects of the two predictors are distinguishable from the interaction

4.4.1 Moderating Role of Perceived Social Support on the Relationship between Career Maturity and Career Indecision

The perceived social support of respondents was measured using the Multidimensional Social Support Scale (See Appendix D). The minimum and maximum score for this scale is 12 and 60 respectively. The obtained perceived social support scores of respondents ranged from 20-60. The mean score for the respondents on the social support scale was 45.80 ($SD = 8.50$). The mean score for the sample in this study is a little lower compared those that have been reported in other studies with the Multidimensional Social support scale. For example Schmidt et al (2011) reported a mean of 47.97 while Duffy (2010) reported a mean of 49.79. The cited studies were conducted with college students. It is possible that respondents in the cited studies are much older than the respondents in this study, hence have a much wider network of social support. These results suggest that as people grow older they tend to seek more social support.

Perceived social support was significantly negatively correlated to career indecision ($r = -.134, p < .05$). These results are similar to those reported by Schmidt, Miles and Welsh (2011) with a sample of undergraduate students and Constantine, Wallace and Kindaichi (2005) with

a sample of African American high school students. The authors also reported significant negative correlation between career indecision and perceived social support. These results imply that as students seek and receive social support from family members, friends and significant others in regard to their career decision making, their career indecision decreases. It is possible that as students consult with their parents, teachers, friends and significant others, they talk about the challenges they experience in regard to career decision making which lead to career indecision. As a result the people they talk to offer them assistance overcome some of the challenges they experience, hence a reduction in their levels of career indecision.

Table 7: Regression Analysis for Career Maturity, Perceived Social Support and the interaction between Career Maturity and Perceived Social Support Predicting Career Indecision

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	β		
(Constant)	72.313	2.806		25.772	.000
CM	-.520	.044	-.533	-11.941	.000
PSS	-.060	.044	-.061	-1.375	.170
CM*PSS	.385	.375	.045	1.027	.305

Dependent Variable: Career Indecision

Note: CM=Career Maturity, CI= Career Indecision and PSS=Perceived Social Support

An interaction term was formed for career maturity and perceived social support to test for moderation. The overall regression was statistically significant, $R = .543$, $R^2 = .294$, *Adjusted* $R^2 = .2289$, $F = 50.915$, $p < .05$. The effect of career maturity on career indecision was significant $\beta = -.533$, $t = -11.941$, $p < .05$ however, perceived social support did not have a statistically significant effect on career indecision $\beta = -.061$, $p > .05$ and thus it did not significantly predict career indecision. The interaction between career maturity and perceived

social support was not statistically significant $\beta = .045$, $t=1.027$, $p>.05$. The results are presented in Table 7.

Since the interaction term was not statistically significant, perceived social support did not moderate the association between career maturity and career indecision. This implies that having either high or low social support scores does not affect the strength of relationship between career maturity and career indecision. These results also suggest that perceived social support does not play an active role in reducing career indecision. It is possible that the advice given to students by parents, teachers and significant others on their career decision making is not sufficient in addressing the challenges that students in Kisumu City face.

4.4.2 Moderating Role of Self Esteem on the Relationship between Career Maturity and Career Indecision

Self esteem of respondents was measured using Rosenberg Self Esteem Scale (See Appendix E). The minimum and maximum scores for this scale were 9 and 36 respectively. The obtained self-esteem scores of respondents ranged from 9-36. The mean score for the respondents was 25.42 ($SD =5.92$). The mean score for self esteem of respondents was slightly above the normal range which falls between 15 and 25. The mean self esteem score for the sample in this study is a bit lower compared to those reported in previous studies with high school students. For example Santos and Ferreira (2012) reported a mean of 35.26, Creed et al (2004) reported a mean of 28.36 and Janeiro (2010) reported a mean of 34.13.

Self-esteem was not significantly correlated to career indecision ($r=-.003, p>.05$). The results of the present study differ from previous research by Sari (2007) with a sample of undergraduate students, Creed, Patton and Bartum (2004), with a sample of Australian high school students and Santos and Ferreira (2012) with a sample of Portuguese high school students who reported significant negative correlations between self esteem and career indecision. Given that the respondents in this study reported lower self esteem scores as compared to those in previous studies; it is possible that it is insufficient in reducing levels of career indecision.

Table 8: Regression Analysis for Career Maturity, Self Esteem and the interaction between Career Maturity and Self Esteem Predicting Career Indecision

Model	Unstandardized Coefficients		Standardized Coefficients β	t	Sig.
	B	Std. Error			
(Constant)	68.757	2.632		26.122	.000
CM	-.536	.043	-.550	-12.441	.000
SE	.064	.064	.045	.991	.322
CM* SE	.665	.369	.081	1.800	.073

Dependent Variable: Career Indecision

Note: CM=Career Maturity, CI= Career Indecision and SE=Self Esteem

An interaction term was formed for self-esteem and career maturity to test for moderation. The overall regression was statistically significant, $R = .546, R^2 = .293, \text{Adjusted } R^2 = .293, F = 51.898, p < .05$. The effect of career maturity on career indecision was significant $\beta = -.550, t = -12.441, p < .05$ however, self-esteem did not have a statistically significant effect on career indecision $\beta = .045, p > .05$. The interaction between career maturity and self-esteem was not statistically significant $\beta = .081, t = 1.8, p > .05$. The results are presented in Table 8.

Given that the interaction term was not statistically significant, self-esteem did not moderate the association between career maturity and career indecision. These results suggest that, self-esteem is not an important factor in reducing career indecision for secondary school students in Kisumu City.

4.4.3 Moderating Role of Age on the Relationship between Career Maturity and Career Indecision

The ages of the respondents ranged from 13 to 28. Age was not significantly correlated to career indecision ($r = -.040$, $p > .05$). The results of the current study are similar to those reported in previous research by Talib & Aun (2009) with a sample of undergraduate students, Schmidt et al (2011) with a sample of college women and Lopez and Ann-Yi (2009) with a sample of 359 undergraduate students. These results show that age does not predict career decision both for secondary school students and for college students.

An interaction term was formed for age and career maturity to test for moderation. The overall regression was statistically significant, $R = .552$, $R^2 = .304$, *Adjusted R*² = .229, $F = 52.098$, $p < .05$. The effect of career maturity on career indecision was significant $\beta = -.554$, $t = -12.465$, $p > .05$ however, age did not have a statistically significant effect on career indecision $\beta = -.001$, $p > .05$. The interaction between career maturity and age was statistically significant $\beta = .108$, $t = 2.362$, $p < .05$. The results are presented in Table 9.

Age did not significantly predict career indecision. The interaction term between career maturity and age was however significant. This implies that age moderates the association between career maturity and career indecision. The findings of this study shows that even

though age on its own is not significantly correlated to career indecision, it interacts with career maturity in predicting career indecision. This implies that age is a significant moderator in the relationship between career maturity and career indecision.

Table 9: Regression Analysis for Career Maturity, Age and the interaction between Career Maturity and Age Predicting Career Indecision

Model	Unstandardized Coefficients		Standardized Coefficients β	t	Sig.
	B	Std. Error			
(Constant)	70.539	4.446		15.865	.000
CM	-.538	.043	-.554	-12.465	.000
Age	-.004	.230	-.001	-.018	.986
CM*Age	.698	.296	.108	2.362	.019

Dependent Variable: Career Indecision

Note: CM=Career Maturity and CI= Career Indecision

To generate regression lines, three age groups were created to represent the ages in the sample. The age groups were constituted as follows:-Group 1 = 13 -16, Group 2 = 17 -21 and Group 3 = 22 and above. A graphical representation for each of the three groups is presented in Fig 6.

