CAREER DEVELOPMENT: FACTORS INFLUENCING THE VOCATIONAL INTERESTS OF SECONDARY SCHOOL STUDENTS AT THE PRESTIGE HIGH SCHOOL

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ABSTRACT

Career Development: Factors influencing the Vocational Interests of Secondary School Students at the Prestige High School

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This study used a census approach to evaluate the cross-cultural applicability of Holland's (1997) RIASEC model and the impact of personality traits and demographic factors on students' work-related interests. A total of 158 students of the Prestige High School in Trinidad and Tobago participated in this study. Factor analysis revealed the usefulness of Holland's RIASEC model as five of the six career clusters were found. Stepwise multiple regression analysis indicated that the Emotional stability personality trait influenced students' Investigative, Social, Enterprising and Conventional interests. Additionally, gender, form, subject cluster and socio- economic status influenced students' work related interests. The implications of these findings are discussed and recommendations made.

Key words: Career Development, Vocational Interests, Personality

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DEDICATION

This thesis is dedicated to my mother Ernestine Cadogan, my husband, Sekou Bastien and my beloved daughter Nyela Bastien.

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CHAPTER ONE

INTRODUCTION

Background

It has been observed by the researcher that there is a need for career development services such as Career Guidance and Counselling in secondary schools in Trinidad and Tobago. Career development is important for students as it helps them to plan, prepare and function in the world of work (Herr, Cramer & Niles, 2004). Students in Trinidad and Tobago are required to make significant career decisions at a relatively early age (approximately 14 years). However, little is known at present about the factors that affect career development in students in Trinidad and Tobago and there is therefore a need to fill this gap in knowledge. An example of this need can be seen in the case of the students at the Prestige High School. These students often remark that they are unsure of which subjects they should pursue and what occupations interest them. Furthermore, they often complain that they do not like the subjects they are studying after they have embarked on the course of study and as a result they try to get into another group after the term has already progressed. However, when a student has been placed in a group it is relatively impossible to move to another group and many students become disinterested in courses they are pursuing. The indecisiveness of adolescents in their choice of study has been linked to the inability to cope with career decision making tasks in the future as well as the inability to fully commit to a choice resulting in them being less satisfied with their choices and performing poorer in their area of study (Germeijs, Verschueren, & Soenens, 2006).

Globally, considerable emphasis has been placed on the issue of career development. The early part of the twentieth century was marked by significant strides in career development as vocational/occupational psychology in the United States of America and Britain focused on assessing the abilities, aptitudes and potential of individuals in order to provide career guidance to them (Jayasinghe, 2001). Career guidance/ vocational guidance continued to gain popularity as many began to regard it as an "aid to young people in choosing an occupation, preparing for it, finding an opening in it, and building up a career of efficiency and success" (Parsons, 1909, p. 5). It was predominantly viewed as a process that helps persons to develop and accept who they are and their perceived roles in the world of work by assisting them to gauge these concepts against what is real and what can bring satisfaction to themselves as well as society (Super, 1951).

In recent times, the competition for economic viability in interdependent global economies fuelled by advances in Information and Communication Technology (ICT) has sparked many nations to invest in improving the quality of their human resources through policy formation and legislation (Herr, Cramer, & Niles, 2004). The need for formal support in planning and preparing for a working life that is productive, has led to the concept of career development becoming a phenomenon throughout the world (Herr, Cramer, & Niles, 2004). Career guidance units can be found in schools in both the United States and the United Kingdom today and it is believed that more and more career development will be recognised as an instrument that can contribute to improving the dignity of the individual as well as improving his/her flexibility (Herr, 2001).

Regionally, a Career Education program was introduced in Jamaica in 1967 by the Ministry of Youth and Community Development with Guidance Counsellors being placed in schools in 1991 (Brown-Knight, 2006). A Career Advancement Programme (CAP) which targets youths between sixteen and eighteen years currently exists. This programme, which is a collaboration between the Ministry of Education and its agency HEART Trust/NTA, provides education and training customized to students' career choices as well as career counselling (Ministry of Education Jamaica, 2014).

Some studies have been done with respect to the career development of students in Jamaica. Researchers such as Irwin (1979), found that the vocational interests of Jamaican students are influenced by expected rewards such as improvements in their socio-economic status, prestige (the level of esteem associated with occupations) and better relationship with peer groups. Students were also influenced by the socio-economic activities that exist within their communities. Students' vocational interests however were not realistic when their academic performances were taken into account. James-Henry (1984) found that Jamaican high school students' views towards sex-role stereotyping in occupational choice were influenced by the way boys and girls are socialized in the school and at home. Salter (1996) raised concerns about class and gender biases that exist in the education system in Jamaica.

In Barbados the Student Support Services Division was established by the Ministry of Science, Technology and Innovation in 1997 (Ministry of Science, Technology and Innovation Barbados, 2014). However, the focus is mostly on behaviour modification and not career development.

Locally, the Student Support Services (SSS) Division of the Ministry of Education is responsible for providing educational guidance, counselling and social work services to both primary and secondary schools in Trinidad and Tobago. However, in order for a student to qualify for these services "a child must require special education and related services due to his or her different abilities and learning style" (Government of the Republic of Trinidad and Tobago, 2014). These services target students on suspension, at-risk students, students with special educational needs and students with psychological and behavioural problems. The Guidance Unit therefore focuses on intervention, diagnosis and remediation and not on career guidance. However, Career Days are sometimes conducted once for the year, and are planned by the guidance officers. These career days usually consist essentially of students visiting different booths where literature and/or lectures are given by persons involved in different occupations.

Career guidance is however needed for secondary school students in Trinidad and Tobago. Students from forms one to three in pursue the same curriculum. However, at the end of form three, students in Trinidad and Tobago are required to select subject groupings on a ranked basis reflecting their preferences on a scale of one to three. Students are usually placed in their subject groups of choice based on their academic scores. However, they are sometimes placed in groups that they did not select because of limitations such as class sizes and staff allocations. Vocational interests of students are not highly considered when students are placed nor are factors influencing their decisions. In addition, students are not allowed to move to another group after they have been placed into a subject grouping if they change their

minds about the subjects they want to pursue. Students go on to write the O'Level examination in form five and successful candidates may choose to pursue advanced studies.

Career guidance and development in secondary schools has been recently listed as one of the top sixteen Ministerial Priorities of the Ministry of Education (Ministry of Education Trinidad and Tobago, 2013). This is not surprising since there is much evidence that suggests that career intervention is needed to assist secondary school students in making proper career choices. However, developers of intervention strategies must have a sound understanding of career development theories and more specifically the factors that affect vocational decision making during adolescence in this twin island state. These factors may include the development path of an individual (Ginzberg et al., 1951) and societal factors such as gender roles, social background and prestige (Gottfredson, 1981).

In accordance with Super's theory on career development (1951, 1953, 1974, 1992), a person's vocational preference is also an important indicator of career choice since it is an expression of the kind of person he/she is (self concept) resulting in the achievement of self actualization when he/she enters an occupation of choice. Assuming that a match can be found between individuals and job traits, modern trait-factor theorists (e.g. Holland, 1973), advocate that an individual will experience success in the job and vocational achievement if a true match is established. In addition, career development has been found to be influenced by individual characteristics such as age (Osipow & Fitzgerald, 1996), curriculum stream and socio-economic status (Sussman, 1971; Osa-Edoh & Alulu, 2011).

The vocational ambitions of selected youths in south Trinidad were found to be influenced by the level of educational achievement of both male and female parents, the occupational status of their fathers, socio-economic status and the mass media (Mustapha, 1984). On the other hand Sieuchand (1996) found that the career aspirations of school-leavers in Trinidad were influenced by sex and the type of school which they attended. Further studies are however needed in this area.

Important Studies

Much research has been done regarding issues of Career development. The level of Career decision-making self-efficacy (the level of confidence in one's ability to accomplish skills and activities necessary for career decision making) has been found to predict vocational indecision in college students (Taylor, 1990) and Vocational identity (clarity and stability of goals) has been found to be a basis for crystallizing tentative preferences for particular occupational areas and levels (Savicas, 1985).

Researchers have also found that adolescents who have sound peer relationships and close relationships with their mothers are better able to commit to career choices (Felsman & Blustein, 1999). Hargrove, Creagh and Burgess (2002), found a small but significant relationship between career decision making and perceptions of family interaction patterns with respect to the quality of relationships, goals, organization and control within the family unit.

Researchers such Holland (1997) and Betz and Fitzgerald (1987) found that Career Development is influenced by gender. Super, (1974), Osipow and Fitzgerald (1996) and Crites, (1978) found links between age and Career development. Currriculum stream and Socio-economic status have also been found to influence Career development (Sussman, 1971; Osa-Edoh & Alulu, 2011).

Vocational/Work Related Interests

One of main concepts on which vocational guidance is built is that of vocational interest. Vocational interests refer to the activities or subjects that a person prefers (Osipow and Fitzgerald 1996). According to Super and Crites (1962) vocational interests can be identified by asking individuals about their interests in occupation or activities (expressed interest), testing, participation in activities or jobs (Manifest interest) or by asking persons to indicate the extent to which they like/dislike or are indifferent to various activities/jobs (Inventoried interests).

According to Holland (1997) vocational interests can be classified into six main types: Realistic, Investigative, Artistic, Social, Enterprising, and Conventional (RIASEC). Holland's RIASEC model is currently being used by many organizations such as The Occupational Information Network (O*NET) as an aid in determining Vocational Interests. Vocational Interest is now considered to be the most important trait used to select occupations and Scales such as the Kuder DD and the Strong Interest Inventory have been used to predict success and satisfaction in particular occupations long after the test was administered (Sharf, 2002). It is believed that an individual's preference

for an occupational area as measured by an interest inventory is actually a reflection of what the individual perceives to be an ideal occupation (Gati & Winer, 1987).

Vocational interest structures inform counselling approaches and have also been endorsed as a framework for creating a model for individual differences because individuals align their interests, personalities and abilities in an attempt to integrate and adapt to their environments (Armstrong, Day, MCVay, & Rounds, 2008). According to Low, Yoon, Roberts and Rounds (2005), the knowledge of students' vocational interests can be used by educators as a basis for introducing real world contexts into the classroom therefore making instruction more relevant, motivational and engaging. Consequently, engaging the student in non-curricular activities that reflect a particular interest domain can increase interests in similar activities. They further describe an individual's vocational interest profile as being "...a summary of his or her behavioural repertories, life goals, values, self beliefs, and competencies beyond the walls of the classroom" (Low, Yoon, Roberts, & Rounds, 2005).

Vocational interests of adolescents have also been linked to students' individual and academic interests (Low, Yoon, Roberts, & Rounds, 2005) as well as their academic performances (O'Brien, Kopala, & Martinez-Pons, 1999). Associations between higher levels of educational achievement (GPA) and the six RIASEC types have also been found (Holland, 1973; Schneider & Overton, 1983).

Predictions based on vocational interests are premised on the belief that interests remain relatively stable over time. A study of vocational interests

of persons aged 12 to 40 years conducted by Low, Yoon, Roberts and Rounds (2005), found that interest are highly stable attributes for all age categories therefore making vocational interests a good means of fitting individuals to environments. A study conducted by Mullis, Mullis and Gerwels (1998) using a subsample of freshmen students (approximately 18 years) to assess the stability of career interests of adolescents also found vocational interests to be consistent over a three year period. The importance of understanding Vocational interests of students cannot be overemphasized as they are still considered good representations of the world of work regardless of changes in technology, globalization and specialization in the workplace (Armstrong, Donnay, & Rounds, 2004). Knowledge of the factors affecting vocational interests of students can inform group and individual counselling, workshops and self-directed activities in an effort to prevent errors, correct difficulties, promote awareness and develop appropriate attitudes in the career development process (Osipow & Fitzgerald 1996).

Statement of the Problem

In Trinidad and Tobago, limited studies have been done to ascertain factors affecting the vocational/work related interests of students. There is a need for studies to ascertain if factors such as personality traits and demographic characteristics such as age/form, gender, social status and curriculum stream influence students' interests. This gap in knowledge must therefore be filled by investigating the application of career development theories of vocational interest in our context.

A study of this nature is of great importance as information acquired from this study may be used to give support to students during the career decision making process. Information acquired from this study may also enable policy makers to make positive interventions to enhance the career decision making process and follow up studies can be done to ascertain the effectiveness of these interventions. These interventions may help to reduce eventual job mismatch and job dissatisfaction and can aid in demarcating clear career pathways based on the interests of the students thus easing the school to work transition.

The results of the study may also be used in curriculum development and delivery as it will provide information that gives insight into students' interests and factors that affect these interests. Courses that are currently being offered can therefore be re-evaluated for relevance. Curriculum planners may also gain insight that can project future programs (Finch & Crunkilton, 1993). School administration may be able to use the information for future planning activities such as requests for teachers.

Purpose of the Study

The purpose of this study is to investigate the vocational/work related interests of secondary school students at the Prestige High School (pseudonym). The study aims to evaluate the cross-cultural applicability of Holland's (1997) RIASEC model and determine the extent to which students' personality traits and demographic characteristics such as gender, age/grade,

socio-economic status and curriculum stream affect their vocational interests. This study therefore seeks answers to these questions:

1. Does the structure of Holland's RIASEC model hold true for students at the Prestige High School?

2. Is there a relationship between personality traits and the work-related interests of students at the Prestige High School?

3. Do demographic factors such as gender, socio-economic status and curriculum stream influence the work related interests of students at the Prestige High School?

Expected Outcomes of the Study

The findings obtained from this study may lead to valuable information about the factors that influence vocational interests of students at the Prestige High School. The information acquired can be used as a foundation for the development of career development interventions to assist students at the educational institution under review in making the right career choices. This study is also expected to encourage other local investigations of this nature resulting in the development and implementation of national career development policies and strategies to the benefit of all secondary school students in Trinidad and Tobago.

Delimitations

This study will focus on the vocational interests of form three and form five students from one school.

Limitations of the Study

The main limitations of the study are time constraints and the reading abilities of students.

Operational Definitions

Career development: refers to the shaping of factors that influence how an individual chooses careers over his/her life span (Herr, Cramer, & Niles, 2004).

Career intervention: refers to the different techniques that may be employed to influence an individuals' career decision making behaviour (Herr, Cramer, & Niles, 2004).

Career development services: actions and interventions designed to aid career development by enhancing the decision making process and influencing vocational behaviour (Herr, Cramer, & Niles, 2004).

Career choice: is the ideal job to which a person aspires, or the job a person actually plans to do after schooling (Crites, 1969).

Personality: refers to the internal characteristics of an individual which influence how he/she behaves and mentally makes sense of thoughts and experiences (Hussain, Abbas, Shahzad, & Bukhari, 2012).

Vocational ability: refers to what a person can do or has the potential to do in the future (Betz, Fitzgerald, and Hill, 1989).

Vocational identity: refers to how clear and stable a person's current and future goals are (Sharf, 2002).

Vocational interests: refer to the activities or subjects that a person prefers (Osipow and Fitzgerald 1996).

Organization of Succeeding Chapters

Chapter Two. This chapter contains a review of the literature on career development. It presents an overview of theories on career development and emphasizes the impact of personality traits and demographic factors on students' vocational interests.

Chapter Three. This chapter gives details about the methodology employed to conduct the study. It outlines the research design used and provides justification for its use. Also included are the particulars pertinent to the selection of participants, data collection and research ethics. The limitations and delimitations of the study are also mentioned.

Chapter Four. This chapter presents the results of the quantitative data analysis techniques employed and gives details about the demographic background of participants, the cross-cultural validity of Holland's RIASEC model and the extent to which personality traits and demographic factors are significant in explaining students' work related interests.

Chapter Five. This chapter presents a summary and discussion of the main findings in this study. Concluding remarks and recommendations are also included.

CHAPTER TWO

REVIEW OF LITERATURE

This chapter is a review of the literature on career development. It contains an overview of theories on career development and also provides evidence of the impact of personality traits and demographic factors on students' vocational interests.

Theories on Career Development

Super (1957). Super (1957) proposed five phases through which a person develops a career. According to Super (1957) during the *Growth Stage* (birth to 14 or 15 years), concept of self, attitudes and interests develop whilst the *Exploratory stage* (15- 24 years) is marked by the development of skills and the making of tentative choices. The third phase is *Establishment* (25-44 years) during which skills are further developed and individuals begin to stabilize as work experience is gained. To Super, *Maintenance* occurs from ages 45 to 64, a period characterized by adjustments to improve work positions. It is during the *Decline* phase (ages 65 and above) that individuals begin to prepare for retirement according to Super's theory. Super (1957) also proposed that an individual progresses through five vocational development stages: *Crystallization* (14-18 years), during which individuals develop and plan tentative vocational goals, *Specification* (18-21 years), during which individuals develop a firmer understanding of their vocational goals, *Implementation* (21-24 years), during which individuals are trained for and obtain employment, *Stabilization* (24-35 years), during which individuals continue to work and corroborate their career choice and *Consolidation* (35

years and above) during which individuals get ahead in their careers. Although Super (1957) initially proposed that these stages occur sequentially, he later revised his theory to reflect the belief that individuals cycle and recycle through these stages in response to changes in self concept and the work environment as they attempt to choose the job that allows them the most self-expression. During adolescence, interests, capacities and values develop which are all aspects of career maturity.

Vocational Self Concept

According to Super (1953) Vocational Development is a process during which a person develops a self- concept and acts on it. He sees a person's self concept as a reflection of his/her personality, needs, values and interests which change throughout life according to individual experiences. Psychological characteristics and socio-economic status affect the development of a person's self-concept, that is, how the individual sees himself/herself and society. Psychological characteristics such as needs, values, interests, intelligence, ability and special abilities therefore affect career development as they have an effect on the development of an individual's personality. Socio-economic factors such as community, school, family, state of the economy and the labour market also affect career development and a person's self concept stabilizes as the individual matures.

Vocational Maturity

According to Super (1963), vocational maturity changes according to the life stage of the individual. During adolescence vocational maturity is therefore reflected in the ability to assess interests and abilities to achieve educational

goals (Osipow and Fitzgerald 1996). Kosine and Lewis, (2008) examined the implications of the Growth and Exploratory stages of Super's Life Stage theory on the choices of programs of study of high school students. They found that students involved in Career and Technical Education programs had greater career awareness, were more ready for college and had clearer goals and greater career awareness. They questioned the practice of having students make career choices at such a young age:

> They select the programs they wish to study as a way of exploring occupations as much as to prepare for them. Many students learn, however, that the occupations that initially interested them are not what they expected or do not fit their personalities and goals. As a result, many reconsider their choices and may engage in further exploration by studying different programs...If students are not ready to make firm choices about their interests and future careers, why should they be asked to do so? Would it not be more appropriate to provide opportunities for exploration rather than skill training? (Kosine & Lewis, 2008)

The applicability of the theory of career maturity in cultures outside of America has however been questioned because of the tendency of Caucasians to score higher than other groups on Career Maturity Inventories.

Ginzberg, Ginsburg, Axelrad, and Herma (1951). Ginzberg et al. (1951) proposed that the development path of an individual influences career choice. Individuals are therefore believed to pass through three phases as

opposed to five as proposed by Super (1957). During the first phase, the *Fantasy* phase (until age11), role play occurs and ideas of careers develop. During the second phase, the *Tentative* phase (11 to about 18), tentative career choices develop. At about age eleven, children start basing their career choices on interests and no longer on fantasy. Around ages thirteen to fourteen, adolescents are more able to assess abilities. More realistic views of self and the future develop at this time but career choice is still based on interests and parental influence. From ages fifteen to sixteen, goals and values are considered in decision making and adolescents can better weigh interests, capacities and values. By ages seventeen to eighteen, reality sets in and issues such as job availability affect career choice and interests, capacities and values are also considered. The final phase, the *Realistic* phase (mid adolescence to young adulthood) is made up of three sub phases: *Exploration,* during which career choices are narrowed, *Crystallization,* during which the individual makes a commitment to an occupational field and lastly *Specification,* where an occupation is chosen and training is pursued to achieve this goal.

Sociological Models & Gottfredson (1981). Sociological models of career development have also advanced. These theorists believe that societal factors that are outside the control of the individual influence career choices. One such theorist, Gottfredson (1981) suggests that after age fourteen children are more insightful, introspective, and perceptive and show greater self awareness. Vocational choice is therefore affected by their views of themselves, gender roles and prestige. Gottfredson's concept of circumscription predicts that occupational preference will be affected by

gender from the age of six. She also postulated that occupational preference will be affected by social background and prestige from age nine.

Holland's Theory of Types (1973, 1985, 1997). The theory proposed by Holland is perhaps one of the most widely discussed theories of career development. This theory looks specifically at vocational personality and environments and suggests that individuals work and develop best and are most satisfied in their jobs if the environment in which they work matches their personalities (congruence). Holland's theory is based on the assumption that individuals are products of their environment, that they choose careers according to their personalities and that members of an occupational group have similar personalities. Holland (1997) believed that vocational interests could be classified into six main types: Realistic, Investigative, Artistic, Social, Enterprising, and Conventional (RIASEC).

i) **Realistic Interests:** According to Holland, a realistic orientation is characterized by aggression. Persons who are realistic therefore like to engage in activities involving physical labor, motor coordination, skill and activities deemed to be very male oriented. This individual is not very sociable and may value money, status and power. Realistic environments require physical strength and agility. Some suitable jobs for this type include work in agriculture, carpentry, housekeeping, mathematics, science and protective services.

ii) **Investigative Interests:** Individuals with an investigative orientation are not very sociable and like to engage in activities that involve thoughtfulness, organization, logic, abstract thinking and

understanding. Investigative environments involve problem solving through mathematics and science. Suitable occupations include engineer, medicine, computer programmer and professor.

iii) **Artistic Interests:** Those with artistic orientations express themselves in different creative forms and also use this as a way to communicate with others. They tend to be more feminine, emotional and not very sociable. Artistic environments are free, open and creative. Suitable occupations range from artist to psychiatrist; lawyer to multi-media designer depending on if this type is combined with realistic, social, enterprising or conventional.

iv) **Social Interests:** Persons with social orientations like working with others but dislike intellectual work or work involving physical labor. Social environments foster kindness, generosity and affection. Law, psychiatry, special education and religion are all examples of occupations characteristic of this type.

v) **Enterprising Interests:** Individuals with enterprising orientations like to manipulate and dominate others and are usually very persuasive, self confident and assertive. Enterprising environments involve risk and power play. Suitable jobs include educational administrator, sales person, business person and lawyer.

vi) **Conventional Interests:** Persons with a conventional orientation are concerned with rules and regulations and identify with power and status. Conventional environments are “office” oriented so

suitable jobs are in structured environments such as banking, education, management.

According to Holland (1985) there is a relationship within and between the RIASEC types which can be ordered in a hexagonal model (See Figure 2.1 below).

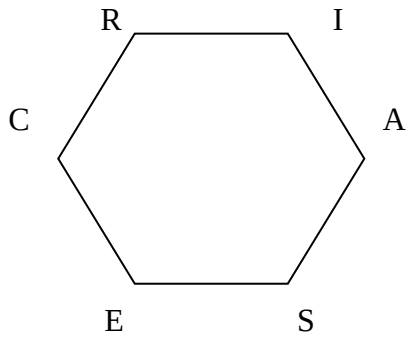

Figure 2.1. Holland's RIASEC Hexagon

The closer the types are on the RIASEC chart the more consistent they are supposed to be. There is also an inverse relationship between the distance between the types and the theoretical relationships that exists between them (Holland, 1985). The table below displays the relationship between types as described by Herr, Cramer & Niles (2004).

Table 2.1

Correlates between Holland's RIASEC types

Work Interest type	Gender											
	Men						Women					
	R	I	A	S	E	C	R	I	A	S	E	C
Realistic	1	.39	.06	.13	.23	.35	1	.50	.31	.19	.33	.29
Investigative	.39	1	.27	.19	.07	.10	.50	1	.32	.21	.17	.12
Artistic	.06	.27	1	.40	.33	.54	.31	.32	1	.34	.42	.05
Social	.13	.19	.40	1	.46	.29	.19	.21	.34	1	.44	.25
Enterprising	.23	.07	.33	.46	1	.64	.33	.17	.42	.44	1	.49
Conventional	.35	.10	.54	.29	.64	1	.29	.12	.05	.25	.49	1

Note. R=Realistic, I=Investigative, A= Artistic, S= Social, E= Enterprising, C = Conventional.

Cross Cultural Validity of Holland's RIASEC Model

Holland's RIASEC model is currently being used by many organizations such as The Occupational Information Network, as an aid in investigating vocational interest. Holland's RIASEC model has however, been criticized as having broad generalizations that have misdirected research in vocational psychology:

> A much larger amount of research is devoted to exploring popular P-E fit theories. These theories make broad generalized assertions- i.e., about congruence (Holland, 1985) while the intricacies of "Person" and "Environment," let alone P-E fit, have not shown themselves to be very amenable to such simplification...Is Holland's work worthy of so much attention, or should vocational psychology move on?" (Schwartz, 1992, p. 186).