The line graph shows the nature of the significant interaction between age and career maturity as significant predictors of career indecision. The oldest age group showed a very small decrease in career indecision as career maturity increased. The youngest age group showed the largest decrease in career indecision as career maturity increased. For 13-16 year old students, career maturity accounted for 44.2% of variance in career indecision. For 17-21 year old students, career maturity accounted for 29.6% of variance in career indecision. For 22 and above year old students, career maturity accounted for 3.3% of variance in career indecision. The statistically significant interaction suggests that the relationship between career maturity and career indecision is stronger at younger ages.

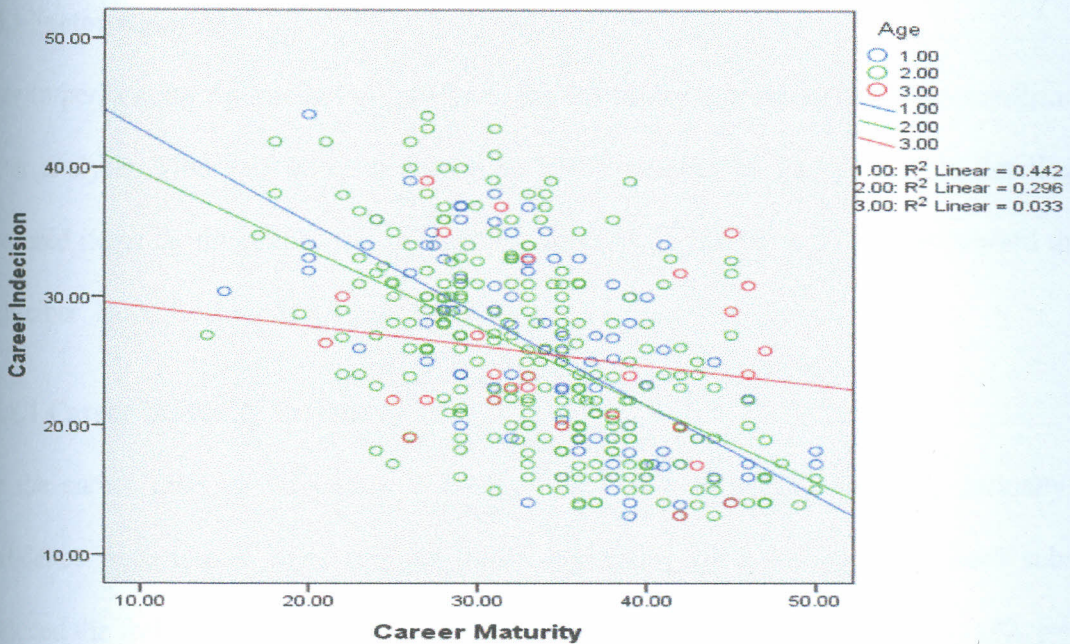


Fig 6: A graphical Presentation for Career Maturity Predicting Career Indecision by Age

Key: Group 1 = 13 -16, Group 2 = 17 -21 and Group 3 = 22 and above

The results of this study show that the career information students get at a younger age and the career exploration and planning they engage in at a younger age are very important in reducing their level of career indecision. However, as the students grow older, an increase in career maturity leads to a very small decrease in career indecision. It is likely that as secondary school students in Kisumu City grow older, the career information and career counselling they receive are not sufficient in dealing with the new challenges they face in regard to their career decision making.

4.5 Mediation

4.5.1 Factor Analysis

Prior to performing the mediation analysis, the instruments were subjected to confirmatory factor analysis. This was done to determine if the number of factors and the loadings of measured items on them conform to what is expected on the basis of pre established theory (Schreiber, Nora, Barlow & King, 2006).

4.5.1.1 Career Maturity Inventory

For the career maturity inventory a total of 18 items measuring concern, curiosity and confidence were tested. The original model consisting of 6 factors under each subscale produced the following results for the model fit indices; CMIN = 200.58, DF = 132, $p = .00$, RMR = 0.90, CFI = .86 and RMSEA = .040. The results show that the chi-square was statistically significant, RMR was above .08 which is not good, CFI was below .90 which is also not good and the RMSEA was below .05 which is good.

Since the model was not quite a good fit, modification was done to it by deleting one factor whose loading was not statistically significant. The path diagram for the confirmatory factor analysis of the final model used is presented in Fig 7.

The results for the model fit indices were as follows; CMIN = 161.48, DF = 116, $p = .00$, RMR = 0.80, CFI = .92 and RMSEA = .033. From the results the chi-square was statistically significant, RMR was at .08 which is good, CFI was above .90 which is good and the RMSEA was below .05 which is also good. Since the model was now considered a good fit it was used in the mediation analysis.

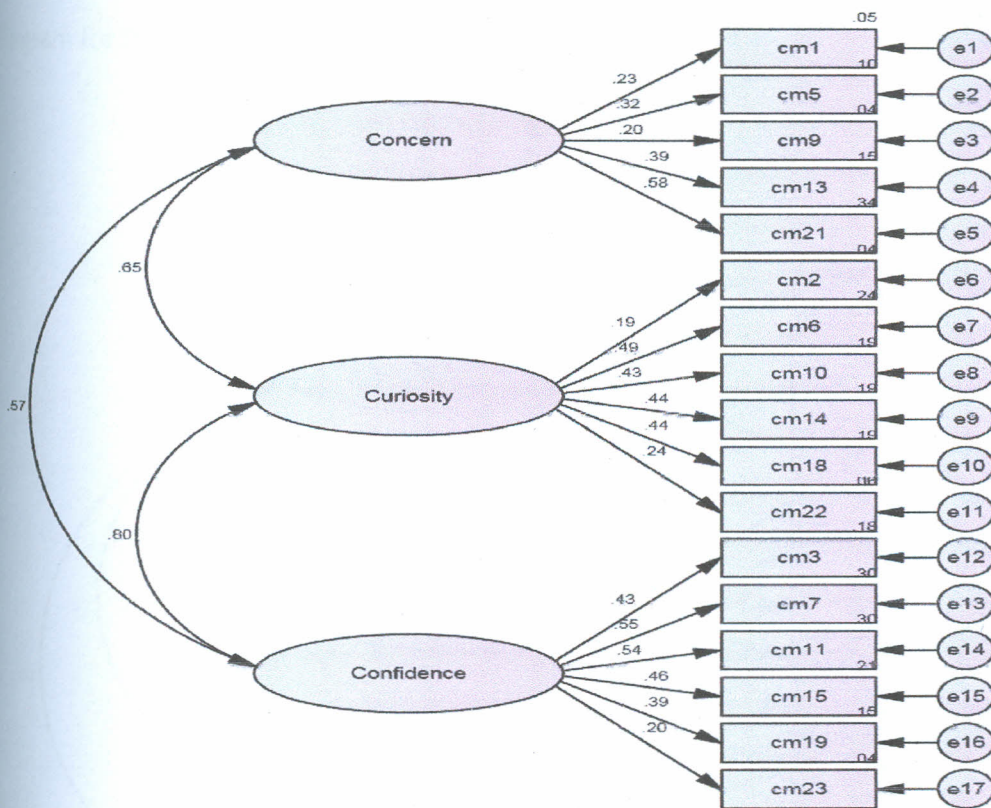


Figure 7: Confirmatory Factor Analysis Path Diagram for CMI

4.5.1.2 Career Decision Scale

For the career decision scale a total of 16 items were subjected to exploratory factor analysis, and a total of 4 factors were extracted using principal component analysis. Varimax rotation was used to allow clusters of items to load optimally and to simplify the structure of the analysis so that each factor will have non zero loadings for only some of the items without affecting the percentage of variance explained. Varimax rotation was considered appropriate since it minimizes the number of items that have high loadings on a factor (Field, 2000). Two

items whose loadings on the extracted factors did not reach .4 were not interpreted. The path diagram for the confirmatory factor analysis is presented in Fig 8.