However, the cross cultural validity of Holland's model has been supported in studies conducted in various countries such as China (Long, Adams & Tracey, 2005), Croatia (Sverko, 2007), Germany (Nagy, Trautwein & Ludtke, 2007), Hong Kong (Farh, Leong & Law, 1998), Iceland (Einarsdottir, Rounds, Egisdottir & Gerstein, 2002), India (Leong, Austin, Sekaran & Komarraju, 1998), Japan (Tracey, Watanabe & Schneider, 1997), Korea (Tak, 2004), Serbia (Hedrih, 2008) and Singapore (Soh & Leong, 2001).

A study of Italian middle and high school students found that interests adhered to the circumflex RIASEC structure with increasing age especially for female students (Lent, Tracey, Brown, Soresi, & Nota, 2006). Support for the

applicability of Holland's model was also found by Ryan, Terrence, Tracey and Rounds (1996), who investigated the applicability of the circular structure of RIASEC interests according to ethnicity, socioeconomic status and gender using a sample of 370 African American and White high school students. Interest structures between ethnic groups were similar and no difference in structure was found for socioeconomic groups. On the contrary, gender differences were found with women showing a better fit to the model.

In spite of the fact that Holland's (1997) theory has "provided the most widely used conceptual framework in vocational psychology today" (Johnson J. , Influence of Adolescent Social Crowds on the Development of Vocational Identity, 1987, p. 182), caution must still be exercised in the use of measures across cultures if their uses have not been examined (Prediger, 1994; Rounds and Tracey, 1996). An examination of the results of 104 published studies showed that the RIASEC model fit US samples better than those of other countries (Tracey & Rounds, 1993). Furthermore, Holland's model was found to be a poor fit in China in a study conducted by Tang (2001), in South Africa, in a study done by Du Toit and De Bruin (2002) and more recently in a study by Einarsdottir, Rounds and Su (2010) using a sample of 597 upper secondary school students in Iceland.

However, Wilkins, Ramkisoon & Tracey (2013), examined the structural validity of the *Personal Globe Inventory* proposed by Tracey (2002) using university sudents from Jamaica (N=103) and Trinidad (N=118) and found that the circular structure such as the RIASEC and the eight-type model make a good fit for the Caribbean data with no structural differences existing between gender and nationality. They stated that "further research examining

a diverse range of individuals (e.g. older individuals, students residing in rural areas, students attending high school) would be beneficial" (Wilkins, Ramkisoon, & Tracey, 2013, p. 371).

The Impact of Personality Traits on the Vocational Interests of Students

Personality refers to the internal characteristics of an individual which influence how he/she behaves and mentally makes sense of thoughts and experiences (Hussain, Abbas, Shahzad, & Bukhari, 2012). Personalities thus differ from person to person (DeYoung, 2010). Both personality traits and vocational interests are motivational processes that influence individual behaviour with respect to choices inclusive of tasks in which they wish to engage (Mount & Barrick, 2005).

According to Holland (1958) interests are direct expressions of a person's personality. Costa, McCrae and Holland (1958) believe that personality dispositions are strongly and consistently associated with vocational interests. One of the most widely accepted measures of personality is that of Goldberg (1992) and is commonly referred to as the *Big Five* personality dimensions. They are:

- **Extraversion** - traits like being talkative, energetic, and assertive.
- **Agreeableness -** traits like being sympathetic, kind, and affectionate.
- **Conscientiousness** - traits like being organized and thorough.
- **Neuroticism (Emotional Stability)** - traits like being tense, moody, and anxious.
- **Openness to Experience -** traits like having wide interests, and being imaginative and insightful.

The Impact of Demographic Factors on the Vocational Interests of Students

Gender: According to Holland (1997), men tend to have more Realistic, Investigative or Enterprising interests whereas women are more interested in Social, Artistic and Conventional areas and are likely to score low on the Realistic scale. Betz & Fitzgerald (1987) and Hackett & Lonborg (1994) found that the vocational interests of women are in line with traditional gender roles when measured using interest inventories. Thus, women have a tendency to have interests in the artistic, social and conventional types as described by Holland (1997). They found that men were interested in more masculine activities scoring higher on the realistic, investigative and conventional scales. Wille, De Fruyt & Feys (2010) found higher scores for women on the artistic and social scales and higher scores for men on the Realistic, Investigative and Enterprising scales. Mullis, Mullis and Gerwels (1998) also found that females scored higher on the Social, Artistic and Conventional scales whilst males scored higher on the Realistic scale. According to Nelson (1963) and Slocum and Bowles (1968), these sex stereotyped preferences still exist throughout high school (up to 17-18 years).

However, contrary to Gottfredson's theory of circumscription which predicts that sex type, prestige and interests in that order of importance influence occupational preferences, Hesketh, Elmslie and Kaldor (1990) conducted a study of 47 males and 43 females aged 15 to 18 years and found that interests were the most important factor, followed by prestige and then sex type. A study conducted by Prediger, Roth and Noeth (1973) also found

considerable sex differences in the occupational choices of boys and girls. They found that more than fifty percent of 11th grade (13-14years) girls chose jobs from the categories of clerical and secretarial work, education and social services and nursing and social care which represented only three of the twenty five job families presented to them. Only seven percent of boys preferred occupations from these categories. Contrastingly, almost fifty percent of the boys chose occupations from the technologies and trade clusters whilst only seven percent of girls chose occupations from this cluster. Boys and girls were represented almost equally in only two clusters-the natural, social and medical sciences cluster and creative and applied arts cluster. .

Age/ Grade: Super (1953) suggests that there are five life and career development stages that an individual cycles and recycles through in response to changes in his/herself concept and the work environment as he/she attempts to choose the job that allows the most self-expression. A person's self concept therefore stabilizes as the individual matures. According to Osipow and Fitzgerald (1996, p.115), "vocational maturity is the congruence between an individual's vocational behaviour and the expected vocational behaviour at that age. The closer the correspondence between the two, the greater the individual's vocational maturity".

During adolescence, interests, capacities and values development which are all aspects of career maturity. "The vocationally mature fourteen year old will be concerned with assessing personal interests and abilities to reach the goal of deciding on an educational plan" (Osipow & Fitzgerald 1996, p.115). Thus, around age fourteen children become more aware of the

fact that vocational choices must be made and they begin to consider different factors related to job choice (Nelson, 1963).

The relationship between interests and vocational maturity has also been found by various researchers (Crites, 1965; Vriend, 1968; Walsh & Barrow 1971); Smith & Herr, 1972). A study of both boys and girls from fifth grade to college (10-22 years) found that boys and girls are less stereotypical in their career preferences as they move from one grade to another (O'Bryant, Durrett, & Pennebaker, 1978).

Gutherie and Herman (1982) conducted a study to examine (amongst other independent variables) the relationship between sex and age with vocational maturity. Age was found to have a significant relationship with vocational maturity. This therefore corroborates the work of Super (1974) and Crites (1965, 1974) who found that vocational maturity increases with age and grade. In a study of 400 Nigerian adolescent students, Achebe (1982) also found that career maturity progressed in a systematic manner with respect to increases in age and grade of students.

Socio-Economic Status and Curriculum Stream: According to Darcy (2005) the socio cultural interpretations of the prestige of occupations may affect interests across cultures. Gati and Winer (1987, p. 296) described the "ideal occupation" as being "a hypothetical occupation which is preferred to all other occupational alternatives". Gati and Winer conducted research which confirmed their hypothesis that "the relative preference for an occupational title included in an interest inventory reflects the similarity of its

perceived characteristics to those of an ideal occupation" (Gati & Winer, 1987, p. 297).

A study conducted by Osa-Edoh and Alutu (2011) which examined the effect of socio-economic status on vocational choices of secondary school students, found that students of high and middle socio-economic status aspire for high yielding jobs as opposed to students of low socio-economic status who had lesser aspirations. Mullis, Mullis and Gerwels (1998) found that students whose parents were unskilled scored higher on realistic scales while those whose parents were professionals and skilled workers scored higher on the artistic, social and conventional scales.

Barnett (1975) studied the relationship between preference and prestige using a sample of males and females 9 to 17 years old. A higher correlation between prestige and preference was found for males of every age than for females. She suggested that this was due to the fact that from early in life females learn to aspire to female oriented roles that are less prestigious (Barnett, 1975).

In Trinidad and Tobago, two main curriculum streams can be found namely the academic stream and the vocational stream. However, the full value of vocational education is yet to be realized (Jules, 2011). Vocational education is looked upon as a field for those who are not academically inclined or are underachievers (Shakes, 2011). In the secondary schools, students in the vocational stream are usually those with the lowest academic scores. According to Shakes (2011), this has largely to do with the low status of the vocational field because it is still closely associated with manual labour.

The recruitment of students and their general attitude to vocational education is affected by the concept of status (Sussman, 1971). According to Sussman, 'blue coloured' jobs are seen as 'dirty work' associated with low status, non professional jobs and therefore emphasize feelings of inferiority. It is done only because society cannot do without it. He identified the factors that affect a person's attraction to these jobs as being personality characteristics, self-image, experience and environmental factors. 'Clean work' is however associated with a higher job status and 'white collar' workers are thus presumed to be superior.

Sussman (1971) also identified the family as playing a main role in students' decisions to pursue vocational over academic areas of study. According to Sussman, poor children have fewer choices and narrower visions than the affluent and their financial disadvantage gives them a stilted view towards vocational education because of limited exposure to a variety of jobs.

Summary

The Literature suggests that vocational development is a process during which a self concept develops and the individual matures as he/she moves from one stage to another (Super, 1957). During adolescence interests, capacities and values are considered in the decision making process (Ginzberg et al., 1951). The lines along which interests develop are influenced by personality (Holland & McCrae, 1958), gender (Gottfredson, 1981; Holland, 1997; Willie, De Fruyt & Feys, 2010), socio-economic status (Osa-Edoh & Alulu, 2011; Shakes, 2011) and age/grade (Crites, 1974; Super, 1953).

Investigations are needed to determine the extent to which these factors also influence the work related interests of the students at the Prestige High school.

Furthermore, the use of measures such as Holland's (1997) RIASEC model across cultures has been questioned (Rounds and Tracey, 1996). Support for the cross cultural validity of Holland's model was found in countries such as Germany, India and Singapore, but not in Africa, China and Iceland. The extent to which it will be found to be a good fit for the data in Trinidad and Tobago is to be seen.

CHAPTER THREE

METHODODOLOGY

This chapter gives details about the methodology employed to conduct this investigation on vocational interests of secondary school students. It outlines the research design used and provides justification for its use. Also included are the particulars pertinent to the selection of participants, data collection and research ethics. The limitations and delimitations of the study are also mentioned.

Research Design

A cross sectional (data was collected at one point in time), census approach was used in this study which sought to evaluate the cross-cultural applicability of Holland's RIASEC model and the extent to which personality traits and demographic factors influence students' vocational interests. A quantitative methodology was thought to be the best method to utilize to answer the research questions as the researcher was able to measure the variables using research instruments, codify the data and analyze the results using statistical procedures (Creswell J. , 2009). Thus, the philosophical world view guiding this research is Post-positivist. It is the researcher's view that a belief cannot be verified as absolutely true and worldviews and theories must sometimes change in response to new evidence (Phillips & Burbules, 2000). An unbiased approached is therefore taken to see if the data collected holds to the findings of the existing literature.

Recruitment of Participants for the Census

Background of the School: The study was conducted at the Prestige High School in South Trinidad which was purposely selected because specific career development issues were observed. The school is bounded by the City of San Fernando in the West, the outskirts of Princes Town in the East, Golconda, Retrench and Friendship in the South and Cocoyea/Tarouba to the North. The school was established in 1976 as a Junior Secondary School and in September 1990 the school was de-shifted but was not upgraded to a full-fledged five year school until 1997. The students from the school mainly come from areas within a two mile radius or from areas such as Princes Town and Williamsville. The subjects pursued at the form four and five levels include both vocational and academic subjects such as Agricultural Science, Biology, Building Technology, Caribbean History, Chemistry, Clothing and Textiles, English A, English B, Food and Nutrition, Geography, Home Management, Human and Social Biology, Integrated Science, Mathematics, Physics, Principles of Accounts, Principles of Business, Social Studies, Spanish, Information Technology, Technical Drawing, Visual Arts and Music.

Participants: This study focused on students in forms three and five since there was a need for students who could most represent the characteristics under study (Johnson & Christensen, 2011). The form three students were selected because they were the students who recently made important career choices of subject group selections and it was therefore thought that these students would be good candidates for the research. It was also thought that the factors that come into play when making these choices will be most active in their minds because of the recent decision making

process. The form five students were selected because of their age and the fact that they are on the brink of entering the job market and career choice would most likely also be at the forefront of their minds.

The entire population of the form three and form five students was used in the research. A census was used to maintain the researcher's confidence in the findings of the research thus ensuring that the research adds new knowledge (Borg & Gall, 1979). A census also helped to pre-empt issues of sampling errors that occur when inadequate sample size or inappropriate sampling strategies are used and made possible the capturing of data from the various sub groups (males, females, form three students, form five students, vocational students and academic students) that were required for the study (Borg & Gall, 1979). The study therefore consisted of 158 participants, 90 males and 68 females.

Data Collection Procedure

The data were collected by means of self administered questionnaires. This method was selected because it offered a cost effective, flexible means of conducting the research. The questionnaires were administered to small groups at a time in a classroom setting (Fink, 2002). Arrangements were made in advance with the school administration for a date and time for the questionnaire to be administered so it was not difficult to acquire a captive audience (Check & Schutt, 2012).

Participants were allowed to complete the survey at their own pace on a specified date in the presence of the researcher. This was done so as to ensure a high response rate and so that any questions or problems experienced

during the completion of the questionnaire could be addressed. The researcher was able to monitor the process and ensure that participants completed all items by giving them time to check over what they did thus reducing non response. It also allowed the researcher to pre-empt any literacy issues by reading the items to particular groups of students.

Instrumentation

The instruments used in the data collection process were an adaptation of the O*Net Interest Profiler and the Ten Item Personality Inventory. Pertinent background information regarding the participants (gender, age/form, subject cluster and highest level of education of male and female parents) was also collected (See Appendix A).

O*Net Interest Profiler. A modified version of the O*Net Interest Profiler was used to identify students' work related interests. The interest inventory was freely available on the Internet and no permission was required to use it. The inventory consisted of a list of one hundred and eighty (180) items reflecting work activities (e.g. build kitchen cabinets, study space travel and conduct a symphony orchestra).

The 180 items were divided into thirty items per Holland's (1997), RIASEC type (Realistic, Investigative, Artistic, Social, Enterprising, and Conventional). In the original instrument the items occur in sets of two according to the RIASEC scale, starting with R and ending with C. In the adapted instrument they appear in sets of 6. The activities were colour coded so that, green is realistic, pink is investigative, orange is artistic, purple is social, yellow is enterprising and blue is conventional. This made the

questionnaire more attractive, less confusing and appearing easier to complete (Check & Schutt, 2012). The items were mixed so that similar activities did not appear in a string so that the participants would not be influenced to answer in a "yeah-saying and nay-saying response style" (Rounds, Walker, Day, Hubert, Lewis, & Rivkin, 1999, p. 6). Scale descriptions were not provided to participants in order to minimize participants responding to the list of items in a similar way thereby increasing response bias.

Some of the items of the original scale were reworded to allow for cultural relevance. Item 9 on the original scale was changed from buy and sell stocks and bonds to sell insurance policies. Item 50 was change from build a brick walkway to build a brick wall. Item 60 was changed from operate a calculator to operate a cash register. Item 66 was changed from dance in a Broadway show to dance in a show at NAPA. Item 67 was changed from perform rehabilitation therapy to perform rehabilitation therapy e.g. a stroke or accident victims. Item 77 was changed from draw pictures to draw/sketch pictures. Item 81 was changed from sell candy and popcorn at a sports event to sell sweets and popcorn at a sports event. Items 102, 121 and 176 were also altered. The revisions were peer reviewed in order to maintain the validity of the instrument.

In the original instrument the participants were asked to respond "like", "dislike" or "not sure" to each item. In the adapted instrument participants were asked to indicate the extent to which they found the activity to be of interest on a scale ranging from very low interest to very high interest. The participants therefore ticked 1 for very low interest, 2 for low interest, 3 for some interest, 4 for high interest or 5 for very high interest. Participants

were reminded that there was no right or wrong answer as the aim was to identify their work related interests.

Analyses which were conducted for the original instrument using a sample of 1061 participants found "very high internal consistency estimates across all the RIASEC scales" (Rounds, Walker, Day, Hubert, Lewis, & Rivkin, 1999, p. 5) ranging from 0.93 to 0.97. The test-retest correlations ranged from 0.81 to 0.88 showing that the instrument is stable over time. The O*Net Interest Profiler was found to adequately measure Holland's RIASEC scale as the construct validity of the instrument was supported (Rounds, Walker, Day, Hubert, Lewis, & Rivkin, 1999).

Pilot study

The revised instrument was piloted with a group of 24 students who had similar characteristics of the intended participants selected by disproportional stratified sampling (Johnson & Christensen, 2011) to ensure that the sample was truly representative of the population as particular characteristics (males, females, form three students, form five students, vocational students, and academic students) were under examination. The names were randomly selected from the attendance register.

The pilot was done in order to gauge the internal consistency of the subscales to establish validity and identify if format changes were needed or if questions or scales should be improved. Cronbach's Alpha was calculated for each of the RIASEC scales and all had high estimates indicating high internal

consistency. The Cronbach alphas for the RIASEC were as follows: Realistic (.93), Investigative (.96), Artistic (.95), Social (.96), Enterprising (.95) and Conventional (.97). No further changes were therefore made to this instrument.

Ten Item Personality Inventory (TIPI): The personality traits of the participants were measured using the Ten Item Personality Inventory (TIPI) which measured the *Big Five* personality domains of extraversion, agreeableness, conscientiousness, emotional stability and openness to experience. It was a shortened 10 item versions of the *Big Five Inventory* (BFI-44). This shortened version of the BFI-44 was selected because of the limited amount of time in which the study was to be completed. No permission was required from the author to use the TIPI.

The instrument was organized around a 2-item scale in that 2 items represented each of the five personality domains giving a total of 10 items which took approximately ten minutes to complete. In the TIPI, participants were presented with a list of paired personality traits (e.g. critical, quarrelsome; reserved, quiet), and were asked to indicate the extent to which they agree or disagree with that statement even though one of the characteristics in the pair may apply more than the other. Participants rated how they saw themselves on a scale ranging from *disagree strongly (*1) to *agree strongly* (7). The scoring of the TIPI required that the score of item 1 and the reversed score of item 6 were averaged to give the score for extraversion, the reversed score of item 2 and the score of item 7 were averaged to acquire the score for agreeableness, the score of item 3 and the reversed score of item 8 were averaged to give the score for conscientiousness,

the reversed score of item 4 and the score of item 9 were averaged to acquire the score for emotional stability and the score of item 5 and the reversed score of item 10 were averaged to give the score for openness to experience.

The TIPI was tested by the authors for convergence with the Big-Five instrument using a sample of 1813 undergraduate students (Gosling, Rentfrow, & Swann, 2003). Patterns of external correlates and test-retest reliability were assessed by administering initial tests to a subset of 180 participants and again six weeks after the initial testing. They found that the validity of the instrument exceeded the reliability as the instrument acquired Cronbach alphas of .68 for Extraversion, .40 for Agreeableness, .50 for Conscientiousness, .73 for Emotional Stability and .45 for Openness to Experience. Convergent and discriminant convergence were mean r =.77 and mean r = .20 respectively when the TIPI scores were correlated with the BFI scores. These scores were comparable to those obtained from longer versions of the BFI (Gosling, Rentfrow, & Swann, 2003). Convergent correlations between the TIPI and the NEO-PI-R were calculated and ranged from .68 for Conscientiousness to .56 for Openness. Test-retest reliability was high with a result of mean r = .72.

Demographic Data Sheet: The instrument contained six items on the demographic characteristics of participants namely gender, age/form, subject cluster, highest level of education of male parent/guardian and highest Level of education of female parent/guardian. This data sheet was placed at the back of the instrument so that having begun the questionnaire; participants would be more likely to complete the activity even though they may have found some of the background questions intrusive (Gorard, 2001).

Data Analysis Techniques

The data collected from the field were hand coded by assigning a code to each answer in the research instruments (Cohen & Manino, 1994) and then analyzed. A number of statistical analyses were then used in this study, all of which were performed using the Statistical Package for the Social Sciences (SPSS). Frequency tables and descriptive statistics (mean, standard deviation etc.) were derived to understand the demographic profile of participants in the study, specifically their gender, subject cluster, age/form and socio-economic status. Descriptive statistics were also employed as aids in the assessment of the main study variables.

Factor analysis of the items on the O*Net Interest Profiler was also conducted to verify the six subscales of this instrument as identified by Holland (1997) more so because a revised version of this instrument was used in this study. The principal components method was used to extract exactly six factors from the list of items in the inventory and an orthogonal method of rotation namely varimax rotation was utilized. The amount of variance explained by the six factors was determined and the factor loadings were examined to determine if the factor structure was in line with Holland's typology. The internal consistency of the subscales in the instrument was then assessed using the Cronbach's alpha for which a value that exceeded .7 was deemed as acceptable.

Multiple regression analysis was used to assess the research questions in this study more specifically the extent to which personality traits and demographic factors are significant predictors of students' work-related interests. Separate stepwise regression analyses were executed to evaluate the

impact of the following factors on the realistic, investigative, artistic, social, enterprising and conventional work related interests of participants: extraversion, agreeableness, conscientiousness, emotional stability and openness to experience and demographic factors such as gender, from, subject cluster and social status. At each step of the analyses, the entry criterion was P (F) ≤ .05 and the removal criterion was P (F) ≥ .10 at each step.

Ethical Considerations

A written proposal was submitted to the Ministry of Education requesting permission to conduct the research at the school. Consent was given for the research (See Appendix B). Letters of consent were sent to parents as most participants were minors and their interest had to be protected (See Appendix C). The consent letter indicated the purpose of the study and the identity of the researcher was fully disclosed. It also indicated where the research would be conducted, how long it would last and a means of contacting the researcher was offered. Parents were assured of the fact that their child's identity would not be revealed in order to maintain anonymity of the participants as well as confidentiality of the responses given and were assured that their children would not be harmed in any way by the research (Check & Schutt, 2012). Parents were asked to sign and return the form if they did not wish for their child/children to participate in the research. No consent forms were returned.

The self administered questionnaires also allowed for anonymity of the participants to be preserved as participants were not required to write their

names. A cover sheet was included at the beginning of the questionnaire so that participants would have knowledge of why the research is being conducted and by whom (See Appendix A). In order for participants not to feel coerced into participating causing them to give untruthful responses (Check & Schutt, 2012), the researcher introduced herself and assured participants that they did not have to participate and could give up a blank form if they wished to do so (Check & Schutt, 2012). They were assured that the instrument was not a test and that it would not affect their academic performance.

Timeline

The study began in January of 2012 and lasted for six months. Verbal permission from the School's Principal was obtained after the researcher made a personal visit to the school. A letter was then sent to the Ministry of Education to seek permission to do the research. Unfortunately, written Ministry permission was not received until April. Data collection therefore did not start in February as anticipated. Two hours per day were spent in the field over a period of four days. Data analysis which was projected to occur in March and April therefore occurred in April and May.

Limitations of the Study

One of the main limitations of the study was time constraints. The study had to be completed in a relatively short period of time. The reading ability of students was another constraint because the instruments used were self administered. In order to minimize the likelihood of students giving false answers because of their inability to read the items on the questionnaire,

groups of students who were likely to have difficulty reading were identified prior to the day of administration and the instruments were read to them.

Delimitations

This study focused on the work related interests and personalities of form three and form five students from one secondary school and thus its findings cannot be generalized to other secondary schools in Trinidad and Tobago.

CHAPTER FOUR

DATA ANALYSIS AND PRESENTATION OF FINDINGS

This chapter presents the results of several statistical analyses of the data collected in this study that centred on students' work-related interests. Firstly, this section contains the interpretation of descriptive statistics which were derived to gain insight into the demographic background of participants. Secondly, the general findings from factor analysis and cronbach alpha estimates which were used to gauge the construct validity and internal consistency of Holland's RIASEC model are presented. Thirdly, this section gives details of six stepwise regression analyses which were used to determine the extent to which personality traits and demographic factors are significant in explaining students' work related interests.