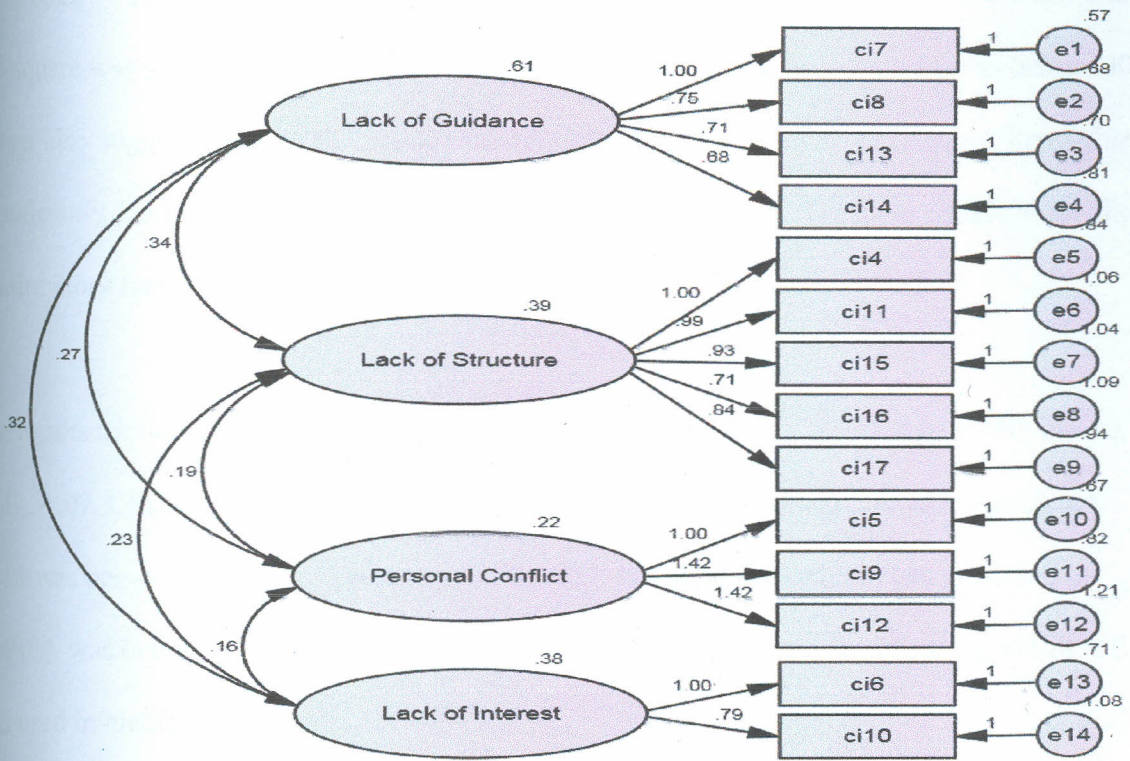


Figure 8: Confirmatory Factor Analysis Path Diagram for CDS

The results for the model fit indices were as follows; CMIN = 71.43, DF = 71, $p = .463$, RMR = .04, CFI = 1.00 and RMSEA = .00. The chi-square was not significant which suggests a good fit, the RMR was below .08 which suggests a good fit, the CFI was above .90 which is good and the RMSEA was below .05 which is also good. The model was therefore a good fit.

4.5.1.3 Career Decision Making Self Efficacy Scale

The career decision making self efficacy scale consisting of 25 items measuring occupational information, self appraisal, goal selection, planning and problem solving was subjected to confirmatory factor analysis. The results for the model fit indices were as follows; CMIN = 519.86, DF = 265, $p = .00$, RMR = .13, CFI = .83 and RMSEA = .05. The results show that chi-square was significant, RMR was above .08 which suggests a poor fit, CFI was below .90 which also suggests a poor fit. Since the model was not a good fit only those items that significantly loaded on their respective subscales were retained. The path diagram for the confirmatory factor analysis is presented in Fig 9.

The results for the new model fit indices were as follows; CMIN = 278.38, DF = 160, $p = .00$, RMR = .07, CFI = .91 and RMSEA = .05. The results show that chi-square was significant, RMR was below .08 which suggests a good fit, CFI was above .90 which was good and the RMSEA was below which also suggested a good fit. The model was therefore a good fit and was used in mediation analysis.

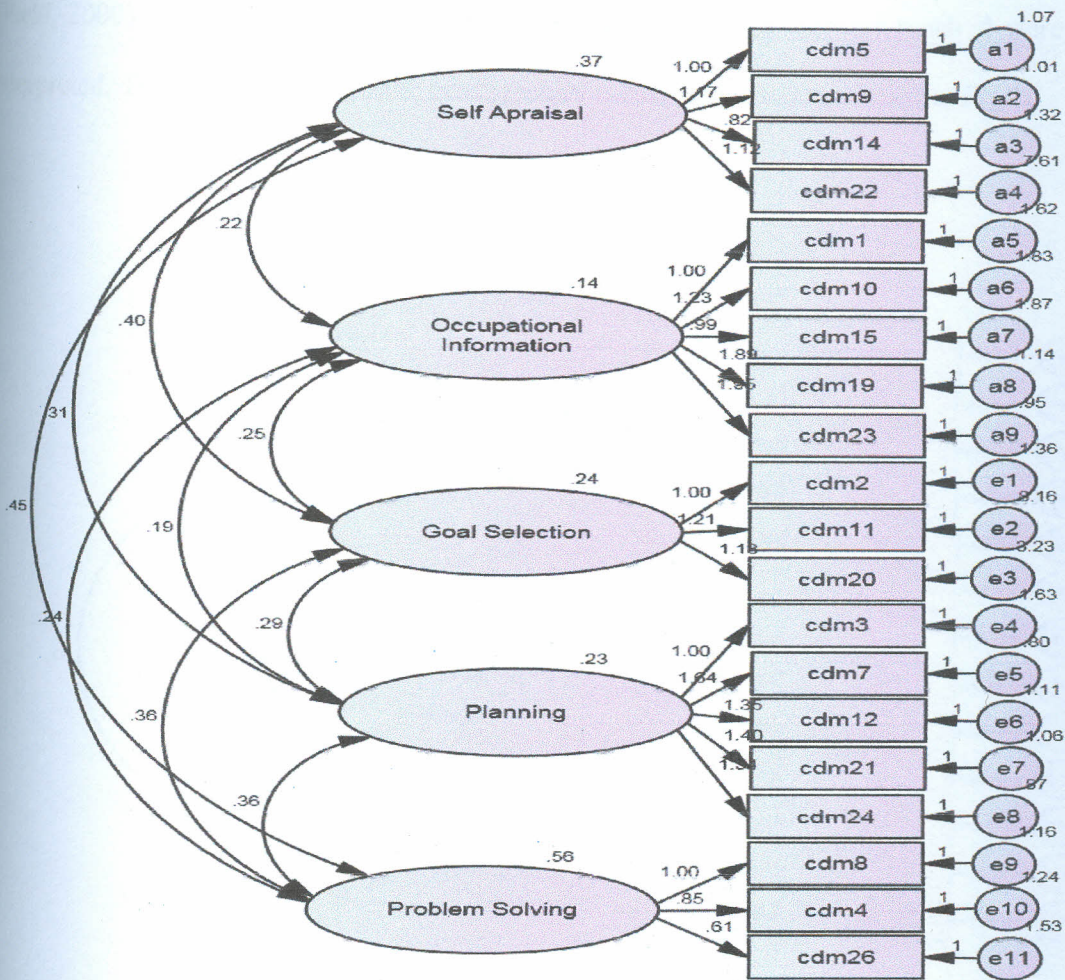


Figure 9: Confirmatory Factor Analysis Path Diagram for CDMSE scale

4.5.1.4 Vocational Identity Scale

For My Vocational Situation Scale 18 items were subjected to exploratory factor analysis and a total of 4 factors were extracted using principal component analysis. Varimax rotation was used to allow clusters of variables to load optimally and to simplify the structure of the analysis so that each factor will have none zero loadings for only some of the variables without affecting the percentage of variance explained. Varimax rotation was considered appropriate since it minimizes the number of variables that have high loadings on a factor

(Field, 2000). Four items whose loadings on the extracted factors did not reach .4 were not interpreted. The path diagram for the confirmatory factor analysis is presented in Fig 10.