Demographic Profile of Participants

One hundred and fifty eight (158) students took part in this study. Forty four percent (44%) were males and fifty six percent (56%) were females (See Figure 1). All participants were between the ages of thirteen (13) and twenty (20) years, with the typical age being fifteen (15) years (M = 15.49, SD = 1.40)

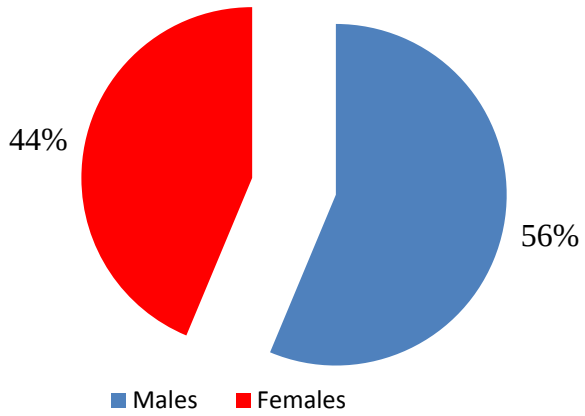

Figure 1. The Percentage of males and females who participated in the main study.

This study comprised of third form and fifth form students. Figure 2 shows the number of participants in the study who were in each of these forms. As is illustrated in the diagram, the majority of students were in form three at the time of the study. Eighty four (84) of the 158 participants were in form three whilst seventy four (74) of the students were in form five.

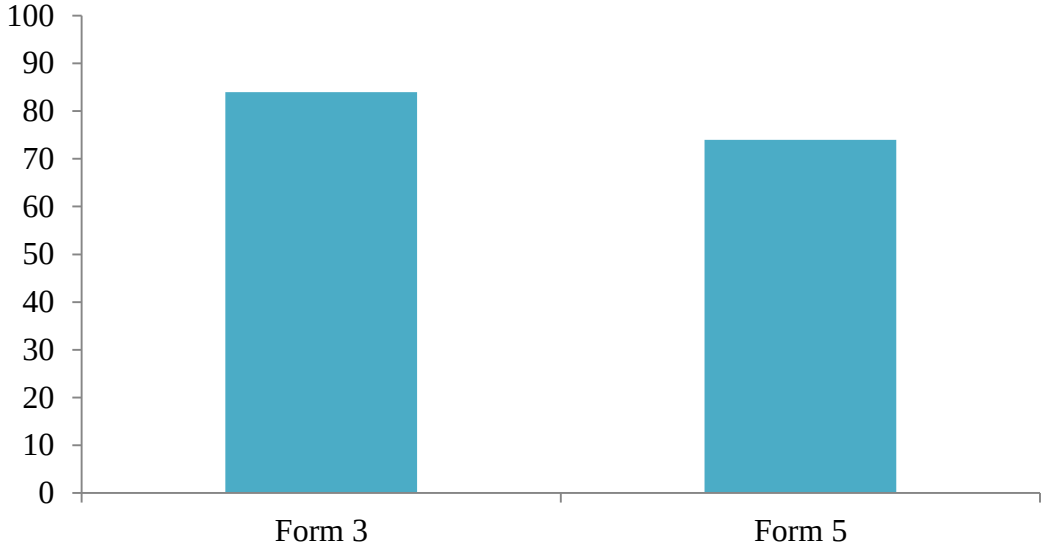

Figure 2. The number of form three and form five students who participated in the main study.

The students in this study were enrolled in two types of subject clusters: vocational and academic. Seventy one percent (71%) of the participants were enrolled in the academic areas of study whilst twenty nine percent (29%) were involved in vocational areas of study (see Figure 3).

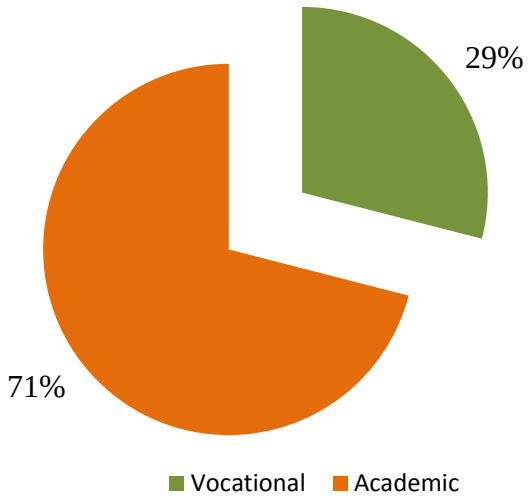

Figure 3. The percentage of students who were enrolled in vocational and academic subject clusters.

Figures 4 and 5 illustrate the number of students with male and female parents who have attained at highest, primary, secondary or tertiary level education. The highest level of education attained by the parents was used as a proxy for students' social status. As is seen in Figure 4, the majority (108) of the students had male parents who have achieved up to secondary education. Twenty eight (28) of the students who participated in the study had male parents with just primary level education whilst twenty two (22) of the students' parents of the same sex had attained tertiary level education. Similar trends were observed as it relates to the highest level of education attained by the female parents of participants. The number of students whose female

parents attained primary, secondary and tertiary level education was twenty five (25), one hundred and six (106) and twenty seven (27) respectively.

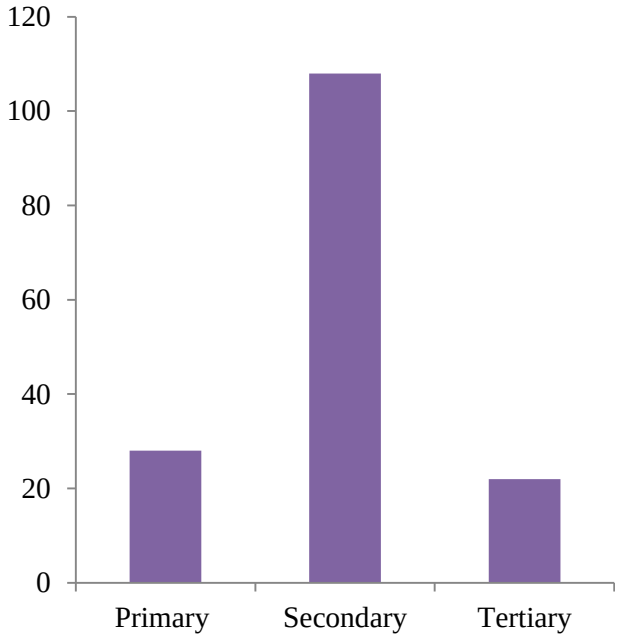

Figure 4. The number of students with male parents who attained at highest; primary, secondary and tertiary education.

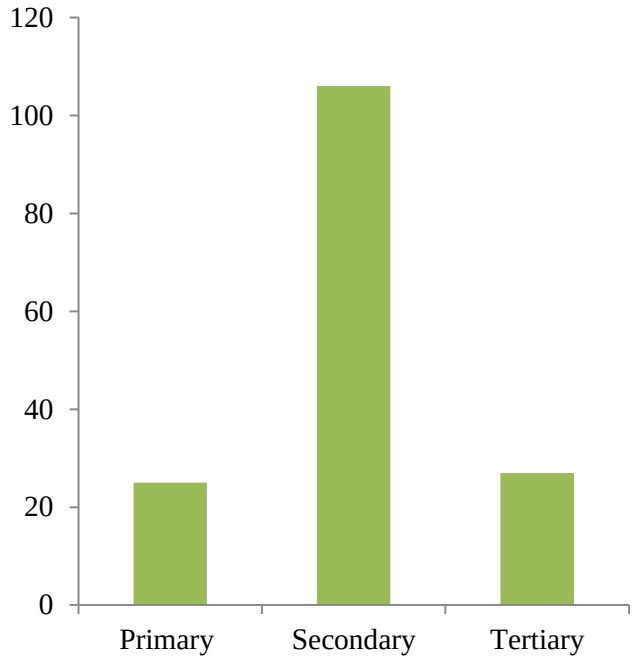

Figure 5. The number of students with female parents who attained at highest; primary, secondary and tertiary education.

Cross-Cultural Validity of Holland's RIASEC Model – Results from Factor Analysis and Cronbach's Alpha

A revised version of the O*Net Interest Profiler was used to measure the work-related interests of participants in this study. This instrument which consists of 180 items was piloted after the wording of ten (10) items was adjusted to suit the cultural context in which this study was being conducted. According to Holland's (1997) RIASEC typology, there are six (6) subscales of work-related interests in this inventory; each measured using 30 items: Realistic, Investigative, Artistic, Social, Enterprising, and Conventional. Factor Analysis was therefore conducted to determine whether the same factor structure is evident in this study.

The principal components approach was used to extract six factors consistent with Holland's theorizing. The method of rotation used in the factor analysis was the varimax method. The table below presents the eigenvalues and the variance explained by each of the six factors before and after rotation. As is seen in this table the total percentage of variance explained by all the factors extracted was 45.62%. Factor 1 accounted for the highest amount of variance before (25.32%) and after rotation (10.51%). The amount of variance explained by factor 2 increased from 7.28% to 9.04% after the varimax rotation was applied. Similarly, the percentage of variance explained by factors 3, 4, 5 and 6 all increased after rotation (Refer to the table 4.1 below)

Table 4.1. The eigenvalues and variance explained by the six factors before and after varimax rotation.

Factor	Initial Eigenvalues			Rotated Sum of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	46.65	25.92	25.92	18.92	10.51	10.51
2	13.10	7.28	33.19	16.27	9.04	19.55
3	7.19	4.00	37.19	14.15	7.86	27.42
4	5.46	3.04	40.23	14.12	7.84	35.26
5	5.31	2.95	43.18	12.30	6.82	42.08
6	4.39	2.44	45.62	6.36	3.54	45.02

An examination of the factor loadings (See Tables 4.2, 4.3 and 4.4)) revealed that there were five definite types of work related interests. There was some ambiguity as it relates to Factors 1 since items used to assess students' interests in both enterprising and conventional areas of work were correlated mainly with the first factor although it was predominantly conventional interests. Factor 2 was associated with items measuring students' realistic interests while high factor loadings were observed between Component 3 and

items that pertained to the artistic interests of students. Factor 4 was heavily correlated with items which were deemed to evaluate the level of investigative interests held by the students and it was clear that Component 5 in the analysis reflected students' social interests. However, like factor 1, factor six also loaded heavily on student's conventional interests.

Table 4.2

Factor loadings and communalities after extraction for Factor 1 and Factor 2

FACTOR ONE (10.51%)						FACTOR TWO (9.04%)					
			Items	FL	Com.			Items	FL	Com.	
1	C	11	Direct or transfer phone calls for a large organization	0.67	0.57	R	6	Repair household appliances	0.66	0.50	
2	C	7	Transfer funds between banks using a computer	0.65	0.58	R	30	Repair and install locks	0.65	0.51	
3	C	30	Maintain employee records	0.64	0.58	R	19	Paint houses	0.64	0.48	
4	C	26	Photocopy letters and reports	0.61	0.53	R	10	Build a brick wall	0.64	0.44	
5	C	9	Use a word processor to edit and format documents	0.61	0.54	R	4	Lay bricks or tiles	0.63	0.48	
6	C	27	Record rent payments	0.60	0.61	E	8	Buy and sell land	0.62	0.44	
7	C	8	Organize and schedule office meetings	0.60	0.49	R	18	Refinish furniture	0.62	0.52	
8	C	23	Stamp, sort and distribute mail for an organization	0.59	0.52	R	11	Assemble electronic parts	0.61	0.55	
9	C	28	Enter information into a database	0.59	0.58	R	5	Monitor a machine on an assembly line	0.60	0.49	
10	C	12	Perform office filing tasks	0.58	0.44	E	9	Sell compact disks and tapes at a music store	0.59	0.46	
11	C	22	Keep records of financial transactions for an organization	0.58	0.58	R	16	Assemble products in a factory	0.58	0.46	
12	C	24	Handle customers' bank transactions	0.57	0.45	E	23	Sell restaurant franchises to individuals	0.56	0.54	

13	C	18	Inventory supplies using a hand-held computer	0.57	0.56	R	23	Set up and operate machines to make products	0.55	0.50
14	C	25	Record information from customers applying for charge accounts	0.57	0.50	R	17	Catch fish as a member of a fishing crew	0.54	0.37
15	C	29	Keep inventory records	0.56	0.49	R	9	Raise fish in a fish hatchery	0.53	0.37
16	C	21	Develop an office filing system	0.55	0.50	R	13	Operate a grinding machine in a factory	0.53	0.37
17	S	26	Organize activities at a recreational facility	0.54	0.54	R	1	Build kitchen cabinets	0.53	0.41
18	C	14	Keep shipping and receiving records	0.53	0.47	R	15	Perform lawn care services	0.53	0.43
19	E	15	Sell refreshments at a movie theater	0.53	0.49	R	7	Drive a taxi	0.52	0.33
20	E	14	Sell a soft drink product line to stores and restaurants	0.53	0.55	E	12	Sell houses	0.51	0.37
21	C	17	Type labels for envelopes and packages	0.52	0.54	R	25	Maintain the grounds of a park	0.51	0.38
22	E	30	Sell merchandise at a department store	0.52	0.51	R	26	Operate a machine on a production line	0.51	0.50
23	C	10	Operate a cash register	0.51	0.41	R	27	Spray trees to prevent the spread of harmful insects	0.51	0.51
24	E	29	Manage a clothing store	0.49	0.39	E	28	Sell automobiles	0.49	0.56
25	E	28	Sell automobiles	0.49	0.56	R	22	Do cleaning or maintenance work	0.49	0.42
26	C	20	Generate the monthly payroll checks for an office	0.48	0.44	R	3	Operate a dairy farm	0.49	0.26
27	E	13	Manage a department within a large company	0.48	0.53	E	24	Sell computer equipment in a store	0.48	0.51
28	C	15	Calculate the wages of employees	0.48	0.52	R	2	Guard money in an armored car	0.48	0.41
29	S	28	Organize field trips for disabled people	0.47	0.50	E	14	Sell a soft drink product line to stores and restaurants	0.46	0.55
30	C	19	Compute and record statistical and other numerical data	0.47	0.54	R	29	Operate a motorboat to carry passengers	0.46	0.42

31	C	16	Assist senior level accountants in performing bookkeeping tasks	0.47	0.49	R	14	Work on an offshore oil-drilling rig	0.46	0.29
32	S	25	Teach disabled people work and living skills	0.47	0.52	E	22	Negotiate contracts for professional athletes	0.44	0.40
33	C	13	Take notes during a meeting	0.46	0.47	E	20	Manage a supermarket	0.43	0.41
34	S	29	Assist doctors in treating patients	0.46	0.55	R	24	Put out forest fires	0.42	0.21
35	E	27	Sell Newspaper advertisements	0.46	0.43	E	25	Be responsible for the operation of a company	0.41	0.38
36	E	7	Give a presentation about a product you are selling	0.46	0.43	E	15	Sell refreshments at a movie theater	0.41	0.49
37	E	19	Sell sweets and popcorn at sports events	0.45	0.46	E	30	Sell merchandise at a department store	0.41	0.51
38	E	3	Sell telephone and other communication equipment	0.45	0.48					
39	E	20	Manage a supermarket	0.45	0.41					
40	S	27	Take care of children at a day-care centre	0.44	0.45					
41	E	2	Manage a retail store	0.44	0.51					
42	I	13	Study the population growth of a city	0.43	0.49					
43	C	6	Load computer software into a large computer network	0.42	0.56					
44	S	16	Help conduct a group therapy session	0.42	0.57					
45	E	18	Negotiate business contracts	0.41	0.45					
46	E	10	Run a toy store	0.40	0.36					

Table 4.3

Factor loadings and communalities after extraction for Factor 3 and Factor 4

			FACTOR THREE (7.86%)						FACTOR FOUR (7.84%)		
			Items	FL	Com.				Items	FL	Com.
1	A	23	Edit movies	0.72	0.64	I	20	Conduct biological research	0.77	0.69
2	A	25	Write scripts for movies or television shows			I	26	Work in a biology lab		
3	A	20	Sing professionally	0.71	0.61	I	23	Do laboratory tests to identify diseases	0.77	0.67
4	A	28	Direct a movie	0.70	0.58	I	21	Study the structure of the human body	0.76	0.67
5	A	26	Write a song	0.69	0.52	I	28	Study genetics	0.74	0.64
6	A	29	Sing in a band	0.68	0.55	I	19	Conduct chemical experiments	0.70	0.53
7	A	10	Compose or arrange music	0.65	0.50	I	17	Examine blood samples using a microscope	0.68	0.60
8	A	8	Perform as an extra in movies, plays, or television shows	0.65	0.45	I	27	Invent a replacement for sugar	0.65	0.55
9	A	30	Design artwork for magazines	0.65	0.51	I	14	Study whales and other types of marine life	0.64	0.60
10	A	13	Perform stunts for a movie or television show	0.64	0.48	I	9	Determine the infection rate of a new disease	0.64	0.55
11	A	18	Audition singers and musicians for a musical show	0.64	0.57	I	22	Develop psychological profiles of criminals	0.61	0.51
12	A	24	Pose for a photographer	0.64	0.51	I	16	Study the movement of planets	0.60	0.56
13	A	15	Conduct a musical choir	0.63	0.50	I	25	Develop a way to better predict the weather	0.58	0.55

14	A	27	Perform jazz or tap dance	0.62	0.46	I	30	Do research on plants or animals	0.57	0.47
15	A	14	Create special effects for movies	0.61	0.47	I	24	Study weather conditions	0.57	0.53
16	A	11	Act a major role in a movie	0.61	0.40	I	11	Diagnose and treat sick animals	0.54	0.41
17	A	16	Act in a play/skit	0.61	0.49	R	20	Enforce wildlife laws	0.51	0.41
18	A	12	Dance in show at NAPA	0.60	0.46	I	13	Study the population growth of a city	0.49	0.49
19	A	21	Design sets for plays	0.57	0.45	I	7	Study ways to reduce water pollution	0.49	0.49
20	A	4	Create dance routines for a show	0.55	0.45	S	22	Counsel people who have a life-threatening illness	0.46	0.54
21	A	7	Perform comedy routines in front of an audience	0.53	0.43	C	28	Enter information into a database	0.46	0.58
22	A	22	Announce a radio show	0.53	0.40	I	10	Study rocks and minerals	0.46	0.31
23	A	3	Direct a play	0.52	0.45	I	8	Develop a new medical treatment or procedure	0.41	0.55
24	A	5	Write books or plays	0.50	0.37					
25	A	9	Write reviews of books or plays	0.49	0.36					
26	A	17	Paint sets for plays	0.48	0.43					
27	A	19	Sketch/ draw pictures	0.47	0.30					
28	A	6	Play a musical instrument	0.43	0.23					

Table 4.4

Factor loadings and communalities after extraction for Factor 5 and Factor 6

	FACTOR FIVE (6.82%)						FACTOR SIX (6.54%)				
	Items			FL	Com.		Items			FL	Com.
1	S	6	Work with mentally disabled children	0.71	0.56	C	1	Develop a spreadsheet using computer software	0.56	0.51
2	S	17	Help families care for ill relatives	0.66	0.58	C	3	Use a computer program to generate customer bills	0.54	0.54
3	S	19	Help elderly people with their daily activities	0.64	0.55	C	6	Load computer software into a large computer network	0.53	0.56
4	S	11	Perform rehabilitation therapy e.g stroke or accident victims	0.63	0.50	I	1	Study space travel	0.51	0.52
5	S	5	Teach children how to read	0.61	0.43	C	4	Schedule conferences for an organization	0.45	0.52
6	S	10	Help people with family-related problems	0.6	0.5	I	2	Make a map of the bottom of an ocean	0.45	0.37
7	S	4	Help people with personal or emotional problems	0.58	0.41	E	1	Sell insurance policies	0.44	0.36
8	S	21	Plan exercises for disabled patients	0.58	0.52	C	5	Keep accounts payable/receivable for an office	0.42	0.42
9	S	23	Provide physical therapy to people recovering from an injury	0.52	0.50	C	2	Proofread records or forms	0.40	0.46
10	S	3	Give CPR to someone who has stopped	0.51	0.35					

			breathing		
11	S	12	Do volunteer work at a non-profit organization	0.50	0.40
12	S	8	Give career guidance to people	0.49	0.37
13	S	25	Teach disabled people work and living skills	0.48	0.52
14	S	2	Perform nursing duties in a hospital	0.47	0.35
15	S	14	Teach sign language to people with hearing disabilities	0.46	0.47
16	S	13	Help disabled people improve their daily living skills	0.45	0.37
17	S	24	Teach a high-performing school	0.44	0.36
18	S	22	Counsel people who have a life-threatening illness	0.44	0.54
19	S	15	Help people who have problems with drugs or alcohol	0.43	0.40
20	S	28	Organize field trips for disabled people	0.43	0.50
21	S	29	Assist doctors in treating patients	0.42	0.55
22	S	16	Help conduct a	0.42	0.57

			group therapy session		
23	S	27	Take care of children at a day-care centre	0.41	0.45

Note. FL = Factor loadings, Com. = Communalities

Key:

- R = Realistic
- I = Investigative
- A = Artistic
- S = Social
- E = Enterprising
- C = Conventional

Conversely, the cronbach alpha values for all the work-related interests sub scales exceeded the .7 benchmark. The cronbach alpha for realistic interests was .94, while the same for investigative interests was .95. The artistic and social interests scales were also internally consistent both deriving alphas of .95. The reliability estimate for the conventional interests scale was .96 while that which pertained to enterprising interests was .94.

Table 4.5

Reliability estimates for the work-related interests subscales.

Type of Interests	**Cronbach's Alpha**
Realistic	.94
Investigative	.95
Artistic	.95
Social	.95
Enterprising	.94
Conventional	.96

The Impact of Personality Traits and Demographic Factors on Students' Work- Related Interests – Results from Stepwise Multiple Regression

Stepwise multiple regression analysis was the main statistical analysis used to assess the following research questions:

- Is there a relationship between personality and work related interests of students at the Prestige High School?
- Do demographic factors such as gender, socio-economic status and curriculum stream influence work related interests of students at the Prestige High School?

Separate analyses were performed to determine how well personality traits such as extraversion, agreeableness, conscientiousness, emotional stability and openness to experience and demographic factors such as gender, from, subject cluster and social status predict the realistic, investigative, artistic, social, enterprising and conventional work-related interests of students.

i. Personality, Demographic Factors and Students' Realistic Interests

The gender of participants was entered in step 1 of the multiple regression analysis and significantly predicted the realistic interests of students, F (1,156) = 61.24, $p < .001$. This model explained 28% of the variance in this type of work related interest ($R^2 = .28$). Subsequently, both respondents' gender and form were entered in step 2 of the multiple regression and significantly accounted for 34% of the variability in students' realistic interests, $R^2 = .34$, F (2,155) = 40.04, $p < .001$. In the final step of the analysis, the gender, form

and subject cluster of participants were entered and were significant predictors of their realistic interests, F (3,154) = 29.13, $p < .001$. This model explained 36% of the variance in realistic interests ($R^2 = .36$). There were no personality traits that significantly impacted the realistic interests of students.

An examination of demographic statistics revealed that males ($M = 2.70$, $SD = .83$) were more likely to have realistic interests than females ($M = 1.76$, $SD = .62$). In addition, realistic interests were more common among the form five students ($M = 2.58$, $SD = .94$) than the form three students ($M = 2.03$, $SD = .73$). Realistic interests were also more popular amongst students in vocational subject areas ($M = 2.73$, $SD = .88$) than those pursuing academic subjects ($M = 2.11$, $SD = .81$)

ii. Personality Traits, Demographic Factors and Students' Investigative Interests

In step 1 of the analysis of students' investigative interests, the emotional stability personality trait was entered in the regression equation. This model was significant, F (1,156) = 10.83, $p < .01$ and accounted for 7% of the variability in the investigative interest ($R^2 = .07$). There were no variables entered in step 2 of the analysis.

iii. Personality Traits, Demographic Factors and Students' Artistic Interests

Respondents' gender was entered in step 1 of the multiple regression analysis of students' artistic interests. This model significantly explained 4%

of the variance in the artistic interests of students, R^2 = .04, F (1,156) = 6.18, p < .05. No variables were entered in step 2 of the analysis.