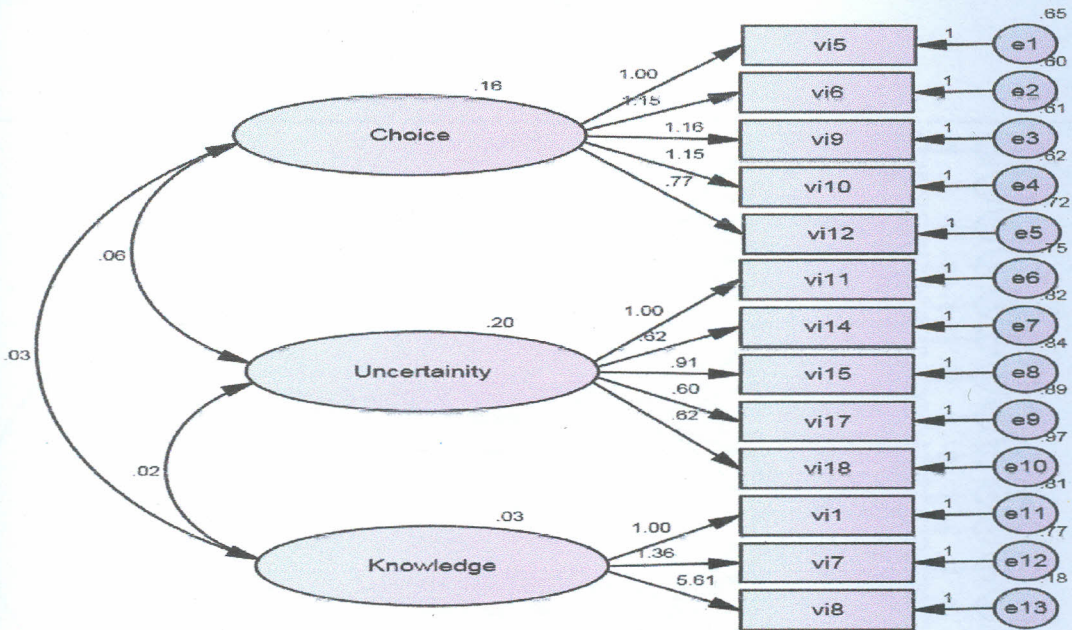


Figure 10: Confirmatory Factor Analysis Path Diagram for VI scale

For the VI scale, the results for the model fit indices were as follows; CMIN = 67.80, DF = 41, $p = .01$, RMR = 0.44, CFI = .94 and RMSEA = .05. The chi square results were significant, RMR was below .08 which suggested a good fit, and CFI was above .90 which also suggests a good fit. The RMSEA was below .05 suggesting a good fit. Since the model was a good fit, it was used in mediation analysis

4.5.1.5 Locus of Control Scale

The locus of control scale consisted of 2 subscales measuring internal (5 items), and external (15 items) career locus of control. The external locus of control scale had 3 indicators measuring luck (5 items), helplessness (5 items) and powerful others (5 items). The path diagram for the confirmatory factor analysis is presented in Fig 11.

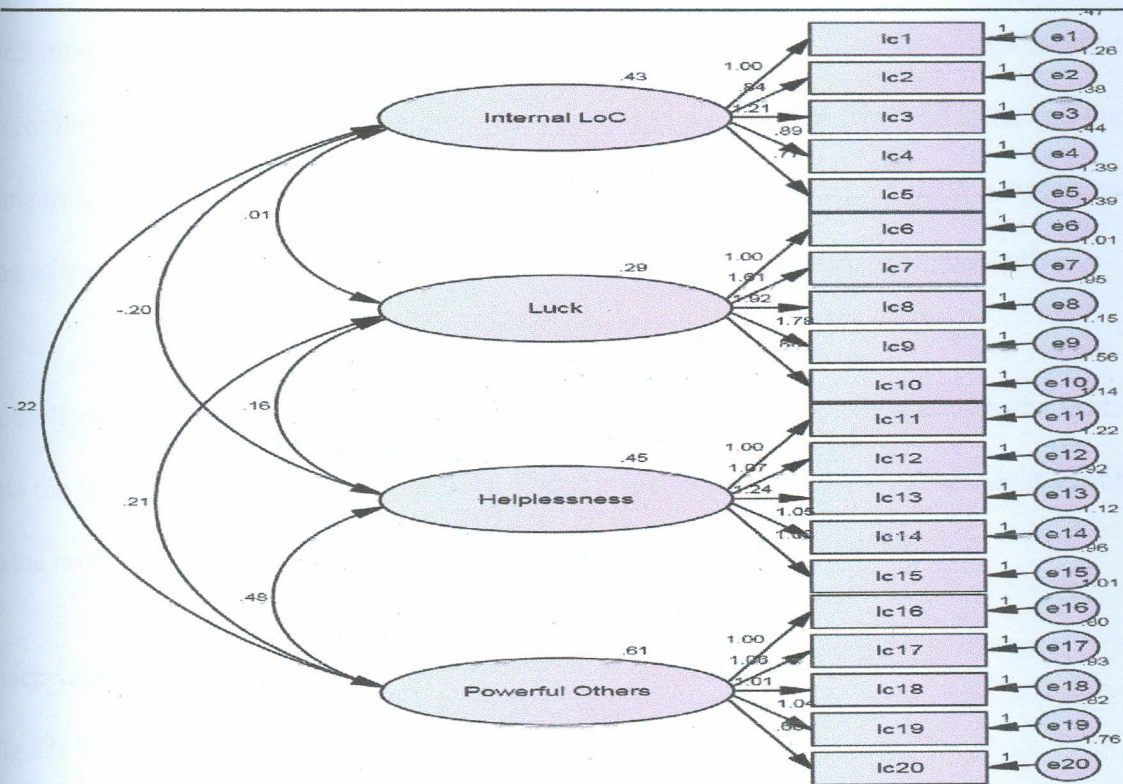


Figure 11: Confirmatory Factor Analysis Path Diagram for LoC

The results for the model fit indices for the locus of control scale were as follows; CMIN = 261.43, DF = 164, $p = .00$, RMR = 0.04, CFI = .96 and RMSEA = .04. Based on the results, the chi square was significant, RMR was below .08 suggesting a good fit, CFI was above .95 which suggests a very good fit and The RMSEA was below .05 which also suggests

a good fit. Since the model was a good fit, no modifications were made. The model was used in mediation analysis.

4.5.2 Mediation Analysis

To determine the mediating effect of career decision making self-efficacy, vocational identity and locus of control on the association between career maturity and career indecision, mediation analysis was performed using the Baron and Kenny (1986) causal steps approach. According to this approach, mediation must begin with a minimum of 3 variables, and these variables have to be reasonably distributed with linear relationships existing between each pair of variables. Usually all the three variables in a mediation analysis are quantitative.

A mediation model assumes a 3 variable system such that there are two causal paths feeding into the outcome variable (paths c' and b). There is also a path from the independent variable to the mediator (path a) as presented in Fig 12 and 13.



Fig 12: The Independent and Dependent Variable

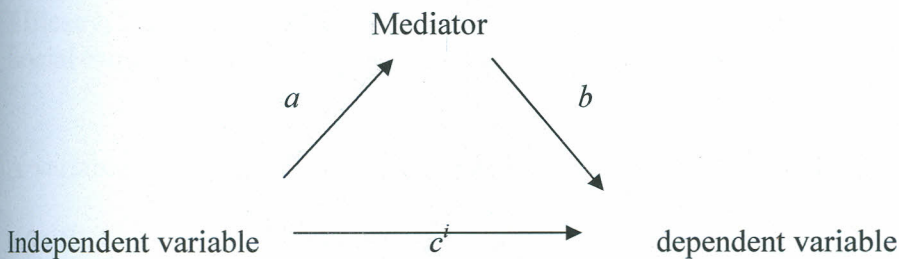


Fig 13: Mediator Model

→ Represents direction of prediction

Path c in Fig 13 is referred to as the total effect. Path c^i in Fig 6 is referred to as the direct effect. Path ab in Fig 6 is referred to as the indirect effect. The indirect effect ab is the measure of the amount of mediation.

$$\text{Total effect } (c) = \text{Direct effect } (c^i) + \text{Indirect effect } (ab)$$

In the present study the initial causal variable (independent variable) was career maturity. The outcome variable (dependent variable) was career indecision and the possible mediating variables were vocational identity, career decision making self-efficacy, and locus of control. The correlations among the variables in the study are presented in Table 10.

A bootstrap confidence interval for the indirect effect was obtained using procedures described by Preacher and Hayes (2008). This was done to obtain statistical significance for mediation. Bootstrapping was chosen to test for significance because it may be more robust to violation of assumptions of normality.

Table 10: Correlation Matrix of Variables

		1	2	3	4	5	6
1	CI	1					
2	CM	-.544**	1				
3	CDMSE	-.176*	.243**	1			
4	VI	-.471**	.383**	-.018	1		
5	I LoC	-.064	.071	.224**	.096	1	
6	E LoC	.374**	-.331**	-.199**	-.248**	-.166**	1

Note: CM=Career Maturity, CI= Career Indecision, CDMSE=Career Decision-Making Self-Efficacy, VI=Vocational Identity, SE=Self Esteem, BP=Perceived Barriers, PSS=Perceived Social Support, ILoC=Internal Locus of Control and ELoC=External Locus of Control

A variable functions as a mediator when path a and b are significant and when a previously significant relationship between dependent and independent variables is no longer significant when path a and b are controlled. The strongest mediation occurs when path c is zero. Partial mediation occurs when path c is significantly different from zero. .

4.5.2.1 Mediating role of Career Decision Making Self-Efficacy on the Relationship between Career Maturity and Career Indecision

Career decision making self efficacy of respondents was measured using the Career Decision Making Self Efficacy Scale (See Appendix F). The minimum and maximum scores for this scale are 25 and 125 respectively. The obtained career decision making self-efficacy scores of respondents ranged from 30 to 125. The mean score of the respondents was 91.29 ($SD = 14.71$). The mean career decision making self efficacy score for the sample in this study was lower than those reported in studies with college students. For example, Lopez and Ann-Yi (2006) reported a mean of 104.48, Jedidian and Duffy (2012) reported a mean of 94.82. The mean for this study was however higher than those reported in previous studies with high school students. For example, Creed et al (2007) reported a mean of 85.49 while Creed et al (2004) reported a mean of 84.15.

Career decision making self-efficacy was significantly positively correlated to career maturity ($r = .243, p < .05$) and significantly negatively correlated to career indecision ($r = -.176, p < .05$). These results are in agreement with those reported by Creed, Patton and Bartum (2004) with a sample of high school students. In their study, career decision making self-efficacy was significantly positively correlated to career maturity and significantly negatively correlated to career indecision. Similarly Lopez and Ann-Yi (2009) found out that career decision making self efficacy is negatively correlated to career indecision with a sample of undergraduate students. This implies that as career decision making self-efficacy increases, career maturity increases and career indecision decreases. Since the relationship between career maturity and career decision making self-efficacy was significant and the relationship

between career decision making self-efficacy and career indecision was also significant, career decision making self-efficacy qualified to be used in the mediation analysis.

The proposed model for the mediating role of career decision making self-efficacy is presented in Fig 14. The results for the model fit indices were as follows; CFI = .98 and RMSEA = .03. The results are presented in Table 11. The results show that CFI was above .95 which suggests a very good fit. The RMSEA was below .05 which is also good. Generally the model was a good fit.

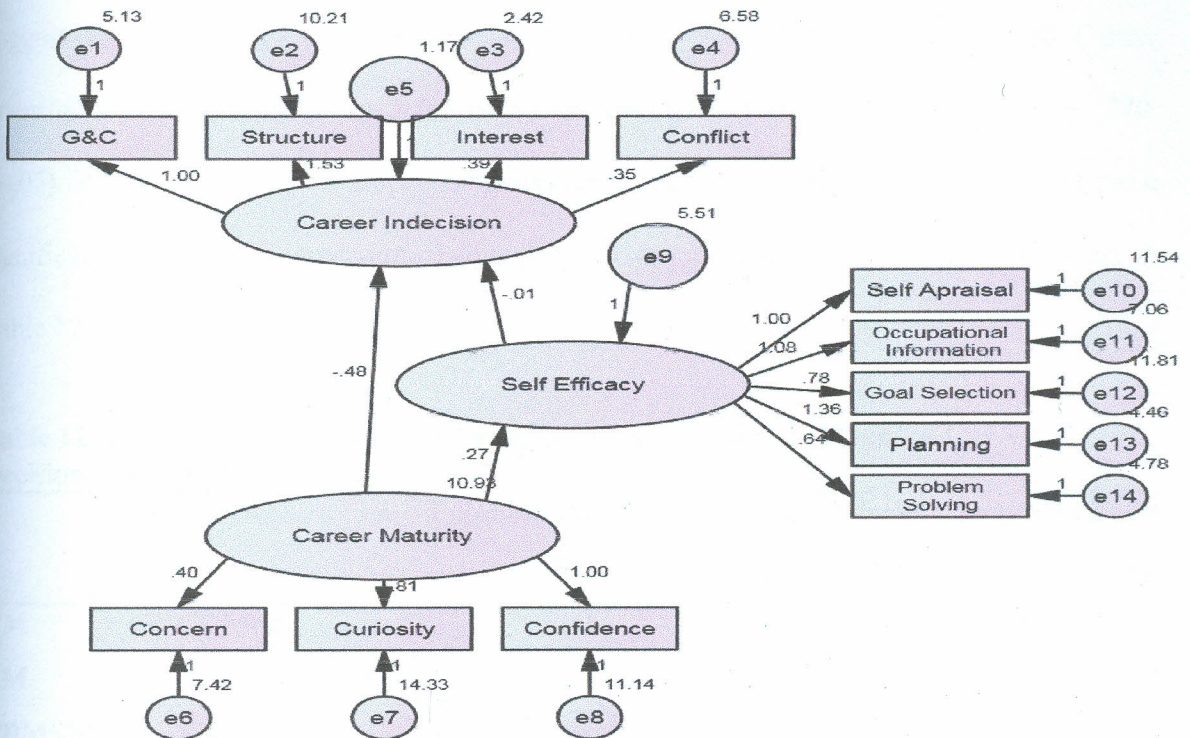


Fig 14: Mediation Model for Career Decision-Making Self-Efficacy

Table 11: Goodness of Fit Indices for Mediation Models

INSTRUMENT	CMIN	DF	P	GFI	AGFI	TLI	CFI	RMSEA
CDMSE	71.43	51	.03	.97	.95	.97	.98	.03
VI	38.13	32	.19	.98	.96	.98	.99	.02
ELoC	63.34	32	.01	.97	.94	.94	.96	.04

CMIN = Chi Square, RMR = Root Mean Square Residual, CFI = Comparative Fit Index, GFI = Goodness of Fit Index, TLI = Tucker Lewis Coefficient, IFI = Incremental Fit Index, VI = Vocational Identity, CDMSE = Career Decision Making Self Efficacy and LoC = Locus of Control.

Analysis for the mediating role of career decision making self-efficacy shows that the total effect of career maturity on career indecision was significant ($c = -.488, p < .05$). These results suggest that when career maturity increases by 1 career indecision decreases by .488. Career maturity was a significant predictor of career decision making self-efficacy, ($a = .270, p < .05$). When controlling for career maturity, career decision making self-efficacy was not a significant predictor of career indecision, ($b = -.014, p > .05$). The results are presented in Table 12.

Table 12: Estimates/Bootstraps for Total, Direct and Indirect Effects of Career Decision-Making Self-Efficacy

		Total effects		Direct effects		Indirect effects	
			Sig		Sig		Sig
CM	→ CDMSE	.270	.002	.270	.002	.000
CM	→ CI	-.488	.002	-.484	.002	-.004	.742
CDMSE	→ CI	-.014	.761	-.014	.761	.000

Note: CM=Career Maturity, CI= Career Indecision and CDMSE=Career Decision-Making Self-Efficacy

→ Represents direction of prediction

The estimated direct effect of career maturity on career indecision controlling for career decision making self-efficacy was statistically significant ($c = -.484, p < .05$). The indirect

effect ab was not statistically significant ($ab = -.006, p > .05$). Bootstrapping was performed and 2000 samples were requested, a bias corrected confidence interval of 95% was created for ab .

The path b was not statistically significant and the bootstrapped confidence interval was not zero. The indirect effect of career maturity on career indecision through career decision making self-efficacy was not statistically significant and therefore the relationship between career maturity and career indecision was not mediated by career decision making self-efficacy. The above results show that career maturity scores predicted career decision making self-efficacy. However, career decision making self-efficacy did not predict career indecision. When the effect of career decision making self efficacy was taken into account the reduction in the strength of relationship between career maturity and career indecision was not significant. These results suggest that career decision making self efficacy is not an important factor in reducing career indecision. Since career decision making self efficacy was correlated to career indecision, it is possible that career indecision would predict career decision making self efficacy.

4.5.2.2 Mediating Role of Vocational Identity on the Relationship between Career

Maturity and Career Indecision

Vocational identity of the respondents was measured using the Vocational Identity Scale (See Appendix G). The minimum and maximum scores for this scale are 18 and 72 respectively. The obtained vocational identity scores of respondents ranged from 26 to 72. The mean score of the respondents was 46.98 ($SD=6.67$).

Vocational identity was significantly positively correlated to career maturity ($r=.383, p<.05$). This result is in agreement with Dipeolu (2007) who also found a significant positive relationship between career maturity and vocational identity with a sample of high school students. Higher career maturity scores are associated with higher vocational identity which involves the ability to identify career interests and the possession of clear career goals.

Vocational identity was significantly negatively correlated to career indecision ($r=-.471, p<.05$). These results are similar to those reported by Santos and Ferreira (2012) who also found significant negative correlation between career maturity and career indecision with a sample of Portuguese high school students. This result suggests that higher vocational identity scores are associated with higher career maturity and lower career indecision. Since vocational identity was significantly correlated to career maturity and career indecision, vocational identity qualified to be used in the mediation analysis.

The proposed model for the mediating role of vocational identity is presented in Fig 15. The results for the model fit indices were as follows; CFI = .99 and RMSEA = .02. The results are presented in Table 11. The results show that CFI was above .95 which suggests a very good fit. The RMSEA was below .05 which is also good. The model therefore was a good fit.

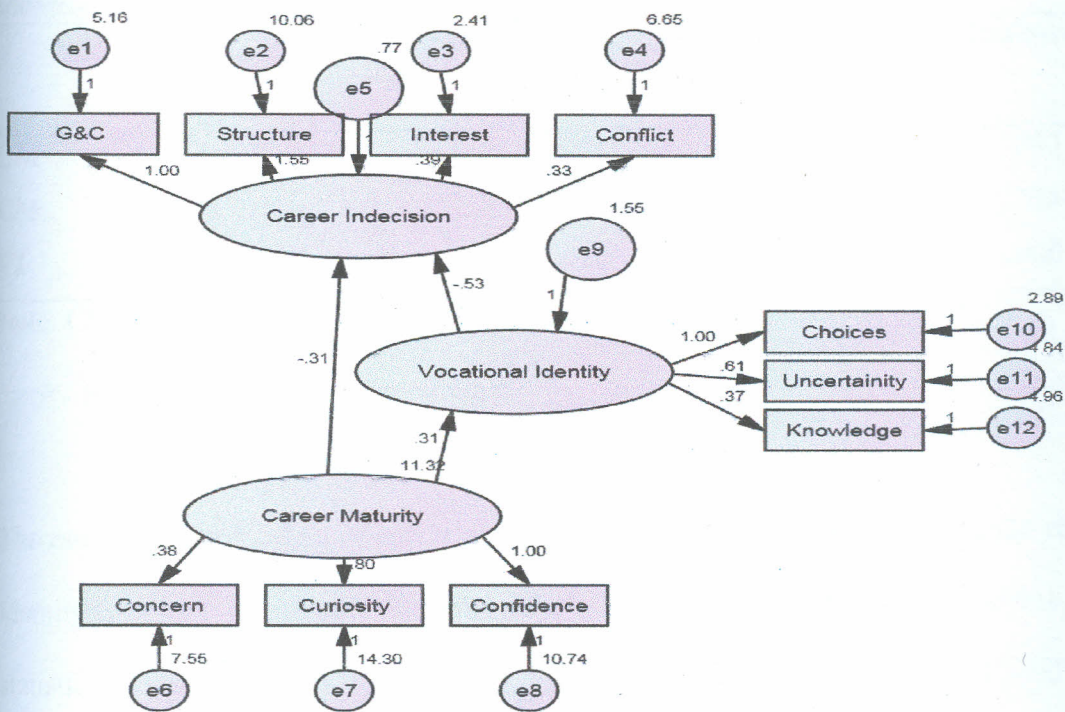


Fig 15: Mediation Model for Vocational Identity

Analysis for the mediating role of vocational identity show that the total effect of career maturity on career indecision was significant ($c = -.474, p < .05$). Career maturity was also significantly predictive of the variable vocational identity, ($a = .314, p < .05$). When controlling for career maturity, vocational identity was also significantly predictive of career indecision, ($b = -.526, p < .05$). The results are presented in Table 13.

Table 13: Estimates/Bootstraps for Total, Direct and Indirect Effects of Vocational Identity

			Total effects		Direct effects		Indirect effects	
			Sig		Sig		Sig	
CM	→	VI	.314	.001	.314	.001	.000
CM	→	CI	-.474	.002	-.310	.064	-.165	.008
VI	→	CI	-.526	.010	-.526	.010	.000

Note: CM=Career Maturity, CI= Career Indecision and VI=Vocational Identity

→ Represents direction of prediction

The estimated direct effect of career maturity on career indecision controlling for vocational identity was not statistically significant ($c = -.310, p > .05$). The indirect effect ab was statistically significant ($ab = -.165, p < .05$). Bootstrapping was performed and 2000 samples were requested. A bias corrected confidence interval of 95% was created for ab .

The path a and b were statistically significant and the bootstrapped Confidence interval did not include zero. The indirect effect of career maturity on career indecision through vocational identity was statistically significant. The direct path c was however not statistically significant. The effect of career maturity on career indecision changed from significant to non-significant. The above results suggest that career maturity is a significant predictor of vocational identity. Vocational identity is also a significant predictor of career indecision. It is however important to note that vocational identity changed the relationship between maturity and career indecision. The results show that the strength of relationship between career maturity and career indecision reduced and became non-significant when taking into account the effect of vocational identity. In view of the above results, vocational identity which refers to the possession of clear and well defined career related interests and

goals is not only a significant mediator in the relationship between career maturity and career indecision but also proved to be a better factor in reducing career indecision as compared to career maturity.

4.5.2.3 Mediating Role of Locus of Control on the Relationship between Career Maturity and Career Indecision

Locus of control of respondents was measured using the Career Locus of Control Scale (See Appendix H). This scale consists of two subscales measuring internal and external locus of control. The minimum and maximum scores for the internal locus of control scale are 5 and 25 respectively. The obtained internal locus of control scores of respondents ranged from 5-25. The mean score for the respondents was 21.11 ($SD = 3.74$). The mean internal locus of control score for the sample in this study was not very different from those reported in other studies with high school students. For example, Millar and Shevlin (2007) reported a mean of 22.91 while Perry et al (2010) reported a mean of 21.90. Internal locus of control was not significantly correlated to career maturity ($r = .071, p > .05$) and career indecision ($r = -.064, p > .05$). Based on these results, internal locus of control does not qualify to be used in the mediation analysis. These results differ from those reported by Hirschi (2009), Duffy (2010) and Dhillon (2005), who found significant positive correlation between career maturity and internal locus of control with samples of high school students.

The minimum and maximum scores for the external locus of control scale are 15 and 75 respectively. The obtained external locus of control scores of respondents ranged from 15-75. The mean score of the respondents' was 36.05 ($SD = 10.64$). The mean for this study is higher than that reported by Perry et al (2010). The authors reported a mean of 32.74. The

mean for this study is however lower than that reported by Millar and Shevlin (2007). The authors reported a mean of 40.69. External locus of control was significantly negatively correlated to career maturity ($r=-.331, p<.05$) and significantly positively correlated to career indecision ($r=.374, p<.05$). This implies that higher external locus of control is associated with lower career maturity and higher career indecision.

Since external locus of control was significantly correlated to career maturity and career indecision, external locus of control qualified to be used in the mediation analysis. The proposed model for the mediating role of external locus of control is presented in Fig 16.

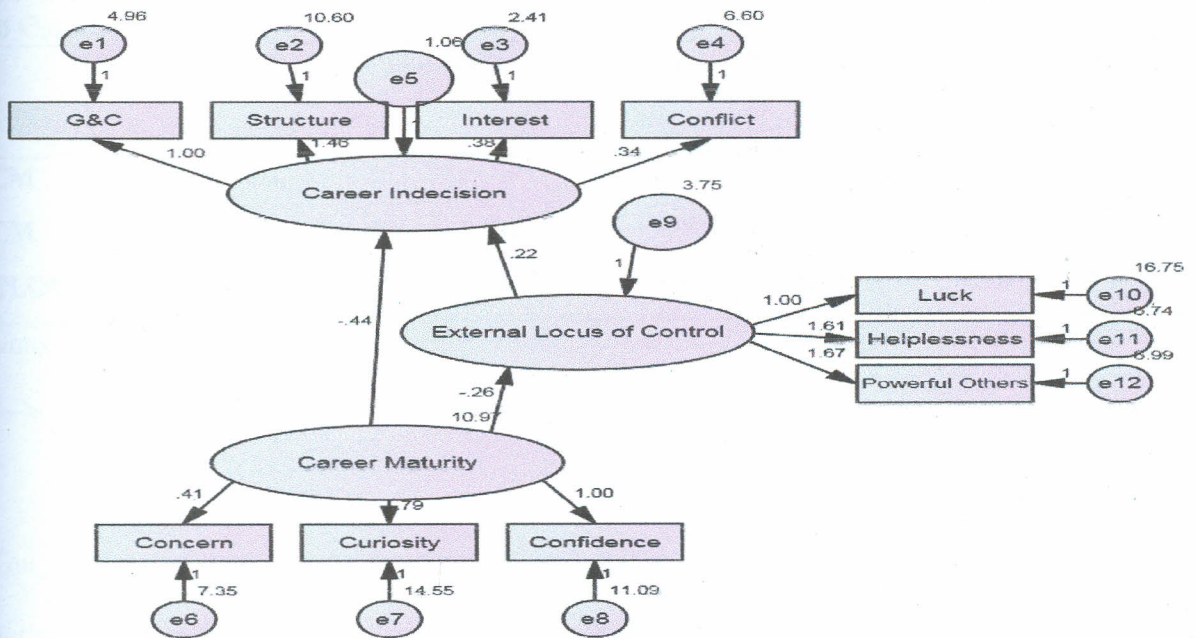


Fig 16: Mediation Model for External Locus of Control

The results for the model fit indices were as follows; CFI = .96 and RMSEA = .04. The results are presented in Table 11. The results show that CFI was above .95 which suggests a very good fit. The RMSEA was below .05 which is also good. The model was a good fit.

Analysis for the mediating role of external locus of control show that the total effect of career maturity on career indecision was significant ($c = -.496, p < .05$). Career maturity was a significant predictor of the external locus of control, ($a = -.263, p < .05$). When controlling for career maturity, external locus of control was also a significant predictor of career indecision, ($b = .219, p < .05$). The results are presented in Table 14.

Table 14: Estimates/Bootstraps for Total, Direct and Indirect Effects of External Locus of Control

		Total effects		Direct effects		Indirect effects	
		Sig		Sig		Sig	
CM	→ ELOC	-.263	.001	-.263	.001	.000
CM	→ CI	-.496	.001	-.439	.001	-.058	.008
ELOC	→ CI	.219	.017	.219	.017	.000

Note: CM=Career Maturity, CI= Career Indecision and ELoC=External Locus of Control

→ Represents direction of prediction

The paths a and b were statistically significant and the bootstrapped confidence interval was not zero. The indirect effect of career maturity on career indecision through external locus of control was statistically significant. The direct path c was also statistically significant. This implies that the effect of career maturity on career indecision was significantly reduced when taking into account the effect of external locus of control. Hence external locus of control partially mediated the relationship between career maturity and career indecision. These

results suggest that, an increase in career maturity leads to a decrease in career indecision partly because students who possess high career maturity has low external locus of control.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents summary, conclusions and recommendations of the study.

5.2 Summary of Findings

The summary of findings is presented as per the objectives of the study.

5.2.1 Relationship between Career Maturity and Career Indecision

The first objective was to determine the relationship between career maturity and career indecision. The results show that there was a significant negative relationship between career maturity and career indecision. Regression analysis confirmed that career maturity is a significant predictor of career indecision. As career maturity increases by 1, career indecision decreases by .524. Career maturity accounted for 28.8% of variance in career indecision. These results suggest that students who are actively engaged in the activities that lead to career maturity such as career exploration and seeking career information tend to be less undecided when making career decisions.

5.2.2. Moderation Analysis

The second objective was to determine the moderating role of perceived social support, self-esteem and age on the relationship between career maturity and career indecision.

5.2.2.1 Perceived Social Support

Perceived social support was significantly negatively correlated to career indecision. However, the interaction term between career maturity and perceived social support did not significantly predict career indecision. This implies that, perceived social support did not

moderate the relationship between career maturity and career decision. These results suggest that having either high or low social support does not affect the strength of relationship between career maturity and career indecision. These results also suggest that perceived social support does not play an active role in reducing career indecision for secondary school students in Kisumu City.

5.2.2.2 Self Esteem

Self esteem was not significantly correlated to career indecision. The interaction term between career maturity and self-esteem did not significantly predict career indecision. This implies that, self-esteem did not moderate the relationship between career maturity and career decision. These results suggest that self-esteem is not an important factor in reducing career indecision, and does not also affect the strength or direction of relationship between career maturity and career indecision for secondary school students in Kisumu City.

5.2.2.3 Age

Age did not significantly predict career indecision. However, the interaction term between career maturity and age significantly predicted career indecision. This implies that age was a significant moderator in the relationship between career maturity and career indecision. The graphical presentation revealed that the relationship between career maturity and career indecision is stronger at younger ages. These results suggest that the career information secondary school students in Kisumu City get at a younger age and the career exploration and planning they engage in at a younger age is very important in reducing their level of career indecision however, as the students grow older, increase in career maturity leads to a very small decrease in the level of career indecision.

5.2.3 Mediation Analysis

The third objective was to determine the mediating effect of career decision making self-efficacy, vocational identity and locus of control in the association between career maturity and career indecision.

5.2.3.1 Career Decision Making Self-Efficacy

There was a significant positive relationship between career maturity and career decision making self-efficacy. There was also a significant negative relationship between career decision making self-efficacy and career indecision. The estimated total and direct effects of career maturity on career decision making self-efficacy was significant. The estimated total and direct effects of career decision making self-efficacy on career indecision were not significant. The estimated indirect effect of career maturity on career indecision was not significant. This implies that career decision making self-efficacy does not mediate the relationship between career maturity and career indecision. These results suggest that career decision making self efficacy is not an important factor in reducing career indecision, and does not account for the relationship between career maturity and career indecision.

5.2.3.2 Vocational Identity

There was a significant positive relationship between career maturity and vocational identity. There was also a significant negative relationship between vocational identity and career indecision. The estimated total and direct effects of career maturity on vocational identity were significant. The estimated total and direct effects of vocational identity on career indecision was significant. The estimated indirect effect of career maturity on career indecision was also significant. This means that vocational identity mediated the relationship between career maturity and career indecision. These results suggest that an increase in

career maturity leads to a decrease in career indecision because students who possess high career maturity have high vocational identity.

5.2.3.3 Locus of Control

The relationship between career maturity and internal locus of control was not significant.

The relationship between career indecision and internal locus of control was also not significant. These results show that two conditions for mediation were violated and as a result it was not possible to perform mediation analysis.

There was a significant negative relationship between career maturity and external locus of control. There was also a significant positive relationship between external locus of control and career indecision. The estimated total and direct effects of career maturity on external locus of control were significant. The estimated total and direct effects of external locus of control on career indecision were significant. The estimated indirect effect of career maturity on career indecision was also significant. These results show that external locus of control partially mediated the relationship between career maturity and career indecision. These results suggest that an increase in career maturity leads to a decrease in career indecision because students who possess high career maturity have low external locus of control.

5.3 Conclusion

Based on the findings of the study, the following conclusions were made.

5.3.1 Relationship between Career Maturity and Career Indecision

The first objective was to determine the relationship between career maturity and career indecision. The study concluded that students who are actively involved in career exploration and seeking career information tend to be less undecided in making career decisions.

5.3.2. Moderation Analysis

The second objective was to determine the moderating role of age, perceived social support and self-esteem on the relationship between career maturity and career decision.

5.3.2.1 Perceived Social Support

The study concluded that having high or low perceived social support does not affect the strength of relationship between career maturity and career indecision.

5.3.2.2 Self Esteem

The study concluded that having high or low self esteem does not affect the strength of relationship between career maturity and career indecision.

5.3.2.3 Age

The study concluded that the relationship between career maturity and career indecision is stronger at younger ages.

5.3.3 Mediation Analysis

The third objective was to determine the mediating role of career decision making self-efficacy, vocational identity and locus of control in the association between career maturity and career indecision.

5.3.3.1 Career Decision Making Self Efficacy

The study concluded that an increase in students' career maturity leads to an increase in their confidence and belief in their ability to make career decisions. However, confidence and a belief in the ability to make career decisions do not account for the relationship between career maturity and career indecision.

5.3.3.2 Vocational Identity

The study concluded that students who are actively engaged in career exploration and in seeking career information have clearer career goals. At the same time, students who have clear career goals experience less indecision in career decision making. The study also concluded that having clear career goals is more important in reducing career indecision than engaging in career exploration and seeking career information.

5.3.3.3 Locus of Control

The study concluded that students who are not actively engaged in career exploration and in seeking career information had stronger beliefs that their career outcomes are beyond their control. In the presence of external locus of control, the relationship between career maturity and career indecision significantly reduced hence external locus of control was able to account for this relationship between career maturity and career indecision.

5.4 Recommendations

Based on the results, the researcher came up with the following recommendations:-

5.4.1 Relationship between Career Maturity and Career Indecision

Students should be provided with adequate career information; they should be encouraged to explore various careers and consult widely so as to improve their levels of career maturity since as their career maturity increases, their level of career indecision decreases.

5.4.2 Moderation analysis

5.4.2.1 Perceived Social Support

The study recommends that parents and teachers should provide support to students in relation to their career decisions as this leads to an increase in their career maturity and a decrease in career indecision.

5.4.2.2 Age

Since the relationship between career maturity and career indecision was stronger at younger ages, students should be provided with adequate career information at an early age. They should also be encouraged to engage in career related activities such as planning, consultation and career exploration so as to reduce their level of career indecision.

Career counsellors and practitioners should also improve the quality of career guidance and career exposure they provide to students as they grow so as to help reduce the level of indecision brought about by challenges that students encounter as they grow older with regard to career decision making.

5.4.3 Mediation Analysis

5.4.3.1 Career Decision Making Self-Efficacy

Since career decision self-efficacy was able to independently predict career indecision, career counsellors should help students develop confidence in their ability to make career decisions as this will lead to a reduction in career indecision.

5.4.2.2 Vocational Identity

Since vocational identity mediated the relationship between career maturity and career indecision, career counsellors should help students evaluate themselves in order to identify their interests and help students develop clear career goals as this leads to higher levels of vocational identity which is very important in reducing career indecision.

5.4.2.3 Locus of Control

Since external locus of control partially mediated the relationship between career maturity and career indecision, career counsellors, parents and teachers should inculcate in the students the idea that their career outcomes are not dependent on factors out of their control such as luck, chance and other powerful people as this will reduce their levels of external locus of control which will in turn lead to a decrease in the levels of career indecision..

5.4.5 Recommendations for Future Research

1. Research on the relationship between career maturity and career indecision should be conducted on learners with special needs to determine whether the relationship exists for this group.

2. Research should also be conducted to determine the causes for a stronger relationship between career maturity and career indecision at younger ages.
3. Since vocational identity and external locus of control only partially mediated the relationship between career maturity and career indecision, future research should be conducted to determine other mediating variables on this relationship.

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