The results of descriptive analyses showed that females (M = 3.01, SD = 1.11) were more likely to have artistic interests than males (M = 2.61, SD = .87).

iv. Personality Traits, Demographic Factors and Students' Social Interests

In step 1 of the multiple regression analysis, emotional stability personality trait was entered in the equation and significantly accounted for 6% of the variance in students' social interests (R^2= .06). The model statistics were as follows: F (1,156) = 9.16, p < .01. Respondents' gender was added to the former equation in step 2 of the analysis. This new model significantly explained 10% of the variability in students' social interests, R^2= .10, F (2,155) = 8.74, p < .001. Descriptive analyses highlighted that female students (M = 2.93, SD = 1.04) were more prone to have interests in social areas of work than male students (M = 2.53, SD = .85). No other variables were included in the analysis.

v. Personality Traits, Demographic Factors and Students' Enterprising Interests

Subject cluster was entered in step 1 of the multiple regression analysis of students' enterprising interests. This model significantly explained 5% of the variance in the enterprising interests of students, R^2= .05, F (1,156) = 7.91, p < .01. In step 2, the emotional stability personality trait was added to the

equation and significantly predicted students' enterprising interests, F (2,155) = 7.59, $p < .01$. Nine percent (9%) of the variance in this type of interest was accounted for by these two factors ($R^2 = .09$). Three variables were entered in step 3 of the analysis: subject cluster, emotional stability personality trait and social status as measured by the highest level of education attained by the female parent. Together these variables explained 12% of the variability in students' interests in enterprising areas of work, $R^2 = .12$, F (3,154) = 6.82, $p < .001$. In the final step of the analysis, a fourth variable was included: participants' gender. The model improved explaining 14% of the variance in students' enterprising interests, $R^2 = .14$, F (4,153) = 6.25, $p < .001$. No variables were added to the equation subsequent to this step.

Descriptive analyses were examined to determine the groups of students that were more likely to be interested in enterprising areas of work. As it pertains to subject cluster, students enrolled in vocational subjects expressed greater enterprising interests (M = 2.92, SD = .83) than those doing academic subjects (M = 2.48, SD = .89). Students whose female parents had attained at highest tertiary level education were most interested in enterprising areas of work (M = 3.05, SD = .86). The mean levels of enterprising interests for students with female parents who attained at highest primary school education and secondary school education was 2.51 (M = 2.51, SD = .95) and 2.28 (M = 2.28, SD = .99) respectively. Enterprising interests were more popular among males (M = 2.76, SD = .88) than females (M = 2.41, SD = .87).

vi. Personality Traits, Demographic Factors and Students' Conventional Interests

In step 1 of the multiple regression analysis of students' conventional interests, the emotional stability personality trait was entered in the equation. This model significantly explained 6% of the variance in students' interests in conventional areas of work, $R^2 = .06$, $F\ (1,156) = 9.44$, $p < .01$. There were no additional variables added to the analysis.

The results of the Stepwise Multiple Regression Analyses can be seen in Table 4.6 below.

Table 4.6 Summary of Results from Stepwise Multiple Regression Analyses

Variable		Work-related Interests					
		R	I	A	S	E	C
Extraversion							
Agreeableness							
Conscientiousness							
Emotional stability			+		+	+	+
Openness to experience							
Gender		+		+	+	+	
Form		+					
Subject Cluster		+				+	
Social status 1 (Highest level of education of male parent)							
Social status 2 (Highest level of education of female parent)						+	
R^2		.36	.06	.04	.10	.14	.06
Adjusted R^2		.35	.06	.03	.09	.12	.05

NB + means that the variable was a significant predictor in the final model.

Key:

- R = Realistic
- I = Investigative
- A = Artistic
- S = Social
- E = Enterprising
- C = Conventional

Summary of Research Findings

The results of the study raised some question as to the cross-cultural applicability of Holland's RIASEC model. However, it is clear from the results of this study that some personality traits and demographic factors have considerable influence on students' work-related interests. Students' realistic interests were dependent on their gender, form and subject cluster. Interests in realistic areas of work were more common among, males, form five students and those enrolled in vocational subject areas. The investigative and conventional interests of students who participated in this study were determined solely by having an emotional stability personality trait whilst their artistic interests were influenced primarily by gender. Artistic interests were more popular among females than males and this gender dynamic was also evident for interests in social areas of work. Both gender and the personality trait of emotional stability significantly explained the variance in students' social interests. Subject cluster, emotional stability personality trait, social status determined by the highest level of education attained by the female parent and gender were all significant predictors of the enterprising interests of students. Vocational students, males and those whose female parents had attained at highest tertiary level education were the groups with higher interests in enterprising areas of work.

CHAPTER FIVE

DISCUSSION AND RECOMMENDATIONS

This chapter presents a discussion of the findings of this study which investigated the work related interests of students at the Prestige High School. More specifically, this study sought to determine the cross-cultural applicability of Holland's (1997) RIASEC model and to evaluate if students' work related interests are influenced by their personality traits and demographic factors such as gender, age/grade, socio-economic status and curriculum stream. A total of 158 students from form three and five were surveyed. Factor analysis and cronbach alpha estimates were used to gauge the construct validity and internal consistency of the items of Holland's (1997) RIASEC model and stepwise multiple regression analyses were used to determine the extent to which personality traits and demographic factors are significant in explaining students' work related interests. Concluding remarks and recommendations are also presented.

Discussion of Research Question 1: Does the structure of Holland's RIASEC model hold true for students at the Prestige High School?

Cultural diversity is a significant factor that must be taken into account when "selling systems based on person-environment matching models" (Guichard & Lenz, 2005). However, advances in information and communication technology have created 'a global village' in which cultures of many nations are intertwined.

Results of the factor analysis revealed that there were five definite types of work-related interests. Items deemed to be measuring conventional, realistic, artistic, investigative and social interests were in fact doing so. In contrast, there was some ambiguity with respect to enterprising interests. The fact that five of the six career clusters were found gives support to the cross cultural validity of Holland's RIASEC model and its usefulness in our context was confirmed. This is in keeping with the findings of a study conducted by Wilkins, Ramkissoon and Tracey (2013) that concluded that the RIASEC structure is a good fit for Caribbean data. This finding is also in keeping with that of other studies done outside of the United States (e.g. Long, Adams & Tracey, 2005; Sverko, 2007; Nagy, Trautwein & Ludtke, 2007). Although it has been found that the RIASEC model fits US samples better than other countries (Rounds and Tracey, 1996) its usefulness in our context was found in this study.

Discussion of Research Question 2: Is there a relationship between personality traits and the work related interests of students at the Prestige High School?

The study found that only one personality trait was influential in determining students' work related interests. Emotional stability (Neuroticism) was found to have a positive relationship with investigative, social, enterprising and conventional interests. This is contrary to the findings of Gottfredson, Jones and Holland (1993) as well as Costa, McCrae and Holland

(1984) who found Emotional Stability to have a small negative relationship with all the interest types.

Unlike the findings of Gottfredson, Jones and Holland (1993), Costa, McCrae and Holland (1984), Mount and Gupta, (2003) and Sullivan and Hansen, 2004), no relationship was found between Extraversion and any interest type. Also no relationship was found between Conscientiousness and any other interest type as was found by Gottfredson, Jones and Holland (1993) as well as Costa, McCrae and Holland (1984). No relationship was also found for Agreeableness and Openness. Consistent with the findings of this study, Sullivan and Hansen (2004) also found no relationship between Openness to Experience and all six RIASEC types. Mount and Gupta (2003) also found no relationship between Realistic interests and any of the six RIASEC types. The results of this study are consistent with this.

Discussion of Research Question 3: Do demographic factors such as gender, age/grade, socio-economic status and curriculum stream influence the work related interests of students at the Prestige High School?

Gender: Males were found to have more realistic interests. This is consistent with the findings of Holland (1997), Betz and Fitzgerald (1987), Hackett and Lonborg (1994), Mullis, Mullis and Gerwels (1998) and Willie De Fruit and Feys (2010). Males also scored higher on enterprising interests similar to the findings of research done by Holland (1997) and Willie De Fruit and Feys (2010). No other relationships were found for males. This is contrary to the findings of Holland (1997), Betz and Fitzgerald (1987), Hackett and

Lonborg (1994) and Willie De Fruit and Feys (2010) who found that males scored higher on Investigative interests. It is also contrary to the findings of Betz and Fitzgerald (1987) and Hackett and Lonborg (1994) who found that males scored higher on Conventional interests.

Females scored higher on Artistic and Social interests. This is consistent with the findings of Holland (1997), Betz and Fitzgerald (1987), Hackett and Lonborg (1994), Mullis, Mullis and Gerwels (1998) and Willie De Fruit and Feys (2010). In this study no other relationships were found between being female and the RIASEC types. However, Holland (1997), Betz and Fitzgerald (1987), Hackett and Lonborg (1994) and Mullis, Mullis and Gerwels (1998) found that females also scored higher on Conventional interests. Holland (1997) also found that females scored lower on Realistic interests.

These results with respect to gender reveal that students develop interests along gender- specific roles as suggested by Nelson (1963), Slocum and Bowles (1968), Prediger, Roth and Noeth (1973) and Betz and Fitzgerald (1987). The fact that gender was found to be the most influential factor is possibly accredited to Gottfredson's (1981) theory of Circumscription which predicts that sex type is the factor that most influences career choices and that gender self concept is developed in childhood leading students to reject jobs that are not "appropriate" for their sex.

Age/Form: The results of the study also showed a relationship between age/form and interests. Male form five students were found to have more Realistic interests. The literature suggests that males would have more

Realistic Interests as described above. O'Bryant, Durrant and Pennebanker found that boys and girls become less stereotypical in their career preferences as they move from one grade to another. The fact that only realistic interests (not Investigative, Enterprising or Conventional interests) correlated with grade movement may be a reflection of this.

Socio-Economic Status and Curriculum Stream/Subject Cluster: The literature suggests that there is a connection between socio-economic status, subject cluster and students' interests so these factors will be discussed together. In the study a relationship was found between subject cluster and interests. Vocational students were found to have more Realistic and Conventional interests. According to Holland (1997) persons who have Realistic personalities like to engage in activities involving physical labour, motor coordination, skill and activities that are very male oriented. These environments therefore require physical strength and agility .Suitable jobs for this type would therefore include work in agriculture, carpentry, housekeeping, mathematics, science and protective services. Many of these occupations are in fact associated with vocational education, therefore making the findings consistent with Holland's theory.

However, according to Holland (1997), persons with Conventional orientations are concerned with rules and regulations and identify with power and status. Conventional environments are "office" oriented so suitable jobs are in structured environments such as banking, education, management. These types of jobs are not usually associated with vocational education therefore making the fact that vocational students had more conventional interests inconsistent with the literature.

Consistent with the ideas of Darcy (2005) and Furnham (2001) that prestige may affect interests, a relationship was also found between socio-economic status and students' interests. Students having a high socio-economic status were found to have more enterprising interests. According to Holland (1997), individuals with enterprising orientations like to manipulate and dominate others and are usually very persuasive, self confident and assertive. Enterprising environments involve risk and power play. Suitable jobs include educational administrator, sales person, lawyer and business person. The findings of the study were consistent with the findings of Osa-Edoh and Alulu (2011) who found that students from high socio-economic status aspire to high yielding jobs. However it is inconsistent with the findings of Mullis, Mullis and Gerwells (1998) who found that students with parents in professional jobs scored higher on the Realistic, Social and Conventional interests.

Barnett (1975) found a higher correlation between prestige and preferences for males as opposed to females, however, the results of this study did not reveal any such distinction in students' interests. Furthermore, contrary to the expectations of Sussman (1971), Jules (2011) and Shakes (2011) no relationship was found between socio-economic status and subject cluster.

Conclusion

The goal of this study was to investigate the work related interests of students at the Prestige High School. More specifically it aimed to investigate the cross cultural applicability of Holland's (1997) RIASEC model and relationships between the interests, personalities and demographic factors such as gender, age/form, socio-economic status and curriculum stream. The following conclusions are made based on the findings:

(a) Holland's RIASEC model is useful in classifying career clusters of the students as five of the six clusters were found.

(b) Students' work related interests are influenced by their personalities.

(c) Students' work related interests are influenced by their gender.

(d) There is a relationship between age/form and work related interests.

(e) Subject clusters chosen are related to work related interests.

(f) The socio-economic status of students influences their work related interests.

Recommendations

The findings of this study provide a focal point around which career development activities at the Prestige High school can be established. The findings have implications for the Ministry of Education, educational administrators, guidance officers, parents, students and other researchers as educational and occupational achievements have been found to be related to

vocational interests (Athanasou, 2001). It is on this basis that the following recommendations are made.

Firstly, the fit of Holland's RIASEC model found in this study only holds true to this sample of students. Further research should therefore be done using a larger sample size made up of students from other schools throughout the country in order for us to get a truer picture of the cross-cultural fit of Holland's theory to the Trinidad and Tobago context.

Secondly, because the emotional stability personality type is the only personality type found to influence students' interests it is recommended that another measure of personality such as the BFI- 144 be administered to corroborate the findings of the study because the literature strongly suggests a relationship between other personality types and work related interests.

In addition, since gender was found to be correlated with five of the six interest types it recommended that further research be done to ascertain why students chose along gender specific lines. Block, Denker and Tittle found that females chose careers that are based on a desire to help others and to achieve personal fulfilment as opposed to a desire for prestige, status or money which were the main focus for boys. If this is the case intervention may be needed to redirect females towards occupations they may not have otherwise chosen. Positive outcomes of career development interventions have been achieved with respect to improving the autonomy and expectations of adolescent girls in America (Doren, Lombardi, Clark, & Lindstorm, 2013) and research is needed to see if intervention can make a difference to these students.

Form and socio-economic status were only related to one of the interest types whilst subject cluster was related to two of the six types. It is therefore recommended that factors other than those examined in this study such as the level of career decision making self-efficacy (Taylor,1990), vocational identity (Savicas, (1985), peer and parental relationships (Felsman and Blustein, 1999), teachers, family members (Shumba & Naong, 2012) and perceptions of family interaction patterns (Hargrove, Creagh & Burgess, 2002) that have been found by other researchers to influence career development be investigated to determine the extent to which any of those other factors may also influence the work related interests of the students at the Prestige High school. This will give a more comprehensive awareness and a sounder basis for guiding students along in their career development journey.

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Appendix A1

SURVEY INSTRUMENT

Questionnaire Cover Letter

I am, Ruthlyn Bastien, a teacher at the Princes Town East Secondary School. I am currently conducting research for my Master's Degree with the University of the West Indies. The purpose of this activity is to determine your work related interests and to match these interests to your personalities. This is important because of career decisions that you have to make. The results of the activity will be confidential so do not be afraid to participate and respond as truly as possible.

Appendix A2

SURVEY INSTRUMENT

Work-Activity Interest Inventory

This Inventory is a list of 180 work activities. For each listed activity please indicate the extent to which you find it to be of interest, on a scale ranging from Very Low Interest to Very High Interest. The scale is as follows:

Very Low interest… …**1**

Low Interest……..**2**

Some Interest……..**3**

High Interest…….**4**

Very High Interest……**5**

THIS IS NOT A TEST! There is no right or a wrong answer to the questions. The goal is for you to learn more about your personal work-related interests.

Place a tick in the appropriate box for EACH item.

	1	2	3	4	5
Build kitchen cabinets					
Guard money in an armored car					
Operate a dairy farm					
Lay bricks or tiles					
Monitor a machine on an assembly line					
Repair household appliances					
	1	2	3	4	5
Study space travel					
Make a map of the bottom of an ocean					
Study the history of past civilizations					
Study animal behavior					
Develop a new medicine					
Plan a research study					
	1	2	3	4	5
Conduct a symphony orchestra					
Write stories or articles for magazines					
Direct a play					
Create dance routines for a show					
Write books or plays					
Play a musical instrument					

	1	2	3	4	5
Teach an individual an exercise routine					
Perform nursing duties in a hospital					
Give CPR to someone who has stopped breathing					
Help people with personal or emotional problems					
Teach children how to read					
Work with mentally disabled children					
	1	2	3	4	5
Sell insurance policies					
Manage a retail store					
Sell telephone and other communication equipment					
Operate a beauty salon or barber shop					
Sell merchandise over the telephone					
Run a stand that sells newspapers and magazines					
	1	2	3	4	5
Develop a spreadsheet using computer software					
Proofread records or forms					
Use a computer program to generate customer bills					
Schedule conferences for an organization					
Keep accounts payable/receivable for an office					
Load computer software into a large computer network					
	1	2	3	4	5
Drive a taxi					
Install flooring in houses					
Raise fish in a fish hatchery					
Build a brick wall					
Assemble electronic parts					
Drive a truck to deliver packages to offices and homes					
	1	2	3	4	5
Study ways to reduce water pollution					
Develop a new medical treatment or procedure					
Determine the infection rate of a new disease					
Study rocks and minerals					
Diagnose and treat sick animals					
Study the personalities of Caribbean leaders					
	1	2	3	4	5
Perform comedy routines in front of an audience					
Perform as an extra in movies, plays, or television shows					
Write reviews of books or plays					
Compose or arrange music					
Act a major role in a movie					
Dance in show at NAPA					
	1	2	3	4	5
Teach an elementary school class					
Give career guidance to people					
Supervise the activities of children at a camp					
Help people with family-related problems					
Perform rehabilitation therapy e.g stroke or accident victims					
Do volunteer work at a non-profit organization					

	1	2	3	4	5
Give a presentation about a product you are selling					
Buy and sell land					
Sell compact disks and tapes at a music store					
Run a toy store					
Manage the operations of a hotel					
Sell houses					
	1	2	3	4	5
Transfer funds between banks using a computer					
Organize and schedule office meetings					
Use a word processor to edit and format documents					
Operate a cash register Direct or transfer phone calls for a large organization					
Perform office filing tasks					
	1	2	3	4	5
Operate a grinding machine in a factory					
Work on an offshore oil-drilling rig					
Perform lawn care services					
Assemble products in a factory					
Catch fish as a member of a fishing crew					
Refinish furniture					
	1	2	3	4	5
Study the population growth of a city					
Study whales and other types of marine life					
Investigate crimes					
Study the movement of planets					
Examine blood samples using a microscope					
Investigate the cause of a fire					
	1	2	3	4	5
Perform stunts for a movie or television show					
Create special effects for movies					
Conduct a musical choir					
Act in a play/skit					
Paint sets for plays					
Audition singers and musicians for a musical show					
	1	2	3	4	5
Help disabled people improve their daily living skills					
Teach sign language to people with hearing disabilities					
Help people who have problems with drugs or alcohol					
Help conduct a group therapy session					
Help families care for ill relatives					
Provide massage therapy to people					
	1	2	3	4	5
Manage a department within a large company					
Sell a soft drink product line to stores and restaurants					
Sell refreshments at a movie theater					
Sell hair-care products to stores and salons					
Start your own business					
Negotiate business contracts					
	1	2	3	4	5

Take notes during a meeting					
Keep shipping and receiving records					
Calculate the wages of employees					
Assist senior level accountants in performing bookkeeping tasks					
Type labels for envelopes and packages					
Inventory supplies using a hand-held computer					
	1	2	3	4	5
Paint houses					
Enforce wildlife laws					
Fix a broken pipe or sink					
Do cleaning or maintenance work					
Set up and operate machines to make products					
Put out forest fires					
	1	2	3	4	5
Conduct chemical experiments					
Conduct biological research					
Study the structure of the human body					
Develop psychological profiles of criminals					
Do laboratory tests to identify diseases					
Study weather conditions					
	1	2	3	4	5
Sketch/ draw pictures					
Sing professionally					
Design sets for plays					
Announce a radio show					
Edit movies					
Pose for a photographer					
	1	2	3	4	5
Help elderly people with their daily activities					
Teach children how to play sports					
Plan exercises for disabled patients					
Counsel people who have a life-threatening illness					
Provide physical therapy to people recovering from an injury					
Teach a high-performing school					
	1	2	3	4	5
Sell sweets and popcorn at sports events					
Manage a supermarket					
Represent a client in a lawsuit					
Negotiate contracts for professional athletes					
Sell restaurant franchises to individuals					
Sell computer equipment in a store					
	1	2	3	4	5
Compute and record statistical and other numerical data					
Generate the monthly payroll checks for an office					
Develop an office filing system					
Keep records of financial transactions for an organization					
Stamp, sort and distribute mail for an organization					
Handle customers' bank transactions					
	1	2	3	4	5
Maintain the grounds of a park					
Operate a machine on a production line					

Spray trees to prevent the spread of harmful insects					
Test the quality of parts before shipment					
Operate a motorboat to carry passengers					
Repair and install locks					
	1	2	3	4	5
Develop a way to better predict the weather					
Work in a biology lab					
Invent a replacement for sugar					
Study genetics					
Study the governments of different countries					
Do research on plants or animals					
	1	**2**	**3**	**4**	**5**
Write scripts for movies or television shows					
Write a song					
Perform jazz or tap dance					
Direct a movie					
Sing in a band					
Design artwork for magazines					
	1	**2**	**3**	**4**	**5**
Teach disabled people work and living skills					
Organize activities at a recreational facility					
Take care of children at a day-care center					
Organize field trips for disabled people					
Assist doctors in treating patients					
Work with juveniles on probation					
	1	**2**	**3**	**4**	**5**
Be responsible for the operation of a company					
Market a new line of clothing					
Sell Newspaper advertisements					
Sell automobiles					
Manage a clothing store					
Sell merchandise at a department store					
	1	**2**	**3**	**4**	**5**
Record information from customers applying for charge accounts					
Photocopy letters and reports					
Record rent payments					
Enter information into a database					
Keep inventory records					
Maintain employee records					

The end Thank you!

Appendix A3

SURVEY INSTRUMENT

Ten Item Personality Inventory (TIPI)

Here are a number of personality traits that may or may not apply to you. Please write a number next to each statement to indicate the extent to which you agree or disagree with that statement. You should rate the extent to which the pair of traits applies to you, even if one characteristic applies more strongly than the other.

Disagree strongly	Disagree moderately	Disagree a little	Neither agree nor Disagree	Agree a little	Agree moderately	Agree strongly
1	2	3	4	5	6	7

I see myself as:

a _____ Extraverted (outgoing), enthusiastic.

b _____ Critical, quarrelsome.

c _____ Dependable, self-disciplined.

d _____ Anxious, easily upset.

e._____ Open to new experiences, complex.

f _____ Reserved, quiet.

g _____ Sympathetic, warm.

h _____ Disorganized, careless.

i _____ Calm, emotionally stable.

j _____ Conventional, uncreative.

Appendix A4

SURVEY INSTRUMENT

Demographic Data Sheet

Please answer all questions. Tick the appropriate box for items 2 to 6.

1. **Age:**

   _____

2. **Sex:**

   Male □ Female □

3. **Form:**

   Form three □ Form five □

4. **Subject cluster:**

   Vocational □ Academic □

5. **Highest level of education of male parent/guardian:**

   Primary □ Secondary □ Tertiary □

6. **Highest level of education of female parent/guardian:**

   Primary □ Secondary □ Tertiary □

Appendix B

LETTER OF APPROVAL FOR RESEARCH

MINISTRY OF EDUCATION
EDUCATIONAL PLANNING DIVISION
CHEPSTOW HOUSE, 56 FREDERICK STREET, PORT-OF-SPAIN
TEL/FAX: 625-0806

April 10th 2014

Ms. Ruthlyn Bastien
23 Granada Terrace
Harmony Hall
Marabella

Dear Ms. Bastien,

Your request to conduct your research entitled "**Career Development of Students in a Secondary School in South Trinidad**" has been approved.

Attached is a letter of confidentiality, which is to be completed and returned to the Educational Planning Division of the Ministry of Education by the person conducting research through the Ministry.

Yours Respectfully,

Mrs. Lenor Baptiste-Simmons
Director
Educational Planning Division
Ministry of Education

Appendix C

PARENT CONSENT FORM

12/04/14

Prestige High Secondary School

Parent's name: .....

Address: .....

Dear Parent,

I am currently conducting research for my Master's Degree with the University of the West Indies. Your child has been selected to be a participant in this research project. The research aims to identify the Vocational interests of students and match these interests to their personalities.

If you decide to give permission, your child will be required to complete a questionnaire at the school compound for approximately forty-five minutes and will be asked questions related to the stated research topic. You are assured that the information acquired from the exercise is confidential and your child's identity will remain unknown. The information will not be used against your child in any way. Your child's participation is voluntary and he/she can withdraw at any time. This will not affect your child's progress at school.

The research will be conducted by Ms. Ruthlyn Bastien, teacher of Technology Education at the Princes Town East Secondary School. For any questions I can be contacted at 354-1419.

Thank you for your kind co-operation.

I do not consent to my child being a part of the research.

.....

Parent's Signature

Appendix D

TURNITIN REPORT

CAREER DEVELOPMENT: FACTORS INFLUENCING THE VOCATIONAL INTERESTS OF SECONDARY SCHOOL STUDENTS AT THE PRESTIGE HIGH SCHOOL

by Ruthlyn Bastien

FILE	FACTORS_INFLUENCING_VOCATIONAL_INTERESTS.DOCX (901.04K)		
TIME SUBMITTED	30-JUN-2014 02:44PM	WORD COUNT	15510
SUBMISSION ID	436414978	CHARACTER COUNT	85475

CAREER DEVELOPMENT: FACTORS INFLUENCING THE VOCATIONAL INTERESTS OF SECONDARY SCHOOL STUDENTS AT THE PRESTIGE HIGH SCHOOL

ORIGINALITY REPORT

14%	9%	9%	6%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS