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OCCUPATIONAL STEREOTYPES AMONG HAITIAN HIGH SCHOOL SENIORS: THEIR RELATIVE IMPORTANCE TO CAREER ASPIRATIONS IN RELATION TO SELECTED VARIABLES AND THE IMPLICATIONS FOR EDUCATIONAL LEADERSHIP

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A Dissertation

Presented in Partial Fulfillment of the Requirements for the Degree

Doctor of Education

by

Michel Lamartine Porcena

March, 1983
OCCUPATIONAL STEREOTYPES AMONG HAITIAN HIGH SCHOOL SENIORS: THEIR RELATIVE IMPORTANCE TO CAREER ASPIRATIONS IN RELATION TO SELECTED VARIABLES AND THE IMPLICATIONS FOR EDUCATIONAL LEADERSHIP

A dissertation presented in partial fulfillment of the requirements for the degree Doctor of Education

by

Michel L. Porcena

APPROVAL BY THE COMMITTEE:

Chairman: Edward A. Streeter

Robert A. Williams

Wilfred Etticher

Larry Mahlum

External Examiner: Walter Douglas

Date approved: March 2, 1983

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Only God knows how high is the price a family pays for a dissertation.
May this project prove to be worthy of the support I have been given.
ABSTRACT

OCCUPATIONAL STEREOTYPES AMONG HAITIAN HIGH SCHOOL SENIORS: THEIR RELATIVE IMPORTANCE TO CAREER ASPIRATIONS IN RELATION TO SELECTED VARIABLES AND THE IMPLICATIONS FOR EDUCATIONAL LEADERSHIP

by

Michel Lamartine Porcena

Chairman: Edward A. Streeter, Ed.D.
One of the more important decisions confronting all young people across all cultures is the choice of an occupation. In recognition of this condition, researchers have suggested many factors as being influential in the career aspirations of students. Among these factors, occupational stereotypes have received a great deal of attention. 

Since no study was found in the literature either to determine the nature of occupational stereotypes among Haitian students or to compare their relative importance in relation to selected variables,
it was the purpose of this study to determine the nature of occupational stereotypes and their relative importance to career aspirations with implications for educational leadership.

Method

Eight high schools were chosen by a stratified random sampling method from all private secondary schools and "lycées" in Haiti to include males and females, capital city and provincial students, and students from three socio-economic levels. All available seniors were tested.

Three instruments were used to collect the data: the Self Directed Search, and two other instruments particularly designed for the study: a semantic differential scale with a six step rating scale applied to six occupational titles, and a paired comparisons instrument. The following statistical procedures were used: t-tests for a single sample mean and for two independent groups; multivariate analysis of variance followed by discriminant analysis; product moment correlation; and the paired comparisons scaling technique.

Findings

In light of the test of the hypotheses and the analysis of the adjusted scale values of the eight factors on the part of the total respondents and nine subgroups, the major findings of the study were:

1. Haitian high-school seniors' occupational stereotypes were significantly related to Holland's typology.

2. Various subgroups had more accurate stereotypes than other subgroups with respect to various occupations.
3. Respondents' career aspirations were congruent with realistic career choices as determined by their summary code on the SDS.

4. Students who made use of vocational guidance services did not have more realistic career aspirations than those who had not made use of such services.

5. Those who had a more correct understanding of occupations did not make more realistic career choices than those who had a less correct understanding of occupations.

6. After intellectual ability, occupational stereotypes were the most influential factor in the respondents' career aspirations.

Conclusions

In light of the findings of this study and the review of literature, the following conclusions were made:

1. The respondents' career aspirations were at variance with the manpower needs projection of the country.

2. The respondents overchose white collar jobs--particularly medical profession--and neglected many other necessary types of occupation for a developing country.

3. Guidance services and career education appeared to be a priority for Haiti.
CHAPTER I

INTRODUCTION

Around the world in the 1980s, with the number of occupations estimated at more than 20,000, selecting a vocation is a difficult as well as a very important decision. Such a decision confronts all young people across all cultures. In recognition of this condition, researchers from different backgrounds have formulated different theories of vocational development. Hoppock (1976) presents an overview of fifteen such current theories of the vocational development and choice process. Among these theories, Holland's typology of vocational choice which was published in 1966 and 1973 has received a great deal of attention and continues to challenge the imagination of many researchers.

A fundamental assumption underlying this theory is that people in the contemporary world have stereotypes of occupational group members and that these stereotypes have some degree of validity. An implicit corollary to Holland's basic assumption is that the perceptions which people have of the roles played by the members of various occupations exert an important influence in determining which occupations they want to consider as their first or second choice. The present study is concerned with that particular aspect of the theory, namely,
the nature of occupational stereotypes with regard to career aspirations of selected Haitian high-school seniors and the implications for educational leadership.

Statement of the Problem

Research studies on occupational stereotypes were found in literature on vocational exploration and choice process. However, no study was found to have been undertaken that compared the relative importance of occupational stereotypes in relation to other variables such as interest, parental influence, peer influence, intellectual ability, manpower needs, prestige, and sex. Nor had any study been undertaken with the explicit purpose of determining the nature of occupational stereotypes among Haitian students. Since efforts are being made on the part of the Haitian government to help the young people of the country assess their possibilities and set realistic occupational goals, the present study could prove useful to educational leaders.

Purpose of the Study

The purpose of this study was to determine the nature of occupational stereotypes among a sample of Haitian high-school seniors and their relative importance in relation to selected variables with implications for educational leadership. In order to accomplish an adequate treatment of the problem, the following sub-problems were identified:

1. Were stereotypes of selected occupations held by the
subjects generally consistent with Holland's theoretical formulations for each category they represent?

2. Were the career aspirations of the subjects consistent with their major personal orientation?

3. What was the relative importance of the occupational stereotypes that the subjects hold in relation to the following selected variables: interest, parental influence, peer influence, intellectual ability, manpower needs, prestige, and sex?

4. What were the implications for educational leadership?

Need for the Study

During the decade of the 1960s, countries that had been reluctant to develop a guidance program began to provide financial support for vocational guidance services. Thus, in 1973, by presidential decree, a center for vocational guidance and psychological research was initiated in Haiti. The purpose of this center was to help young people acquire a better understanding of their own possibilities and set realistic occupational goals according to their aptitude, interests and the changing conditions of the labor market (Le Centre d'Orientation Professionnelle et de Recherches Psychologiques: Buts et Organisations, p. 1).

To help the center implement its goals, a second presidential decree published in the MONITEUR (1976) stated the activities that lay within the scope of its duties as follows:

a. To administer psychological tests to workers, to assess their physical and intellectual abilities, to determine their cultural
level, and to guide them toward occupations best suited to their personal characteristics.

b. To undertake psychological research in the labor market, in the social milieu, and in schools and universities, and to devise psychological tests best suited to the Haitian culture.

c. To help the counselee make a realistic choice of his or her occupation according to aptitudes and interests on one hand, and according to the resources of the milieu in terms of employment and training on the other.

d. To provide the most complete and appropriate information related to the labor market, such as manpower needs, the development of professional careers and training centers, the qualifications of prospective workers, the variety of specialization, the possibilities of training, the laws and collective bargaining practices governing labor and professional relations in Trades Union, etc.

e. To proceed to the most complete and exhaustive assessment of the aptitudes and interests of individuals in relation to the kind of work, the professional, or the technical training they are considering.

f. To determine through objective research the needs and priorities of the milieu in terms of manpower, employment, and training.

g. To develop new instruments and methods of assessing instruments already available with regard to particular characteristics of the Haitian population and national culture.

h. To keep a periodical inventory and an exhaustive classification of occupations in the Haitian labor market.
i. Through appropriate counseling, to help workers improve the quality of their occupational efficiency and to adapt satisfactorily to their present job.

j. To provide services to all individuals involved in a type of work or employment likely to yield a profitable return to the community, to all children and adolescents attending school or in training, to adults and elderly citizens capable of producing some return within the limits of their physical, technical, and intellectual abilities, and to the handicapped.

More recently, in January 1982, the Haitian Ministry of Planning issued a document entitled Manpower-Employment and Human Resources. The purpose of the document was twofold: (1) to gather available information and data related to demography, employment, education, professional training, etc.; (2) as far as socio-economic analyses are concerned, to state hypotheses that will serve as a base for discussion by specialists and those who are responsible for the services or the organizations concerned. Particularly relevant to the present study is a complete overview given by the document on qualified manpower needs and availability of manpower needs in Haiti.

In the light of the aforementioned document and the previous statements describing the activities that lay within the scope of the Haitian Guidance Center, the need for this study is placed in perspective. Guidance services are new in Haiti. As such, research related to vocational development, career aspirations, and occupational stereotypes is non-existent in the literature. Moreover, to the best of the investigator's knowledge, no study has been reported to determine the
relative importance of occupational stereotypes in relation to other variables that correlate with career aspirations. Therefore, there is the need to inform counselors in Haiti and elsewhere about those issues related to their profession.

However, beyond this need, the study should have practical implications not only for those who are entrusted with the responsibility of implementing the goals of the vocational guidance program newly initiated in Haiti but particularly for educational planners. Specifically, if the perceptions that Haitian high-school seniors have of specific occupations exert a strong influence on their career aspirations, aid should be given to help them have accurate stereotypes of occupations and broaden their knowledge of careers so that their choices are not influenced by inaccurate stereotypes. Initially, one procedure would be to provide schools with enough supporting agencies to assist the students upon the completion of each cycle of studies, with the choice of an occupation best suited to their aptitudes, interests, and manpower needs. Secondly, the integration of career education in the curriculum would be a valuable strategy to help the educational planners face successfully the challenge of preparing the young people who should play a significant role in a developing country such as Haiti.

**Background of the Problem**

The data for this research were collected in Haiti, an independent republic in the West Indies which occupies the western third of the Island of Hispaniola. Its population is estimated at about five
million. According to the document prepared by the project HAITI/ PNUD/UNESCO (1979), not only were 75 percent of the population illiterate but the percentage of student enrollment was very low. Yet, the importance of education in economic development is well established in Haiti. Rotberg and Clague (1971) acknowledged this by saying that, for Haitian planners, changes in the percentage of literacy and growth rates of education were among the most critical variables in the economic development of the country. This was made evident by M. Joseph C. Barnard, former Minister of National Education, in his address in April 1979. He said

Today, to talk about the importance of education in pursuit of development is a truism. The time is over when education and some other supporting services were considered in the plans of development as non-productive activities. The most recent investigations have indicated how it is indispensable to determine economic objectives and anticipate employment in the light of educational needs and vice-versa. (The Reformation of the Haitian Educational System, p. 4)

Haitian people value education. From the time of independence in 1804, some leaders, according to Loghan (1968), started building an educational system on the physical, financial, and cultural ruins of the war for emancipation. One of the first leaders of the country, King Christoph, faced the challenge of education by founding a military school in 1811 and the first "lycée" in 1813 with French as the language of instruction.

Although the University of Haiti was not created until 1944, Fontaine (1977) cites five of its nine schools as having their roots in the nineteenth century. In 1981, approximately 4,000 students
attended the different faculties of the State University of Haiti and four private schools of higher education.

The Haitian educational system, like other educational systems, has its problems. Bernard stated that fact clearly in the address already cited. Only three statements are quoted here:

Our educational system as a whole is not at all appropriate to the needs of the country and hence hinders us from solving our problems of development.

There are no laboratories in the schools to arouse and develop inclination for research and observation among the students.

The rare solutions proposed to some problems are often subjective and not the results of scientific research. (The Reformation of the Educational System, p. 6)

Moreover, before 1973, there was no agency, either official or private, whose aim was to assist students, upon their completion of primary or secondary school, with the choice of an occupation best suited to their aptitudes and corresponding to the situation of the labor market. The vocational guidance services initiated in 1973 were important to help solve the problems associated with career choice. But since the lack of trained guidance personnel constituted a handicap in trying to meet the needs of about 90,000 students attending secondary schools, there still are some problems associated with the career aspirations of Haitian young people. Seligman (1977) observed that:

Many Haitians tend to reject fields such as teaching, business, and technology that have been frequent career choices of upwardly mobile young adults from other backgrounds. Instead, Haitian young people typically regard health professions as the most satisfying and prestigious fields. (p.411)

If the foregoing observation could be proved correct, it would
behove educational leaders to provide means to assess the character and strength of the human resources of the country.

A plan of reform is being undertaken. Since 1979, elementary and secondary schools in Haiti have changed their style. The project HAITI/PNUD/UNESCO (1979) outlined the four main cycles of education and training in the new system as follow:

"Ecoles Fondamentales," consisting of three successive cycles:

1. The first cycle of 4 years begins in principle at the age of 6.

2. A second cycle of 3 years, leading to the primary studies certificate (Attestation de fin d'Etudes Primaires) and entitling its possessor to start the third cycle.

3. A third cycle of 3 years leading to the diploma of "Etudes Fondamentales" and entitling its possessor to attend secondary schools, "lycées," or private secondary schools, "Ecoles Normales," and technical or vocational schools.

At the end of each cycle of the "Ecoles Fondamentales," the new structure offers successive levels of skilled technical and professional training, and at the same time gives the possibility of reinstatement in the corresponding cycle of "Enseignement Fondamental."

The Secondary School or the Fourth Cycle. In the new structure, the secondary school consists of three years in the "lycées" or "college d'enseignement general" corresponding according to the French way of numbering classes--to the second, the first, and the terminal classes. This three-year program leads to the "secondary education baccalaureat," which is, according to King (1979), referring to the French system, the first grade of the university to which it
traditionally gives right of access. The sample for this investigation was drawn from that particular group.

From the foregoing it appears that, in the implementation of the new structure of the Haitian system of education, the position of the vocational guidance services is pivotal. This is made evident by the relationship of schools to work in the new system. But, in the light of the problems associated with career exploration and choice process, more research is needed in Haiti specifically in the area of the career aspirations of the Haitian young people. The present study dealing with occupational stereotypes and career aspirations is intended to bring a valuable contribution to the field of vocational guidance in Haiti.

An Overview of Holland's Theory

Since Holland's theory of vocational choice is the only well-known theory incorporating the concept of occupational stereotypes in its formulation and since it was selected as the theoretical framework within which the hypotheses of this study was tested, a review of the theory follows.

The theory proposed by Holland (1966, 1973) is based on four fundamental working assumptions. First, he assumes that most people in Western culture can be categorized as resembling one of six personality types: realistic, intellectual or investigative, artistic, social, enterprising, and conventional. The definitions and descriptions of each type as summarized by Holland grew out of the findings
in vocational research about characteristics of people in various occupations. According to Holland (1966):

The realistic type is masculine, physically strong, unsociable, aggressive, has good motor coordination and skill; lacks verbal and interpersonal skills; prefers concrete to abstract problems; conceives of himself as being aggressive and masculine and as having conventional political and economic values. Electrician and airplane mechanic are two exemplary occupational groups.

The intellectual type is task-oriented, intracceptive, asocial, prefers to think through rather than act out problems; needs to understand; enjoys ambiguous work tasks, has unconventional values and attitudes; is anal as opposed to oral. Anthropologist and biologist are intellectual types.

The social type is sociable, responsible, feminine, humanistic, religious; needs attention; has verbal and interpersonal skills, avoids intellectual problem solving, physical activity, and highly ordered activities; prefers to solve problems through feelings and interpersonal manipulations of others; is orally dependent. Psychiatrist and high-school teacher are social types.

The conventional type prefers structured verbal and numerical activities and subordinate roles; is conforming (extracceptive); avoids ambiguous situations and problems involving interpersonal relationships and physical skills; is effective at well-structured tasks; identifies with power; values material possessions and status. Bookkeeper, payroll clerk are conventional.

The enterprising type has verbal skills for selling, dominating, leading; conceives of himself as a strong, masculine leader, avoids well-defined language or work situations requiring long periods of intellectual effort; is extracceptive; differs from the conventional type in that he prefers ambiguous social tasks and has a greater concern with power, status and leadership; is orally aggressive. Business executive, speculator are enterprising types.

The artistic type is asocial: avoids problems that are highly structured or require gross physical skills; resembles the intellectual type in being intracceptive and social; but differs from that type in that he has a need for individualistic expression, has less ego strength, is more feminine, and suffers more frequently from emotional disturbances; prefers dealing with environmental problems through self-expression in artistic media. Musician, commercial artist are artistic types. (pp. 16, 17)

To determine a person's individuality type, that is, which type he or she resembles most, Holland (1973) suggests comparing the
person's attributes with those of each model type. Hence, it is also possible to determine what other types he or she resembles. One's total resemblance to each of the six types forms a pattern that Holland termed the person's personality pattern.

The second working assumption of the theory is the concept of environment. Holland (1966) proposed six kinds of environments: realistic, investigative, artistic, social, enterprising, and conventional. In a reformulation of the theory, Holland (1973) commented that

Each environment is dominated by a given type of personality, and each environment is typified by physical settings posing special problems and stresses. For example, realistic environments are "dominated" by realistic types of people, that is, the largest percentage of the population in the realistic environment resembles the realistic type. (p. 11)

The third working assumption indicates that people search for environments that will let them exercise their skills and abilities, express their attitudes and values, and take on agreeable problems and roles; i.e., social types tend to seek social environments, while conventional types tend to seek conventional environments.

As to the fourth key assumption, Holland proposes that a person's behavior is determined by an interaction between his personality and the characteristics of his environment, that is, on the basis of knowledge of the personality pattern and environment, one can predict a person's behavior.

Holland's theory has generated a considerable amount of research. For the period 1972-1975, Career Education - A Dissertation Index (1976) published by University Microfilms International, lists
fifty-three doctoral dissertations dealing with one aspect or another of Holland's theory of career. Wong Yew Chong (1976) reported, for the same period, that more than 150 articles, dissertations, conventions, papers, and monographs related to Holland's theory of careers and assessment devices had been written. The theory continued to receive considerable research attention during the period 1976-1982. A high percentage of those research studies provide support to Holland's theory. Osipow (1973) provides an excellent summary of these studies through 1972. Similarly, *Journal of Vocational Behavior* (1976-1982) provides an overview of different research dealing with Holland's theory. Holland himself devoted a considerable amount of research to test his theory.

To aid in the understanding of the theory, Holland (1966, 1973) offered several background principles as follows:

1. The choice of a vocation is an expression of personality.
2. Interest inventories are personality inventories.
3. Vocational stereotypes have reliable and important psychological and sociological meanings.
4. The members of a vocation have similar personalities and similar histories of personal development.
5. Because people in a vocational group have similar personalities, they will respond to many situations and problems in similar ways, and they will create characteristic interpersonal environments.
6. Vocational satisfaction, stability, and achievement depend on the congruence between one's personality and the environment (composed largely of other people) in which one works.
The present research is concerned with the third background principle, namely, "vocational stereotypes have reliable and important psychological and sociological meanings." In his comment on this statement, Holland (1973) said:

"Just as we judge people by their friends, dress, and actions, so we judge them by their vocations. Our everyday experience has generated a sometimes inaccurate but apparently useful knowledge of what people in various occupations are like. Thus, we believe that plumbers are handy, lawyers aggressive, actors self-centered, salesmen persuasive, accountants precise, scientists unsociable and the like." (p. 8)

Holland (1973) cited O'Dowd and Beardslee (1960, 1967) and Marks and Webb (1969) as evidence to support the idea that people's stereotypes of occupations representing each of the six categories have some validity and were generally consistent with the theoretical formulations for each category.

In the literature, the following approaches have been employed as operational definitions of stereotypes: simulation of an interest pattern on the Strong Vocational Interest Blank (Bordin, 1943; Garry, 1953; Gehman, 1957; Kelso & Bordin, 1948; Longstaff, 1948; Steinmetz, 1932; Wallace, 1950); subjects' response to adjective checklist (Burgess, 1954; Clift, 1976; Hollander & Parker, 1969, 1972); open-ended query (Holland, 1963-1964); simulating the responses of an occupational group member on the Vocational Preference Inventory (Elmendorf, 1972); and bipolar or semantic differential-type rating scale. (O'Dowd & Beardslee, 1960; Osgood & Stagner, 1941; Osipow, 1962; Ulrich, Hechlik & Roebber, 1961).

Bipolar or semantic-differential rating scales have been selected as the operational definitions of stereotypes in this study.
with the particularity that the descriptive adjectives are those used by Holland (1973) to describe different occupational group members. The rationale for selection of this operational definition stems from the fact that the study is a kind of cross-cultural research. Since the procedure involves concepts, the semantic differential seems particularly appropriate.

Hypotheses

In order to provide an adequate answer to the question under investigation in the present study, the following research hypotheses were tested.

1. Subjects' stereotypes of the six occupations selected are significantly related to Holland's theoretical formulations of the model category they represent.
   a. Subjects' stereotypes of a selected realistic occupation are significantly related to the realistic type described by Holland.
   b. Subjects' stereotypes of a selected investigative occupation are significantly related to the investigative type described by Holland.
   c. Subjects' stereotypes of a selected artistic occupation are significantly related to the artistic type described by Holland.
   d. Subjects' stereotypes of a selected social occupation are significantly related to the artistic type described by Holland.
e. Subjects' stereotypes of a selected enterprising occupation are significantly related to the enterprising type described by Holland.

f. Subjects' stereotypes of a selected conventional occupation are significantly related to the conventional type described by Holland.

2. There is no difference in the degree of consistence of the stereotypes of the selected occupations on the part of male and female students.

3. There is no difference in the degree of consistence of the stereotypes of the selected occupations on the part of students from private secondary schools and "lycées".

4. There is no difference in the degree of consistence of the stereotypes of the selected occupations on the part of students from Port-au-Prince, the capital city, and the provinces.

5. There is no difference in the degree of consistence of the stereotypes of the selected occupations on the part of students from high, middle, and low socioeconomic level.

6. Those students who have made use of Vocational Guidance Services have more accurate stereotypes of the selected occupations than those who have not made use of such services.

7. There is no congruence between the subjects' career aspirations and realistic career choices as determined by their summary codes on the Self Directed Search (SDS).

   a. There is no congruence between the total respondents' career aspirations and realistic career choices as
determined by their summary codes on the SDS.

b. There is no congruence between the male subjects' career aspirations and realistic career choices as determined by their summary codes on the SDS.

c. There is no congruence between the females subjects' career aspirations and realistic career choices as determined by their summary codes on the SDS.

d. There is no congruence between the career aspirations of the subjects from private schools and realistic career choices as determined by their summary codes on the SDS.

e. There is no congruence between the career aspirations of the subjects from the "lycées" and realistic career choices as determined by their summary codes on the SDS.

f. There is no congruence between the career aspirations of the subjects from Port-au-Prince and realistic career choices as determined by their summary codes on the SDS.

g. There is no congruence between the career aspirations of the subjects from the provinces and realistic career choices as determined by their summary codes on the SDS.

h. There is no congruence between the career aspirations of the subjects from high socio-economic level and realistic career choices as determined by their summary codes on the SDS.
i. There is no congruence between the career aspirations of the subjects from middle socio-economic level and realistic career choices as determined by their summary codes on the SDS.

j. There is no congruence between the career aspirations of the subjects from low socio-economic level and realistic career choices as determined by their summary codes on the SDS.

8. Those students who have made use of Vocational Guidance Services have more realistic career aspirations than those who have not made use of such services.

9. Those students who have a more correct understanding of occupations make more realistic career choices than those who have a less correct understanding of occupations.

**Definition of Terms**

**Aspiration:** a strong desire or ambition to achieve a goal.

**Career:** a chosen profession requiring special preparation in which one is involved for his or her life work.

**Baccalauréat:** a secondary-school leaving examination in the French system of education. It is a state examination given in Haiti in two quite distinct parts: part I in the penultimate and part II in the final year of the "lycées" or private secondary schools. As well as being a passport to the university, the baccalauréat is also a restricting filter. The failure rate is very often over 50 percent.

**Career Development:** A term used to describe the accumulation
of individual experiences related to work, both before and after entry into an occupation.

Career Education: educational programs and curriculums at many different developmental levels, and provided by several types of delivery systems, which provide experiences designed to help individuals become oriented to, select, prepare for, enter, become established, and advance in an individually satisfying and productive career. (Bailey & Stadt, 1973)

College d'Enseignement Général: private secondary schools consisting of three years of study in the new structure of the Haitian educational system.

"Créole": one of the two distinct languages spoken in Haiti. It is the mother tongue and sole language of about 75 percent of the population. Though French is the official language only the educated minority understands and speaks it.

Cycle: a period of study designed to cover a curriculum in three or four years.

"Diplome d'Etudes Fondamentales": the name of the diploma conferred upon the students who complete the three cycles of the "Ecoles Fondamentales." It gives access to schools of secondary level, primary normal schools, and technical or vocational schools.

"Ecoles Fondamentales": basic education and training leading to the diploma of "Etudes Fondamentales" after ten years of schooling. It consists of three successive "cycles."

"Ecoles Normales": teachers training schools for elementary teachers.
"Enseignement Fondamental": the curriculum offered in the three cycles of the "Ecoles Fondamentales."

Faculty: Public School of Higher Education in Haiti.

Formal Organization: an organization based on a set of rules and position arranged in a hierarchical order and officially established to achieve the goals of the organization.

"Lycées": Public secondary schools traditionally offering seven years of study and leading to the selective state examination "baccalauréat."

Occupational Stereotypes: the perceptions or the images one has of people in various occupations. As used by Holland, it is a useful knowledge of what people in various occupations are like.

Organization: "the process of arranging independent elements into a functional or logical whole" (Good, 1973).

Secondary Schools: "Lycées" or private schools providing in the new structure three years of study leading to the secondary education "baccalauréat."

Social System: "the patterned series of interrelationship existing between individuals, group, and institutions" (Websters).

Subsystem: a division or a component of a system.

Suprasystem: a comprehensive organization consisting of several systems and subsystems.

System: as defined by Good (1973) is "the structure of organization of an orderly whole, clearly showing the interrelationship of the part to each other and to the whole itself" (p. 580).

Value Added: a concept used in economics and business to
indicate the difference between the purchase price of raw materials or finished parts and the sale price of the product.

**Delimitations of the Study**

This research was concerned with seniors attending private and public secondary schools only during the academic year 1981-1982. Therefore, other seniors of technical schools or teacher training schools were excluded.

Before randomly selecting the population of this study, one "lycée" was excluded because of problems related to distance.

**Limitations**

Since the guidance and counseling program is new in Haiti, most of the students are not well informed concerning the variety of occupations available in the world of work.

Due to a lack of objective research to determine the social standing of the subjects, their classification in three different social groups was more or less subjective. Nevertheless, taking into consideration some particularities of the country, it was possible to use the following criteria in this classification: (1) the profession of the students' parents; (2) the type of schools they attended; (3) research done on social stratification.

**Assumptions of the Study**

It was assumed in this study that:

1. Haitian high-school seniors can and are willing to express their perception and their beliefs of the six occupations selected to determine the existence of stereotypes among the sample.
2. The subjects can and are willing to indicate their first and their second choice of occupations when asked to do so on a research instrument.

3. A knowledge of the first and second choice of occupations selected by the subjects can help determine their career aspirations.

4. A knowledge of the importance of occupational stereotypes to the career aspirations of the subjects may be useful to educational planners.

**Organization of the Study**

The study is organized into five chapters:

Chapter I presents: (1) statement of the problem; (2) purpose of the study; (3) need for the study; (4) background of the problem; (5) research hypotheses; (6) definitions of terms; (7) delimitations of the study; (8) limitations of the study; (9) assumptions of the study; (10) organization of the study.

Chapter II surveys the literature. It includes: (1) literature related to occupational stereotypes; (2) a brief survey of literature pertaining to the roles of educational leaders as problem solvers, decision makers, and change agents; (3) official documents of the Haitian government related to education, vocational guidance, and manpower needs.

Chapter III presents the methodology used in the study. Chapter IV contains the findings and the interpretation of the results. Chapter V gives the summary, the discussion of the results and the implications of the findings for educational leadership, and recommendations for further research.
CHAPTER II
REVIEW OF LITERATURE

From the 1950s to the 1980s, increasing speculation and research have been devoted to factors which underlie choice and progress in an occupation. Hoppock (1976) summarized fifteen current theories ranging from socio-economic explanations to psycho-analytic interpretations of the vocational development and choice process.

It is not surprising to find a wide variety of viewpoints concerning vocational development. A review of the literature by Shertzer and Stone (1976) on factors influencing occupational choice indicated that the choice of an occupation can be influenced by a multiplicity of factors. Thus, there is already in existence a bulk of literature dealing with one aspect or another of vocational development. However, for the purpose of this study which is concerned mainly with occupational stereotypes among a sample of Haitian high school seniors, this review is limited, first of all, to literature pertaining to occupational stereotypes. Then, inasmuch as the study should have practical implications for educational leadership in Haiti, a brief review of the literature on the roles of educational leaders follows. Finally, an overview of a limited number of documents prepared by different agencies of the Haitian government--particularly those relevant to the problem under consideration--is presented.
The first part of the review, focusing on research done in the United States on various aspects of occupational stereotypes, is subdivided into five sections. The first focuses on research indicating the existence of the occupational stereotypes phenomenon; the second reports research done on the perceptual dimensions of occupation; the third deals with literature pertaining to the accuracy of occupational stereotypes; and the fourth focuses on occupational stereotypes and other correlated factors that influence career choice. Finally, the fifth part presents a few studies indicating how to reduce or to minimize occupational stereotypes.

**Occupational Stereotypes**

**Existence of Occupational Stereotypes**

In the psychological literature, Walter Lippman has been given credit for coining the term "stereotype" and giving it an explicit definition. In his book, *Public Opinion* (1922), Lippman delineated the concept of stereotype in the framework of public and international affairs and presented a thorough explanation of the term. He referred to it as "the pictures in our heads" which make up a repertory of fixed impressions of the environment or a part of it.

A few years after Lippman's publication, the first of a series of studies concerning occupational stereotypes was inaugurated with Rice (1928) in an attempt to secure statistical evidence for the existence of stereotypes. Rice obtained a series of photographs of men engaged in certain professions and asked college students and members of a Vermont Grange, acting in the capacity of observers, to
select the social type represented by each photograph.

To establish the fact that the two groups of subjects could at a better-than-chance expectation correctly identify the occupations of those photographed persons, Rice used two criteria: (1) the number of correct identifications exceeding a chance value and (2) the index of departure from expectation. On these bases, Rice found that the stereotypes could be statistically distinguished for both groups, but that the Grange members showed a greater concentration of opinion. He interpreted his findings as evidence supporting the use of occupational stereotypes on the part of subjects, thus confirming their existence.

Other studies (Child, 1936; Gahagan, 1933; Litterer, 1933) have used the same "photograph methodology." Litterer (1933), repeating Rice's investigation with a different set of photographs, found that the number of correct identifications exceeded a chance value to an extent which suggested the influence of stereotypes. Since his sample of observers consisted of university students and businessmen, one point of difference emerged between Rice's results and Litterer's: businessmen did not have a higher concentration of opinion than was found for the university men. However, in spite of this difference, Litterer's findings did not disprove Rice's results. Thus, Litterer could conclude that the stereotypes of university students and businessmen issued out of a common, general experiential background.

Studies by Child (1936) and Gahagan (1933) also confirmed the existence of stereotypes in people's minds. In both studies, judgment of occupations from printed photographs showed a proportion of correct judgments significantly greater than, though not far above, the chance proportion. Gahagan concluded in his study that judgment was most
frequently the result of total impression and that the asserted bases were often in the nature of rationalizations of the judgments given.

A second line of results based upon stereotypes of occupations was obtained in work with inventories of vocational interests. Bordin (1943) formulated a theory of the nature of vocational-interest phenomena relevant to the question of the existence and accuracy of occupational stereotypes. Bordin contended that, in answering a Strong Vocational Interest test, an individual is expressing his or her acceptance of a particular view of self in terms of occupational stereotypes. According to Bordin, the concept of the self is not something which appears full blown at some particular stage in the individual's development as some purely physiological trait might be expected to be. Rather, it is a result of a series of experiences in the individual's history which may find their focus at some early or late stage of development, depending upon the particular combination of events.

To further clarify the implications of his basic statement, Bordin stated two corollaries: (1) the degree of clarity of an interest type varies positively with the degree of acceptance of the occupational stereotype as self descriptive, and (2) the degree of clarity of an interest type varies positively with the degree of knowledge of the true occupational stereotype. Bordin also pointed out that there are two hidden assumptions in the second corollary, namely, that the occupational stereotypes implicit in the Strong Blank are true stereotypes of the occupations involved and that all occupations can truly be stereotyped.
To test this theory, Bordin asked twenty-five graduate students who had previously taken the Strong to take it again. In this sample, five subjects were asked to simulate a medical pattern for group I, six to simulate an engineering pattern for group II, five to simulate an accounting pattern for group XIII, four to simulate a salesman pattern for group IX, and five to simulate a lawyer pattern for group X. Invariably, the subjects were successful in simulating the interest type requested. Bordin questioned the subjects as to the method used in the simulation. Without any exception, they said that they had answered in terms of their impressions of what the typical salesman, doctor, accountant, engineer, and lawyer would say. Bordin concluded they were expressing their stereotype of a salesman, doctor, accountant, engineer, and lawyer. Thus this study provided evidence to support the existence of occupational stereotypes and their relative accuracy.

Several other studies were conducted from 1932 to 1957 with the purpose of investigating the existence of occupational stereotypes through the determination of subjects' ability to fake vocational interest. In all those studies, subjects were requested to fake high scores on designated scales of the Strong Blank.

Steinmetz (1932) asked a group of forty-eight volunteer students recruited at San Mateo Junior College, California, to fill out the Strong Vocational Interest Blank. About one month later, the students were retested but with the assumption in mind that they were applicants for the position of principal of a small junior high school and that everything depended upon their ability to rate high in one thing: teacher administrator. The results of this study indicated, among
other findings, that: (1) students were able intentionally to distort their scores on an interest blank and to succeed in qualifying well for an occupation chosen at random, despite a low average initial predilection; (2) students were able to improve their scores markedly when they tried, and this was inversely related to true scores.

Longstaff (1948) explored the fakability of the Strong Interest Blank and the Kuder Preference Record. A sample of fifty-nine students including twenty-four women and thirty-five men took the Strong in the first session. In the same session, twenty-two women and thirty-seven men took the Kuder. The subjects were asked to be as frank and honest as possible as the results would be used to help them in evaluating their vocational choices. In a second session, it was pointed out to the respondents that part of the value of a psychological test to be used in selecting employees was its imperviousness to malingering and here was a chance for them to discover how well they individually could fake the results on the two measuring devices. The subjects were instructed to lower their scores on some divisions and try to raise them on some other divisions on both tests. The findings of the study indicated that even under the very complex and difficult situation of simultaneously faking several different interest categories upward and downward, both the Strong and the Kuder tests were vulnerable.

Gehman (1957), using the Strong Vocational Interest Blank for men, designed a study to determine how effectively one homogeneous interest group could simulate the interest patterns of quite a different group. Sixty-one senior engineering students (24 civil, 37 mechanical) were asked to mark, in the usual manner, the Strong Vocational...
Interest Blank for men. Three weeks later, the work performed by men classified by Strong as group V (social) was described to the students before they answered the test as they thought representative men in occupational group V would answer. The mean score of these engineering students for occupational group V on the first test was found to be 34.98 (B rating) whereas the mean score for the same occupational group on the second test was found to be 59.57 (A rating). The result of this study suggests that the subjects were able to fake their scores in the direction requested by the investigator.

Continuing in the same line of investigation, other investigators (Garry, 1953; Kelso & Bordin, 1948; Steward, 1947; Strong, 1943; Wallace, 1950) have completed studies dealing with the ability of the subjects to deliberately falsify their responses in elevating their scores when requested to do so.

Though all those studies demonstrated the ability of the sample to simulate successfully the patterns of a specified occupational group, from the studies of Longstaff and Garry it appears some occupations are more easily faked than others by all members of the group. In general, the findings suggest: (1) some students can fake better than others and (2) some students have a more accurate stereotype of the occupation in question than do other students.

A third line of investigation which concerns the existence of occupational stereotypes was originated by Counts (1925) with a study on the prestige ranking of occupations. Counts was concerned at what he felt to be a widespread disregard of social status as a determiner of vocational choice. Forty-five occupations chosen more or less at
random from the entire vocational range were selected for the purpose of the study. Those occupations were submitted to six groups of persons to be ranked according to social standing.

By tabulating the ranking assigned to the different occupations by the various individuals within each group, the researcher was able to secure a single rank for each occupational group. The findings of this study revealed that there was remarkable agreement among the six groups. Moreover, the coefficients of correlation were all above .90. In one instance the correlation was .97. Thus, the investigator concluded that: (1) on the whole, the various teaching occupations were given high ranks and (2) there were clear-cut differences in the social status of occupations because some of them, at least according to the views of the groups investigated, received a much higher social rating than other occupations.

Twenty-two years later, Deeg and Paterson (1947) replicated Count's study but modified the procedures by reducing the list of occupations from forty-five to twenty-five. Their purpose was to determine whether the social status of occupations were affected by the depression and World War II. Their results showed little overall change from those reported by Counts. In fact, the correlation between the two sets of ranking was .97.

Roe (1956) also reviewed a long sequence of subsequent investigations into the prestige ranking of occupations which revealed the great stability of the occupational prestige structure over a thirty-year period for many different types of subjects.

Kahl (1957) gave an overview of a very important study done
by the National Opinion Research Center (NORC), under the stimulus of Professor Cecil C. North and Professor Paul K. Hatt. This study was based on the opinions of 2,920 persons, representative of the entire adult population of the United States. The respondents were asked to give their opinion of a list of ninety occupations. The ratings were manipulated so as to arrange the occupations in a rank order of "general standing" or prestige. The results of this study showed that the public had a prestige scale in mind and could place various occupations on that scale with considerable consensus.

Inkeles and Rossi (1956) investigated the prestige accorded by popular opinion to comparable occupations in six industrialized countries: United States, Great Britain, New Zealand, Japan, U.S.S.R., and Germany. Despite the cultural differences among the six nations, high correlations ranging from .74 to .97 were found indicating that the occupations were ranked in a relatively standard hierarchy. Thus, the investigators concluded:

... our examination of occupational rating in six modern industrialized countries reveals an extremely high level of agreement, going far beyond chance expectancy, as to the relative prestige of a wide range of specific occupations, despite the variety of socio-cultural settings in which they are found. This strongly suggests that there is a relatively invariable hierarchy of prestige associated with the industrial system, even when it is placed in the context of larger social systems which are otherwise differentiated in important respects. (p. 339)

Forty-two years after the original Count's study, Hakel, Hollmann, and Dunnette (1968) replicated the Deeg and Paterson study. They found a striking similarity between the results found by Count, Deeg and Paterson, and their own results. Very little relative change has been noted in the prestige ranking of occupation.
Two recent studies relative to Counts' (Braun & Bayer, 1973; Plata, 1975) replicated the Deeg and Paterson study with different samples. Again, the results of those two studies indicated that there had been very little change in the overall prestige ranking of occupations over forty-nine years. These findings hold true irrespective of sex, age, socio-economic status, race, and educational levels of the type of the population sampled.

Though the foregoing investigations were not undertaken with the explicit purpose of determining the existence of occupational stereotypes, they constitute nevertheless important evidence as to the existence and the accuracy of occupational stereotypes.

**Perceptual Dimensions**

Studies bearing on the perceptual dimensions of occupational stereotypes are somewhat diverse in their methodology. They are grouped together because they assume the existence of occupational stereotypes.

In an attempt to determine high-school students' perceptions of occupations, Grunes (1956) carried out a study in eight high-schools in various parts of the United States. The investigator asked the subjects to group fifty-one occupations representing all the major categories found in the *Dictionary of Occupational Titles*. Subjects were also required to give each group a title which would indicate what kinds of jobs belong under it. Data were tabulated and coded to indicate the jobs which tend to be placed in the same groups and the grouping categories utilized by the students. Although some
occupations were not placed in any cluster, subjects were found to share a common perception which jobs are basically alike and which are unlike.

Walker (1958) asked 24 university students enrolled in an introductory course in psychology to name from a list of 112 adjectives the five which best described each of the ten occupations selected for the study. Borrowing the methodology used by Katz and Braly (1933) in a study devised to investigate ethnic and racial stereotypes, Walker wanted to see whether the same technique would yield comparable occupational stereotypes that would be relevant to industrial relations. The technique of Katz and Braly required subjects to choose from a list of eighty-four adjectives the five which in their opinion best described members of a particular ethnic group. Their criterion to measure the strength of stereotype was the least number of adjectives sufficient to account for half the total number of adjectives checked. Since Walker used 112 adjectives, perfect agreement among subjects on all five adjectives to characterize one occupational group would result in an index of 2.5; on the other hand, perfect disagreement would result in an index of 56. The findings of Walker's study indicated that of the ten occupational groups, the doctor was the most highly stereotyped, with 7.9 adjectives to account for half the total number of adjectives checked. The trade union leader was the least stereotyped with 15.5 adjectives to account for half the total.

Subjects were also divided by sex, political views and different occupations they expected to enter. No differences in the stereotypical indices were found among them. Comparing these results with
those obtained by Katz and Braly, Walker concluded that occupational stereotypes are approximately as strong as ethnic stereotypes. Thus, the existence of occupational stereotypes was implicitly supported.

O'Dowd and Beardslee (1960) borrowed the methodology of an early study by Osgood and Stagner (1941) to investigate the stereotypes held by college students. Osgood and Stagner devised a two-ended seven-point rating scale to determine the stereotypes held by students of men in fifteen different occupations. It was found that decisions about characteristics of occupational stereotypes tended to conform closely to a framework which was based on the relative prestige of occupations. The investigators hence concluded that the mere presentation of a set of occupational stereotypes for a series of judgment caused the subjects spontaneously to establish a prestige framework which then determined in a highly reliable manner judgments on the specific traits listed. Osgood and Stagner's study (1941), which foreshadowed the development of the semantic differential, was the forerunner of the investigation undertaken by O'Dowd and Beardslee twenty years later.

To collect the data needed to measure stereotypes, O'Dowd and Beardslee constructed a thirty-four bipolar rating scale covering life's style, work satisfactions, personality characteristics, and social relationships associated with occupational titles. Subjects rated fifteen occupations on the same thirty-four seven-point rating scales and also according to how much they would like to be in it if they could be in any occupation they wanted.

A primary purpose of this investigation was to determine if differences in stereotypes occurred among public university and private
liberal arts college students, men and women, freshmen and seniors, high, middle, and low socio-economic subgroups, and students from business and professional homes. The findings of this study revealed that students consistently associated occupational titles with lifestyles, patterns of social relationships, and personality traits. It was also found that each occupation had a complex image distinguishing it from the other fourteen occupations with high agreement on these images for each occupation across the various sub-populations of students.

To extract further information from the data, the technique of factor analysis was used. This procedure was specifically utilized to discover the underlying dimensions used by students in perceiving the occupations. This analysis revealed four main dimensions on which students judge occupations. These were termed cultured intellect (I), material and social success (II), cheerful sociability (III), and personal control and political responsibility (IV).

The most important findings emphasized by the investigators were the clear differentiation of the fifteen occupations by the subjects and the high degree of agreement on these across the sub-samples. Relatively small differences were found among the sub-samples.

In an attempt to explore how well a series of rating scales would differentiate adolescents' perceptions of characteristics associated with six selected occupations, Ulrich, Hechlik, and Roeber (1966) applied the same methodology used by O'Dowd and Beardslee but refined the rating scales to incorporate social, economic, and personal factors, working conditions, and job preparation. After
revision and a check upon the vocabulary level, a final set of forty-six rating scales was developed. The data were collected among a middle-class high-school population. The six occupations selected were auto-mechanic, lawyer, librarian, linguist, model, and school counselor. Rank correlations for the six occupations among forty-six scales were performed. It was found that the professions of lawyer, librarian, linguist, and school counselor were more closely related to each other than they were to model and auto-mechanic. The investigators concluded that by synthesizing extreme ratings it was possible to develop descriptions of stereotypes that the students held for each of the six occupations considered.

A series of three studies conducted by Gonyea (1961; 1963) and Gonyea and Lunneborg (1963) explored also the dimensions by which occupations were perceived by college students without prior imposition of structure from the use of adjectives check lists or rating scales. In the first study undertaken by Gonyea (1961), 100 male freshmen at the University of Maryland were presented with two similar, but differently ordered lists of thirty occupational titles taken from Holland's Vocational Preference Inventory. The data were used to construct a 30 x 30 matrix of estimated intercorrelations, reflecting the extent of perceived similarities among the occupations. The estimated intercorrelations matrix was then factor analyzed to produce twelve first order oblique factors, presumably reflecting underlying perceptual dimensions. Finally, a second-order factor analysis was performed yielding five orthogonal second-order factors. Gonyea concluded that some of the occupations were fairly uniformly perceived by all
subjects, while others were apparently perceived differently, presumably reflecting different needs.

As a check on the generality of the findings of the first study, Gonyea and Lunneborg (1963) designed a study with a different population (2,424 freshmen, including 1,491 males and 933 females), different occupational stimuli, and a different methodology. For this study the investigators used triads from which students were to select the occupation most unlike the other two. The triads were distributed systematically among twenty different forms of a Job Perception Blank, each form consisting of seventy-seven triads of occupational titles. Each subject reacted to one of the twenty forms randomly distributed. In this study, the factor analysis of perceived similarity among the twenty-two occupational stimuli yielded results corresponding directly to five second-order factors obtained in the earlier study. Results also shed light on college students' perceptions of popular vocational objectives and on the relationship between job perceptions and interest factors. Gonyea and Lunneborg argued that the present dimensions conformed somewhat more closely (though not exactly) to usual interest groupings and conventional job classification than did those obtained in the previous study.

Investigating the relationships of job perceptions to vocational preference, Gonyea (1963) used the same data of the first study on students' perceptions of occupations. Each subject completed the same Job Preference Blank consisting of thirty occupational titles. But, unlike the first study, each occupational title was to be marked "like," "indifferent," or "dislike" in the manner of the Strong Vocational
Interest Blank. It was hypothesized that subjects with different needs would emphasize different dimensions in their perceptions of ambiguous occupations.

In order to assess the relative saliency of the various perceptual dimensions for each subject, Gonyea constructed a Job Perception profile and an absolute Job Preference profile, using the clear eight first-order and five second-order factors as dimensions. These profiles were correlated for each subject. A second form of analysis involved correlating the Job Perception and absolute Job Preference scores for each of the thirteen factors. A positive relationship between vocational perception and vocational preference was found.

Finally, a third form of analysis involved grouping subjects into eight broad classes on the basis of their stated vocational choice. The Job Perception scores for the eight vocational choice groups were compared separately for each factor. It was hypothesized that the highest mean scores for each factor would occur in the group(s) choosing occupations most likely to satisfy the needs characterizing that dimension. The hypothesized relationship was not supported except for the business factor which was significant at the .001 level in the predicted direction. Gonyea (1963) concluded that these results supported an expectancy theory of occupational choice in which prospective vocational objectives were largely perceived in terms of need satisfaction potential. According to this view, people tend to prefer occupations which they can perceive as capable of meeting their needs, and to perceive need satisfaction potential in occupations which they prefer.

In reaction to Gonyea's study (1963) of the relationship of
Therefore, we have simply assumed that our perceptions of vocations are stable over long periods of time and that most people "see" a given vocation in the same way. The validity of the Strong and Kuder longitudinal studies lends support to these hypotheses. The present study, and Gonyea's earlier study, suggest that different students perceive the same vocation in different ways. We need to resolve the apparent contradiction between these new results which suggest heterogeneity of vocational perceptions—and the earlier results—which imply considerable homogeneity in perceptions. Without the existence of vocational stereotypes, our interest inventories would have no validity, but they do. We need, I think, a single formulation for reconciling the facts about both the stability and variability in the perception of vocations. (p. 27)

Dipboye and Anderson (1961), using a sample of 448 high-school seniors attending schools in urban, suburban, and semirural areas in Central New York, designed a study in an attempt to demonstrate that high-school seniors attributed different stereotypes of occupations in terms of manifest needs exhibited in the presumed behaviors of members of eight occupations. To obtain a measure of stereotype, the investigators constructed an instrument which listed seventy phrases, (five for each of fourteen needs taken from the Edward Personal Preference Schedule). Subjects were instructed to select five phrases which they felt best described the behavior of a typical person engaged in each of the eight pre-selected occupations. The results indicated that different needs were attributed or not attributed to the eight occupational groups in frequency significantly different from a chance distribution. Thus, the existence of stereotypes of the eight occupations in terms of needs was demonstrated.

Hollander and Parker (1969) reported a study designed to
investigate the occupational stereotypes which high-school sophomores have of six occupations, each representing one of Holland's personality orientations. The six occupations selected to determine the stereotypes of the realistic, intellectual, artistic, social, enterprising, and conventional categories, were, respectively: auto-mechanic, scientist, artist, teacher, business executive, and bank teller. To determine the degree of consistency between descriptions of six occupational stereotypes and Holland's theoretical formulation of the categories they represented, Hollander and Parker used the Adjective Check List. Included in the ACL were 300 behavioral adjectives involving fifteen need scales from which each subject was requested to choose those which were most self-descriptive. In addition, each subject was given an eight page list of definitions for the 300 adjectives. Scores for each subject on the ACL need scales were statistically analyzed. Also, each ACL need scale was analyzed separately. The results of the study suggested that, in general, adolescent stereotypes of the six occupations were consistent with Holland's theoretical formulation of the categories they represented. The hypothesized ACL need-scale means were substantially confirmed for scientist, business executive, and bank teller. For the artist, they were partially confirmed; for teacher, only nominally confirmed; and for auto-mechanic, not confirmed; From the results of this investigation, Hollander and Parker could conclude that occupational stereotypes do exist and also that certain aspects of Holland's theory of vocational choice were supported.

Although the studies undertaken by Gonyea (1961, 1963) and Gonyea and Lunneborg (1963) indicated that different students perceived
some occupations in different ways, it appears that most of the studies undertaken on the issue under investigation established the existence of occupational stereotypes and found evidence in support of some measures of agreement across sub-populations of college students on a number of fairly visible occupations. Similar results were also found with high-school students. Since no studies were found to determine the nature of occupational stereotypes among a cross cultural population, the present study was intended to determine such nature.

Validity and Accuracy of Occupational Stereotypes

Bordin's study already reviewed pointed out the existence of occupational stereotypes with some degree of validity. Similarly, the studies of faking Vocational Interest tests, although designed for a different purpose, were relevant to the question of accuracy of occupational stereotypes.

Several other studies found dealt with the validity and accuracy of occupational stereotypes. Holland (1963-64) tested the hypothesis that stereotypes of occupations representing each of his six types are consistent with his theoretical formulations of each type. To obtain images or stereotypes of six occupations, Holland asked 638 National Merit Scholars to complete sentences like: "Engineers are ___." The six occupations used to represent the six types were: engineer (realistic type), physician (investigative type), artist (artistic type), teacher (social type), business executive (enterprising type), and accountant (conventional type). Tables were
compiled for each occupation with their descriptive adjectives in the
order of their frequency—boys' and girls' responses being compiled
separately. Holland said that the results suggested that students of
superior aptitude perceive occupations in stereotyped ways. The re-
sults also suggested that subjects' stereotypes tended to be consistent
with some of the personality variables shown to be associated with
vocational choices in his previous studies. Holland concluded that
the stereotypic descriptions of the six occupations were consistent
with the theoretical categories they represented and also that the
subjects' stereotypes of occupations had some validity.

Marks and Webb (1969), in an elaborate study, examined the
effects of two factors on the description of the personal characteris-
tics of the typical incumbent of a representative occupation made by
different groups listing that occupation as their vocational choice.
The two factors were occupational title and amount of training or
experience related to vocational preparation. Two occupational titles
were selected for this study: Industrial Management and Electrical
Engineering. Trait descriptions of the typical incumbent of the two
distinct occupational titles were obtained from three groups varying in
professional experience. The three groups consisted of: (a) freshman
students who had not begun any formal college course work, but who
listed either industrial management or electrical engineering as their
choice of major; (b) senior students who were scheduled to graduate
within either of these majors at the next commencement; (c) post-
graduates who had obtained at least a baccalaureate degree in one of
the two occupational titles and who were presently working in that
occupation. In addition, two final groups consisting of freshman students enrolled in the two majors were asked to describe themselves in terms of the same trait descriptions used by other groups.

A ninety-five item trait description instrument, selected to cover a broad range of behaviors or characteristics that a person might exhibit and which would be relevant to occupational endeavors, was administered to the six groups comprising the $2 \times 3$ classification defined by occupational title and professional experience. The two groups of freshman students who responded with self-description were asked to rate the same ninety-five items with respect to how characteristic the given trait was of them. The self and other ratings were also related to the social desirability (SD) ratings of the set of trait descriptions.

The results of this study suggested that different groups, varying in professional experience, share a "common image" of the typical occupational incumbent, with this image being substantially related to the self-characterization of freshmen enrolled in that major. On the basis of these findings, the investigators concluded that the average college freshmen, entering the field of industrial management or electrical engineering, possesses a fairly accurate image of the typical incumbent of the intended occupation.

Banducci (1970) examined the accuracy of occupational stereotypes of 679 high-school senior boys in relation to socio-economic status, academic development, crystallization of plans, vocational interests, and range of experience. Students rated twelve occupations in terms of selected worker-trait requirements needed for successful
performance of a job. Students' responses were compared with the Dictionary of Occupational Titles Job-qualifications profile ratings of the job studied, and accuracy scores were computed. Results indicated that students with high academic development had more accurate stereotypes of high-level jobs than of low-level jobs, and students with low academic development and low socio-economic status had more accurate stereotypes of low-level jobs. Students with crystallized plans and those of the Realistic, Intellectual, and Enterprising Vocational Preference Inventory types also were found to have the most accurate stereotypes of occupations.

Elmendorf (1972) tested the assumption that students' stereotypes are accurate. Three randomly selected male student groups were asked to take the Vocational Preference Inventory and Beer's Preference Inventory as themselves. One week later, the student group responded to these instruments but in a manner they thought a specific occupational group member would respond. One student group (N=40) responded as research chemists (intellectual types); the second (N=40) responded as male, high-school teachers (social types); and the third (N=40) responded as either music instructors or college English professors (artistic types). Three corresponding occupational groups had recently responded to these instruments: a group of research chemists (N=31), a group of male high-school teachers (N=28), and a combined group of music instructors and college English professors (N=24). The data from these groups on the two instruments were used as criteria against which to measure the accuracy of the students' stereotype responses. A step-wise multiple-discriminant analysis was used to determine whether the
different groups were discriminated from each other or from the occupational group simulated.

All hypotheses were supported at the .01 level. Though it was not possible to draw conclusions about the accuracy of student stereotypes of some occupational group members in terms of Maslow needs, the results were interpreted as evidence that the students held stereotypes of some occupational group members and in a manner compatible with what might be expected by Holland's theory.

Clift (1976), with a sample of 160 full-time professional librarians and 155 library patrons, investigated: (1) the personality characteristics of a group of public librarians; (2) the accuracy of library patron's stereotype of the public librarian's personality; (3) the accuracy of public librarians' perception of their occupational stereotypes; and (4) individual differences in librarian personality and in patron stereotyping.

The investigator asked each librarian to complete one Adjective Check List (ACL) to describe themselves and another ACL to describe how public librarians are perceived by most people. Library patrons were sampled to represent the same geographical areas as librarians. Patrons used one ACL to describe the "typical public librarian." Both groups also completed personal data questionnaires designed to elicit basic demographic information.

The personality characteristics of public librarians were assessed by comparing their mean score on twenty-one ACL scales with appropriate adult norm groups. The investigator used two methods of item analysis to compare: (1) librarians' self-description with patrons'
librarian-descriptions; (2) librarian's self-description with librarians' descriptions of how they perceived by the public with patrons' librarian-descriptions.

The results were interpreted as evidence that adjectives used by patrons to describe public librarians and adjectives used by librarians to describe themselves were very similar, suggesting a high degree of stereotype accuracy. On the other hand, public librarians' descriptions of how they are perceived by the public, when compared with (1) librarians' self-descriptions and (2) patrons' librarians' descriptions, suggested that the perception of a librarian's stereotype was neither accurate nor very favorable.

It appears from the preceding studies that researchers have established the existence of occupational stereotypes, found evidence in support of some measure of agreement across sub-populations of high-school and college students on a number of fairly visible occupations, and determined some degree of stereotype accuracy. The following section is devoted to the relationship between occupational stereotypes and other phenomena such as self-concept, vocational interests, and vocational choice. 

**Role and Relationship of Occupational Stereotypes and Self Concept to Vocational Choice**

As far back as 1943, before Holland (1966, 1973) formulated an aspect of his theory dealing with occupational stereotypes and Super (1975) that of self-concept, Bordin (1943) contended that a person's occupational interest is a function of his self-concept and his stereotypes of various occupations. Bordin suggested further that an individual's interest in a vocation varies directly with the degree of
acceptance of the occupational stereotype as self-descriptive.

Schutz and Blocher (1960) tested an hypothesis derived from Bordin's contention to determine if in a population of high-school males there is a greater-than-chance tendency to select as self-descriptive the personality descriptions which also presumably described the stereotype of workers in occupations selected as vocational preferences.

The population used in the study consisted of 135 male seniors of a suburban high school. Two instruments were developed for use in the study. The first consisted of an alphabetically arranged list of the forty-five occupations commonly scored on the Strong Vocational Interest Blank (SVIB). Each subject was asked to select the one occupation which he considered most interesting.

The second instrument, entitled Character Sketches, consisted of ten short paragraphs. Each paragraph gave a brief personality description or "sketch" of a boy personality. These ten sketches were designed to correspond to the common stereotypes of typical members of occupations in the major occupational group of the SVIB. The respondents were asked to express their acceptance of a particular view of themselves in terms of occupational stereotypes. A statistically significant relationship was found between vocational preferences and stereotypes selected as self-descriptive. Schutz and Blocher interpreted their results as offering support for Bordin's theory and the idea that students' vocational choices are influenced in part by the stereotypes they hold of different occupations.

In a second study, Blocher and Schutz (1961), studying the relationship between self-descriptions, occupational stereotypes, and
vocational preferences, predicted that: (1) an individual's self-description will be more nearly like his stereotype of a typical member of an occupation for which he expresses high interest than the same self-description will resemble the stereotype held for an occupation in which little interest is claimed; and (2) a similar set of relationships would hold between descriptions of ideal self and those two kinds of occupational stereotypes. The same sample of the first study was again used. The instrument used was the Descriptive Check List (DCL) of 180 items covering the trait clusters considered by R. B. Cattell to represent a complete and comprehensive list of these human personality traits described in the English language. The data were collected in two sessions. During the first, each subject was asked to describe himself and his ideal self on the DCL. Each subject was also given an alphabetically arranged list of forty-five occupations commonly scored on the SVIB. From the list each subject was asked to choose the "one most interesting" and the "one least interesting" occupation. One week later, during the second session, each subject was asked to describe his picture of a typical member of each of two occupations chosen as "most interesting" and "least interesting."

Blocher and Shutz used a statistical procedure to obtain similarity scores for each subject on self concept, ideal self and stereotype of most preferred occupation, as well as self concept, ideal self and stereotype of least preferred occupation. Mean similarity scores were computed for each group. Differences between means were also computed and tested. The null hypotheses were rejected and the investigators interpreted their results as suggesting
that the subjects perceived both their self-concepts and their ideal self-concepts to be more nearly similar to their stereotypes of workers in occupations with highly claimed interests than to their equivalent stereotypes of workers in occupations with little claimed interest.

Englander (1960) investigated the relationship between the degree of agreement of self-perception and perception of people and situations relevant to one's situation. One hundred and twenty-six women participated in the study. They were classified into three major divisions in terms of their acceptance of elementary teaching as a vocation. Group I, elementary majors, consisted of those persons with a stated interest in elementary teaching as manifested by their selection of elementary teaching as a major. Groups II and III were considered as rejecting elementary teaching as a vocation. Three levels of acceptance or rejection along a continuum were assumed. Women students preparing to be elementary teachers were found to have a greater measured congruency between self-concept and perception of personal characteristics of elementary teachers than did either the group of other education majors (group II) or the group of non-education majors (group III). These results suggest that the study supported the possible influence of similarity of self-concept and occupational stereotype on vocational choice.

Morrisson (1962) hypothesized that, if occupational choice represents implementation of self-concept, then a person's self-concept should be more similar to one's stereotype of one's own future occupation than to the stereotype of another occupation. Young women trained to be either nurses or teachers were used in the study.
It was found that the future nurses' self-concepts were closer to their stereotypes of nurses than to their stereotypes of teachers; similarly, the future teachers' self-concepts were closer to their teachers' stereotypes than to their nurse stereotypes.

Wheeler and Carnes (1968) investigated the similarity between self-concept, ideal self-concept, and ideal and probable occupational choice. One hundred and thirty-four males college students were provided a measure of self-concept modified from Blocher's Descriptive Check List and were instructed to respond in terms of self and ideal self, and in terms of the characteristics of individuals in their probable occupation and their ideal occupation. The investigators hypothesized that: (1) the congruence between the individual's self-concept and his occupational stereotype of his probable occupation would be significantly greater than the congruence between the individual's self-concept and his occupational stereotype of his ideal occupation; (2) the congruence between the individual's ideal self-concept and his occupational stereotype of his ideal occupation would be significantly greater than the congruence between the individual's ideal self-concept and his stereotype of his probable occupation. Through a statistical procedure, four difference or congruence scores between the appropriate concepts were obtained for each subject. The results obtained supported the research hypotheses. Self-concept and occupational stereotypes of probable occupation correlated more highly with each other than do ideal self-concepts and occupational stereotypes. Similarly, ideal self-and ideal occupational concepts were found to correlate more highly than ideal self-and probable occupational concepts.
Hollander and Parker (1972) tested the assumption, based on Holland's theory of vocational choice, that stereotypes of adolescents' occupational preferences were related to self-descriptions. The Adjective Check List was administered to fifty-four high-school sophomores in order to obtain self-description and stereotypes of their one most and one least preferred occupation. An Occupational Preference List, developed for this study, was also administered to determine occupational preferences. Hollander and Parker tested three hypotheses: (1) that adolescent self-concept and stereotypic description of the most preferred occupation were positively related; (2) that adolescent self-concept and stereotypic description of the least preferred occupation were not positively correlated; (3) that adolescent most and least preferred occupational choices represented different occupational environments. All three hypotheses were confirmed. The findings suggested that occupational choices for adolescents were based in part on the degree of positive relationship between their self-description and the various occupational stereotypes they held. Other findings were: (1) choices of most and least preferred occupations were made from different categories in Holland's classification system; and (2) stereotypes played an important role in occupational exploration and choice.

Willis (1977) carried out a study to determine the effect of occupational stereotypes and self-perceptions of college women traditionalists and non-traditionalists on occupational choice. A further purpose of the study was to determine if such variables as socio-economic status and grade-point average(s) were associated with
women's decisions to pursue a traditional and non-traditional occupation.

One hundred sixty undergraduate freshmen female students attending an urban university and pursuing majors in traditional and non-traditional areas took the Adjective Check List, the Occupational Preference Check List, and the Personal Data Sheet. The data collected were analyzed by means of the multivariate profile-analysis technique and point-biserial correlation. Based upon the results obtained, the researcher concluded that occupational stereotypes and self-perceptions of college women definitely have a significant effect on occupational choice. No significant relationship was found between socio-economic status or grade-point average and subjects' occupational choice.

Burgoyne (1979) investigated the hypotheses that similarity of ideal self and occupational stereotypes were important in determining the vocational preferences of adolescents, while similarity between expected self and occupational stereotypes was important in determining their occupational expectations. One hundred eighty-five high-school students, including ninety-seven males and eighty-eight females, were asked to use twelve bipolar, 7-point Semantic-Differential-type scales to describe the sort of person typical of each of twelve occupations (accountant, author, carpenter, doctor, farmer, engineer, lawyer, musician, physician, secretary, school teacher, social worker). The subjects next rank-ordered these occupations in order of "how likely you are to do it" (expected occupation) and then in order of "how much you would like to do it" (preferred occupation). Finally, the same
Semantical Differential scales for the occupational stereotypes were used to measure each subject's present, ideal, and expected self.

Several statistical procedures were used (1) to estimate for each subject the discrepancy/similarity of each of the self-concepts with each of the occupational stereotypes, and (2) to estimate the degree of association of these discrepancies with rankings of occupational preferences and expectation. The findings supported the view that similarities of self-concept and occupational stereotypes are significantly related to vocational choices for both sexes. The investigator argued that the results were consistent with the proposed general model for vocational decision-making in which one of the factors influencing choice of occupation is the similarity of a person's criterion self-concept, and his or her occupational stereotypes.

Like studies undertaken to determine the existence or the accuracy of occupational stereotypes, the preceeding studies devoted to the relationship between occupational stereotypes and other phenomena such as self-concept, vocational interest, and vocational choice, provided direct relevance for the present study in terms of the importance of occupational stereotypes to the career aspirations of the students. It appears from these studies reviewed that occupational stereotypes do play an important role in determining which occupation one explores; but this is usually in relation to one's self-concept or self-perception or other factors.
Modifying or Minimizing Occupational Stereotypes

A final line of investigation in the study of occupational stereotypes dealt with studies undertaken with the purpose of effecting changes in the phenomenon of stereotypes. A first study cited in the literature was carried out by Merwin and Di Vesta (1959). Specifically, these investigators studied change in attitude of students toward teaching as a career as a result of experimental communication. A sample of 218 freshmen enrolled in the College of Liberal Arts at Syracuse University was used. Of this group 67 indicated a preference for teaching as a career and 151 indicated a preference for other occupations. At the beginning of the school year, the students responded to three instruments: (1) the "activities index," a measure of need strength; (2) a "perceived instrumentality instrument" (PI), a measure of the extent to which subjects perceived teaching as instrumental to the satisfaction of each of four needs selected on an a priori basis as related to teaching; and (3) an "attitude toward teaching" scale, a measure of the subjects' feelings of acceptance or rejection of teaching as a career. The group indicating a preference for teaching as a career had been found to have a more favorable measured attitude toward teaching. After four months of college work, while the teaching group had not changed, the non-teaching group had developed a more favorable attitude. Then, subjects were assigned at random to one of three experimental groups. One experimental group heard a communication organized around the implied assertion that "teaching is a good career because it satisfies the achievement need;"
the second heard a communication emphasizing teaching as a good career because it does not involve satisfaction of the achievement need; the third experimental group listened to a non-relevant communication.

The results of this study demonstrated that (1) as a result of the positive communication the perceived instrumentality of both the teaching and non-teaching groups changed in a positive direction to a significant degree; (2) the negative communication had an opposite effect on these two groups; (3) as a result of the neutral communication, the changes in attitude and perceived instrumentality for both groups were negligible; and (4) a change in attitude toward a career field can be altered by manipulating cognitive structure.

Osipow (1962) used the semantic differential to test the prediction that differences in attitudes toward a pair of specific job titles for the same occupation would exist when no job description was provided and that these differences would persist along the evaluative dimension of meaning alone when descriptions were provided. Ninety-six university students randomly divided into four groups of twenty-four students each rated building superintendent with no description, building superintendent with a description, janitor without a description, and janitor with a description. Based on the responses of the four groups along the three dimensions of meaning—evaluative, potency, and activity—analysis of variance was performed. The results suggested that there are likely to be differences in perceptions of occupations along various dimensions of meaning when the stimuli are presented in the form of specific job titles. Osipow (1962) suggested that these differences may be reduced by the
presentation of minimal occupational descriptions.

Roe (1974), investigating the effect of the college placement process on occupational stereotypes, tested 207 male graduating seniors in business and engineering actively engaged in college placement activities. To measure perceptions of their chosen occupation's stereotype, the students were tested before and after a placement process. Also, concurrently practicing professional engineers and businessmen were tested to determine their respective occupational stereotypes. It was hypothesized that business students experience a shift in perceptions of their chosen occupation's stereotype during the college-placement process while similar engineering students do not.

Two questionnaires were designed to test the student's pre- and post-interview perceptions of their chosen occupation's stereotypes. A third was created to measure the practicing professional person's occupational stereotype. In all three cases, the student's and practitioner's occupational stereotypes were measured by a modified Katz and Braly (1933) stereotype questionnaire. Two lists of 107 adjectives, which might characterize personal and physical attributes associated with occupations, were supplied to each subject. Each respondent was asked to select five terms from the physical and personal attribute lists which he thought best described people in his chosen occupation. Rank correlation analyses were performed to determine the degree of similarity of stereotypes between different occupations and between graduating students and their professional counterparts. The results indicated that business students, engineering students, professional engineers, and businessmen could
individually identify unique occupational stereotypes. Also, a qualitative change in the business students' perceptions of their chosen occupation's stereotype during the placement process was found while engineering students did not experience significant change.

In the 1970s, sex-role stereotyping became an area of concern to researchers in vocational behavior. Considerable literature grew out of this concern. For the purpose of this study, however, only two of these studies were examined—because of their relevance to the section under discussion, that is, change of occupational stereotypes.

Vincenzi (1977) investigated the effects of exposing sixth-grade children to people working in occupations not traditionally performed by their sex. Several sessions were designed to reduce the number of occupations the children viewed as sex-typed exclusively for either men or women. One hundred seventy-seven children, including ninety-seven boys and eighty girls from three elementary schools, were selected to participate in the study. An experimental group, consisting of thirty-one males and twenty-eight females, and two control groups, each with fifty-nine subjects, were formed.

The pre-and post-test control-group design was used. Both pre-test and post-test were administered by the researcher in the subjects' classroom to experimental and control groups simultaneously. The instrument used for the study consisted of twenty-four statements, each followed by two questions: (1) Could a man work here?, and (2) Could a woman work here? Of the twenty-four, seven dealt with traditionally female occupations, and seventeen were considered traditionally male occupations. To measure occupational sex stereotyping, each item was
scored one for positive answers, and zero for negative ones.

The researcher met with the experimental group for two thirty-minute sessions a week during a ten week period. During these sessions the following activities were conducted:

1. The experimental group reviewed and discussed magazine articles concerning women working at jobs traditionally sex-typed as masculine, and men at jobs traditionally sex-typed as feminine.

2. The experimental group examined through discussion the definitions of stereotypes and identified stereotypes other than occupational.

3. The same group met seven women who work in traditionally masculine occupations. Each woman spoke for thirty minutes, gave a short demonstration, and explained her job and why she chose it. The control group did not participate in those sessions.

The results indicated that the objective of reducing the number of occupations viewed by the subjects as sex-stereotyped was attained. An analysis of covariance showed that, when the three groups were tested for occupational stereotyping, there were statistically significant differences ($p < .05$). A multiple comparison was conducted, showing statistically significant differences between the experimental and the two control groups. The investigator concluded that stereotyping in society can be minimized only if children are exposed to alternatives at an early age. Since this type of education cannot always be accomplished at home, the educational system can implement change by using school time to make children aware of stereotyping and its implications.
Wilson and Daniel (1981) reported a study undertaken to determine if stereotypes held by middle-school students toward sex roles, particularly as related to occupations, could be influenced by a role-clarification workshop in which the subjects engaged in experiences designed to clarify male and female roles and to emphasize the unique abilities of each individual.

A sample of 169 seventh- and eight-grade students in a middle school were randomly assigned to either an experimental group or a control group. The experimental group consisted of eighty-three students and the control group eighty-six. To measure attitudes toward the roles of males and females, the researcher constructed an instrument, the Stereotype Survey. This instrument was administered as a pre/post measure to the two groups. A five-session workshop adapted to appeal to middle-school students and labeled Opening Career Options (OCO) was developed. The pretest data revealed that many of the students had stereotypical views about vocational roles. The experimental group had a mean pretest score of 1.43 and the control group had a mean pretest score of 1.42. The two groups were then compared in regard to mean change from pretest to posttest on the stereotype survey. The obtained t value was significantly beyond the .01 probability level and indicated that the stereotypical attitudes were influenced by the OCO workshop.

Summary

The studies reviewed in the previous sections represent an important and significant contribution to the understanding of
occupational stereotypes. First, the review has presented investigations providing evidence that occupational stereotypes exist. A different set of studies dealing also with the existence of occupational stereotypes was concerned with their existence and their content in terms of personality traits, social variables, life style, prestige ranking of occupations, and the extent of agreement across varying subpopulations. Studies determining the perceptual dimensions used by students in viewing occupations were reviewed, followed by studies related to accuracy of occupational stereotypes. A fourth section of the review presented studies investigating the relationship of occupational stereotypes, self-concepts, and ideal self to occupational preference or choice. Finally, the problem of minimizing or reducing occupational stereotypes was considered.

All these studies are relevant because they emphasize the three different aspects which this present research on Haitian high-school seniors investigates. First, it appears that occupational stereotypes exist, but not with a very strong degree of accuracy, not only among adults but also among adolescents and children. Secondly, strong evidence is provided by literature that stereotypes play an important role in occupational exploration and choice. Thirdly, because of the importance of occupational stereotypes to career aspirations and choice process, it appears that procedures of modifying or minimizing occupational stereotypes should be considered, particularly by educational leaders, in order to help students have more accurate stereotypes, and make realistic career choices.
The Roles of Educational Leaders

In the first part of the review of literature, the phenomenon of occupational stereotypes particularly as it related to career aspirations was the main concern. From the findings of those studies indicating the existence of occupational stereotypes and the relationship to career choices, the implications for vocational guidance seemed rather obvious and at the same time give direction to possible implications for educational leadership. As it appears from the previous review, occupational stereotypes should be viewed as a challenge to educational leaders. How they respond to this challenge depends to a great extent upon their leadership skills. Particularly in a country such as Haiti where guidance is a relatively "new born," educational leaders could have an expanding leadership role to play. In addition, it seems that, regardless of the nature of the problem educational leaders have to face, it is readily apparent that some leadership skills are needed. With respect to the issue under consideration the exercise of leadership skills requires that educational administrators have a thorough understanding of their role as problem solvers, decision makers, and change agents.

Since the present study was undertaken with the explicit purpose of determining from its findings possible implications for educational leadership, the second part of the review of literature is concerned with leadership role in educational administration with particular emphasis on the educational leader as problem solver, decision maker, and change-agent.

Little (cited in Wenrich & Wenrich, 1974), comparing leadership and administration, pointed out that:
Leadership may be considered as one of the two primary functions of administration; the other function is management. Leadership is required in the exercise of either function but the two functions make different psychological demands upon the administrator. The leadership function requires the capacity to "live ahead" of his institution; to interpret his institution's needs to the public and the public's needs to his institution; and to conceive and implement strategies for effecting change required for his institution to fulfill its purpose. The management function requires the capacity to arrange and operate his institution in a manner which elicits an efficient and effective effort of the total membership of his institution toward its purposes. The leadership function is a stimulating, prodding, and sometimes disruptive influence, while the management function has a smoothing and stabilizing influence. The first emphasizes creative planning, initiative and future-facing boldness; the second stresses efficiency and productivity through teamwork and consideration of others. (p. 90)

For centuries, people have been concerned with the phenomenon commonly referred to as leadership. Thus, several definitions have been proposed to explain leadership.

Lippman (1964) defined leadership as "the initiation of a new structure or procedure for accomplishing or changing an organization's goals and objectives" (p.122).

Boles and Davenport (1975) pointed out that leadership is "a process in which an individual takes initiative to assist a group to move toward production goals that are acceptable to maintain the group, and to dispose of these needs of individuals that impelled them to join it" (p.153).

Morphet, Johns, and Keller (1974), discussing the role of educational leadership, conceptualized it as "the influencing of the actions, behaviors, beliefs, and feelings of one actor in a social system by another actor with the willing cooperation of the actors being influenced" (p.128). The authors augmented their definition by
saying that the top leader in any system, subsystem, or suprasystem is the actor who most often influences in critical matters the actions, behaviors, beliefs, and feelings of the greatest number of other actors in that system with the willing cooperation of the actors being influenced.

Alfonso, Firth, and Neville (1981) proposed that leadership is a "behavior that causes individuals to move toward goals they find to be important and that create in the followers a feeling of well-being" (p. 94).

These definitions suggest implicitly that, by assuming the position of leader, one indicates willingness to exert leadership and to be held accountable for solving problems, making decisions, and effecting needed changes in such a way that the goals of the organization are achieved.

The Educational Leader as Problem-Solver

John K. Hemphill (1966) defined a problem as "a state of affairs that is perceived with dissatisfaction" (p. 39). Thus, an individual is said to have a problem if he or she is a part of a situation in which there is a state of affairs which is viewed with dissatisfaction. Conversely, if the environment is viewed with satisfaction, there is no problem. According to Hemphill, problem solution can be presented as a continuum, that is, the line between the two extremes--the problem and the solution--or the process by which a state of affairs becomes one viewed with satisfaction as compared to dissatisfaction.

Wenrich and Wenrich (1974) pointed out that the problem-solving
process does not begin until the administrator perceives that a problem exists. With reference to the decision-making process, Wenrich and Wenrich indicated in the following five steps an approach to problem solving: (1) identification and analyses of the problem; (2) search for alternative solutions; (3) anticipation of consequences of alternative solutions; (4) selections and implementation of the best alternative solution; and (5) review of actual consequences and possible remedial steps.

Though problem solving is a complex process, the perceptive educational leader who follows the approach to problem solving indicated above increases his or her chances to reach successful solutions to the multiple problems faced in trying to achieve the goals of the organization.

The Educational Leader as Decision Maker

Decision making and problem solving are closely related. Hanson (1979) indicated that decision making is one of several elements of the problem-solving process. Thus, in the light of the previous discussion on leadership, it appears that the decision-making process is an important aspect of organization and hence deserves consideration in a review of literature related to the leadership role in educational administration.

Daniel Griffiths is known as a major proponent of administration as decision making. In his book Administrative Theory, Griffiths (1959) exposed his theory of administration as decision making in a series of four assumptions as follows:
1. Administration is a generalized type of behavior to be found in all human organizations.
2. Administration is the process of directing and controlling life in a social organization.
3. The specific function of administration is to develop and regulate the decision-making process in the most effective manner possible.
4. The administrator works with groups or with individuals with a group referent, not with individuals as such.

Griffiths deals with different important concepts in his theory. Among these concepts, decision making seems to be the key concept in his discussion. According to Griffiths, decision making is not an act, it is a process—a process of directing and controlling decisions. It is not only more important than other functions but is also central in that all other functions of administration can best be interpreted in terms of the decision-making process. Decision making may be compared to the heart of organization and the process of administration. In support of this concept of decision making as the heart of administration, Griffiths (1959) cited several researchers who contend that the making of decisions is at the very center of the process of administration. To further clarify the concept of decision making and to give a clarification of the extent and content of the decision-making process, Griffiths defined decision making as a judicial proceeding; that is, a state of affairs is present and a judgment is made concerning it. In a brief comment of this definition, Griffiths went on to say that the judgment is such as to influence action which
results from the decision. Action is implicit in a decision. The judgment is made so that a course of action will be influenced. From this perspective, the term decision should be applied to all judgments which affect a course of action. Thus, the concept of the decision making process is construed to mean not only the decision but also the acts necessary to put the decision into operation and so actually affect the course of action of an enterprise.

In Griffiths theory, there are six steps in the process of decision making: (1) recognize, define, and limit the problem; (2) analyze and evaluate the problem; (3) establish criteria or standards by which solutions will be evaluated or judged as acceptable and adequate to the need; (4) collect data; (5) formulate and select the preferred solution or solutions; and (6) put into effect the preferred solution.

Related to the issue of the decision making process, Wenrich and Wenrich (1974) presented as a principle in administration that every decision should be viewed in light of its long-term consequences. This requires a continuing futuristic point of view, a continual examination of long-term consequences of each decision.

Since decision making is so important in administration, educational leaders should be aware of the fine art in decision making pointed out by Barnard (1961):

The fine art of executive decision making consists in not deciding questions that are not pertinent, in not deciding prematurely, in not making decisions that cannot be made effective and in not making decisions that others should make. (p. 322)
The Educational Leader as Agent of Change

Concern for change in individuals, society, and organization transcends culture. As Alfonzo, Firth, and Neville (1981) pointed out:

Change is a condition of human existence. But all change is not carefully planned nor is it necessarily orderly; and change may be either good or bad; moving a social system either forward or backward. Moreover, it is a truism that a social organization must value and provide for change if it is to retain any vitality as an organization. Those individuals with leadership responsibilities in organization bear a special responsibility for the stimulation, planning, and direction of change. (p. 243)

But good change does not just happen. It must be planned by someone. There is abundant research evidence indicating that change does not take place haphazardly. Miles (1964) contended that "most innovations appear to be stimulated, triggered, shepherded, and nurtured by some active person or group either external to or within the target system" (p. 639). In support of this statement, Miles (1964) referred to several studies done in the context of innovation in education. He further asserted that in most cases the invitation for change in an educational system seems to come from outside, while most local changes appear to involve adoption or adaptation, rather than direct invention initiated from within.

Similarly, Lippitt, Watson, and Wesley (1958) considered the change agent as someone from outside the client system, a person free from intimate involvement with the clients to be served. While recognizing the reality of this view in practice, Bennis, Benne, and Chin (1961) contended that it is too narrow and that client systems have the potential for their own planned change as well as individuals...
who can and do serve as change agents. They view the change agent as "any agent used by a client system to bring about improved performance" (p. 16).

Another line of investigation pertaining to the change agent emphasizes the effectiveness of a group as a medium of change. Lewin (1948) and Lippitt (1960) have demonstrated the effectiveness of change efforts that stem from an accepted member of the group.

But, before a change agent can experiment, he or she must win the cooperation of both leadership personnel and other members of the organization. French (1953) cited the problem inherent in the need to gain approval of potential change from a top official, for the change agent may then become identified with management in the eyes of the subordinate group. Thus, French concluded that a change agent must devote enough time to contact and communicate so that people will develop confidence in him or her and a belief that the change agent will do nothing to hurt them or conflict with their interests.

According to Rogers (1962), change processes involve five stages following the design of innovations: awareness, learning of the existence of an innovation; interest, in which a person seeks more data and considers the innovation; evaluation, in which the merits of the innovation are weighted; trial, whereby the individual actually tries out the innovation—perhaps on a small scale; and adoption, whereby the innovation is accepted for continued use. These five steps might also lead to a decision to reject an innovation.

MacKenzie (1964) proposed another formulation of stages which includes: criticism of existing programs, proposal of changes;
development and clarification; evaluation, review, and reformulation of proposals; comparison of alternate proposals; action on proposals and implementation of action decisions.

These general considerations deserve careful consideration from educational leaders who have the responsibility of solving problems, making decisions and effecting needed changes. But beyond these considerations, educational leaders should be aware of the following rules enunciated by Baldridge and Deal (1975) in considering the process of change:

1. A serious assessment of needs is necessary.
2. Proposed changes must be relevant to the history of the organization.
3. Organizational changes must take the environment into account.
4. Serious changes must affect both the organizational structure and individual attitudes.
5. Changes must be directed at manipulable factors.
6. Changes must be both politically and economically feasible.
7. The changes must be effective in solving the problems that were diagnosed.

The second part of the review was concerned with leadership role as viewed by theorists of organizations in the American cultural systems. Since a school system is a formal organization (Morphet, Johns, & Reller, 1974), and since formal organizations do not exist without goals (Alfonso, Firth, & Neville, 1981), it is the contention
here that without leadership it is unlikely that any school, regardless of its location, can really attain its goals. Thus, as in all formal organizations, leadership for school organization in Haiti is an absolutely essential ingredient in the structure, operation, and achievement of purposes. Therefore, what has been said for the leadership role in educational administration in general should be true for Haiti.

**Haitian Government Documents**

A limited number of documents prepared by different agencies of the Haitian government particularly relevant to the issue under consideration must be included in this literature review. Since the documents are in French, direct quotation from them would have limited use. However a brief description of their content will be given in English.

**Le Centre d'Orientatio[n] Professionnelle et de Recherches Psychologiques—Buts et organizations** (Vocational Guidance and Psychological Research Center—Goals and Organization). As the title suggests, this document prepared by the Vocational Guidance Center of Haiti presents the goals and the organization of that Center. These goals are cited in chapter I (see p.3 to 5). The document reveals that the staff of the Center consists of a technical director, two vocational counselors, a psychometrist, a specialist in re-education and rehabilitation, a secretary, a statistician, a specialist of information, and an accountant. In addition, the different services performed as
well as working organization and procedure are described. The services performed are as follows: (1) administrative service; (2) psychological service of assessment and guidance; (3) social service; (4) informational service; (5) service of statistics and research; and (6) placement service.

La reforme du systeme educatif haitien (The Reform of the Haitian Educational System). This working document prepared by the Project Haiti/PNUD/UNESCO (1979) is a description of the main aspects of the reform in progress in the Haitian educational system. Based on research and experience, this document throws light on the position adopted by the educational leaders regarding the urgency to change the old system deemed inadequate to meet the needs of a developing country, such as Haiti. Particular emphasis is put upon the reform of the elementary school for which decisions taken were to be implemented as early as the school year 1979-1980 on an experimental basis. An overview of the whole system including ends, goals, and organization of the new system is also given. Of particular interest are: (1) the decision to use "creole" instead of French as the language of instruction, and (2) the flexibility of the new system which offered at the end of each cycle of "Ecole Fondamentale" successive and increasing levels of skilled, technical, and professional training with the possibility of reinstatement in the equivalent cycle of "enseignement fondamental."

Main d'Oeuvre--Emploi et ressources Humaines (Manpower--Employment and Human Resources). Published in January 1982, this
document is a report prepared by the Ministry of Planning at the request and with the financial contribution of the World Bank. This report presents, first of all, a detailed review of the economic activity in Haiti, and the development of the situation with regard to manpower, employment, and human resources for the period 1971-1981—that is, during the first and second quinquennial plan. Of particular relevance for this study is the presentation of the projections and expected growth rates of the same situation for the third Quinquennial Plan of economical and social development during the periods 1981-1986 and 1986-1991.

The first section of this report, devoted to the second Quinquennial Plan, provides comprehensive and detailed information on: (1) structures of employment with respect to demographic evolution, working population, manpower supply and value added, and situation of employment for each branch of activities; (2) recent development of Haitian economy with respect to production, external trade, investments, and consummation. Similarly, the second section dealing with the third plan provided detailed information with regard to: (1) planning and growth projections; (2) qualified manpower needs by level of education and training, by type of occupation, and by sector; and (3) availability of qualified manpower in the framework of the Haitian educational system as a whole and the system of professional training in particular. Specifically, this second section showed some aspects of the manpower needs projections worth mentioning here:

a. For the decade of the 1980s, job creation, caused by the increase of production in all branches of activities, was estimated
at about 424,000, that is, an average of 42,000 new jobs a year. These were distributed to the major categories such as, superior trained personnel, middle trained personnel for technical and administrative occupation, qualified employees and workmen, specialized employees and workmen.

b. A shortage of superior trained personnel in technical and administrative occupations was expected. It seems that only one third of the positions available would be filled by the graduates of the educational system of the country.

c. For middle trained personnel in technical and administrative occupations, less than one fourth (23.6 percent) of the manpower needs was expected to be met.

d. There was a shortage of superior specialized technicians for maintenance and repairs of machines.

e. The educational system faced a shortage in qualified trained personnel. The teachers training schools available could not provide the needed personnel on short term. Those schools graduated 450 teachers a year. For the years 1981-1986, due to increase in enrollment of students as well as to the rate of attrition among teachers, the needs were expected to total close to 15,000.

f. In 1982, the educational system was not yet operationally integrated with the economic life of the country. Very often, it appeared like a world in itself which educated and trained according to criteria that could not always meet the socio-economic needs of the country.
Besoins en formation Professionelle dans l'industrie Haitienne
(Needs in Professional Training in Haitian Industry). Prepared in 1982, this document was an attempt to bring information on manpower needs and professional training up to date for the industrial sector of the capital city, Port-au-Prince. It includes: (1) development of industrial employment; (2) the needs laid down by the firms in terms of professional training for the period 1978-1980; and (3) projections of new needs based on observations of trends in the development of employment.

Summary

The review of literature presented in this chapter was concerned with literature of occupational stereotypes, the leadership role in educational administration, and official documents of the Haitian Government. Extensive research conducted on college and high-school students in America dealing with occupational stereotypes indicated the nature of this phenomenon as well as its influence on career choices. The review of literature on the roles of educational leaders focused on the educational leader as problem solver, decision maker, and change agent. Lastly, the literature dealing with some official Haitian documents suggests that there is a reform in progress in the Haitian educational system. Since no previous studies have been done to determine the nature of occupational stereotypes among Haitian high-school seniors and also since no studies were found to determine the relative importance of occupational stereotypes in relation to other selected variables, it seemed highly important that research be
undertaken on those issues. Consequently it is within this framework that the present study was approached. It asks the questions, Do Haitian high-school seniors hold stereotypes of occupation consistent with Holland's typology? What is the relative importance of those stereotypes to their career aspirations? What are the implications of the findings for educational leadership?
CHAPTER III

METHODOLOGY

The methodology used in this study of occupational stereotypes among a sample of Haitian high-school seniors involved: (1) the determination of the variables to be considered in the study; (2) the selection of the sample; (3) the description of the instruments used to collect the data; (4) the procedure used in the execution of the study; and (5) the method of analysis of the data.

Variables

Dependent Variable

Subjects' career aspirations, the major dependent variable chosen for this study, were determined by the students' responses on two open-ended queries which requested them to indicate their most preferred occupations and their second choice of an occupation. The two questions were provided in the biographical section of the Self Directed Search which was substituted for the occupational day-dreams section and in the first section of the Paired Comparison Scales. Each occupation selected as first or second choice was placed in the corresponding vocational category according to Holland's typology.

Independent Variables

In an attempt to accomplish an adequate treatment of the
problem under investigation, a number of independent variables were examined. They were:

1. Occupational stereotypes
2. Sex (male and female)
3. Type of schools attended by the respondents (private schools or "lycées")
4. Geographical location of the schools attended by the respondents (schools from Port-au-Prince, the capital city, or from the provinces)
5. Social standing of the students operationally defined by their parents' occupations, the prestige of the schools in which they were enrolled, and the findings of comparative studies in social stratification
6. The availability of guidance services
7. Respondents' interests operationally defined by their summary code on the Self Directed Search
8. Prestige of occupations
9. Parental influence
10. Peer influence
11. Intellectual ability
12. Manpower needs of Haiti operationally defined by the seven groups of occupations listed in Manpower-Employment and Human Resources (1982) a document prepared by the Haitian Ministry of Planning within the framework of a comprehensive study on manpower needs for the periods 1981-1985 and 1986-1991. These groups consist of:
a. Professional Scientific, Technical, Liberal, and Related Occupations
b. Administrative, Executive, and Managerial Occupations
c. Administrative Personnel and Business Occupations
d. Self-employed and Business Occupations
e. Specialized Workers in Service Occupations
f. Farmers, Foresters, and Fishermen
g. Skilled and Unskilled Workers in Occupations Different from Farming

Selection of Subjects

Population

The population for this study consisted of all Haitian high-school seniors enrolled in the secondary schools (private and "lycées") during the academic year 1981-1982. According to the list provided by the Department of National Education, there were 2,216 high-school seniors, including male and female. Of this number, 171 students were enrolled in schools located in three provinces: Cap-Haitian (128), Cayes (31), and Jacmel (12).

Of the total population, 1,699 students attended private schools and 517 students attended "lycées." The rationale for the selection of this particular group is based on the importance of the "baccalaureat" with regard to work or training in higher education in the Haitian system. Like its French pattern, the "baccalaureat" could be considered equivalent to the first year of the university. But, unlike the French system, success on the "baccalauréat" does not necessarily guarantee the candidate the right of access to the faculty
of his or her choice. In Haiti, admission in most faculties is also conditional upon success on a very selective entrance examination.

Sample

With the aid of a table of random numbers, a stratified random sampling technique was used to select high schools geographically representative of the population including private secondary schools and "lycées," males and females, students from Port-au-Prince and the provinces, and students from high, middle, and low socio-economic levels. This selection was made according to the number of students needed to guarantee a high level of power for the statistical analysis. According to Welcowitz, Ewen, and Cohen (1976), power is the probability of rejecting the null hypothesis for the given significance criterion. It is equal to the complement of the probability of a type II error, that is 1 - β. Cohen (1977) cites three determinants of the power of the statistical test: (1) the significance criterion; (2) the reliability of the sample results; and (3) the effect size y (the degree to which the null hypothesis is false). If the criterion of significance is set at .05 and if a conventional medium value of .50 is specified for y, for the t-test of a single population, the smallest number of subjects needed in each group to guarantee a high level of power of .99 would be: N = (\frac{6}{y})^2 = (\frac{3.9}{.5})^2 = 60.8 or 61. For a maximum of three groups, this would give a minimum sample size of 3 x 61 = 183. Though the study involves different statistical tests, including multivariate analyses, 183 students would be large enough to give at least 15 subjects per variable and thus to ensure
consistence in the correlation matrices. But, for the sake of scaling, where descriptive statistics were used, the Krejcie and Morgan (1970) table was employed to give a sample size large enough to be representative.

Thus, the significance criterion for this study, was set at .05 level and the original sample size was 451. However, due to the closeness of the previously fixed date for the state examination, class attendance was no longer compulsory. In spite of several contacts made with both the principals and the students of the schools concerned, only 336 actually appeared on the day of testing and completed the three tests. Seven of these failed to complete the questionnaire related to biographical data requested in the tests and two students failed to follow directions as requested for the semantic differential scales. Those nine students were excluded from the sample.

The actual number of subjects for this study was 327 students classified as high-school seniors enrolled in eight secondary schools, including six private schools and two "lycées." For the statistical analyses, the students were divided into groups on the basis of sex, the type of schools in which they were enrolled, the location of the school, their social standing, and whether or not they have made use of vocational guidance services. Two of the nine sub-groups used were too small to give the power of .99 set for this study. They were provincial school students with 46 respondents and students from high social standing with 32 respondents. Thus, for the sub-hypothesis 7 (g, j), the power of the test was less than .99. It was .96 for sub-hypothesis 7g, and .88 for 7j.
As stated earlier, the determination of the students social standing was essentially subjective. First of all, the prestige of the school attended by each respondent should be taken into consideration. In Haiti, as elsewhere, there are some schools usually recognized as very prestigious. But, unlike other countries, the prestigious schools are—though not exclusively—reserved to students of the higher socioeconomic class; those students are not necessarily the intellectual elite. However, the prestige of the school was a first indicator of the subjects' social class.

Secondly, the prestige of the students' father's or mother's occupation was taken into account. This position was based particularly on the review of literature on social stratification. Roe (1960), referring to the western culture, noted that social status is more dependent upon occupation than any other single factor. According to her, "occupation of father is widely accepted as the most usable single factor of the social and economic status of all members of a family" (p. 9). In general, the literature reviewed indicates that individuals are usually evaluated and classified in the social hierarchy or stratification first of all by virtue of their main social function, that is, what they do for their common good. This usually corresponds to a profession or job (Elliott, 1972; Fox & Muller, 1973; Kahl, 1961; Mousnier, 1973; Plotnicov & Tuden, 1970). Moreover, the prestige of occupations has remained remarkably stable over many decades and its stability transcends local communities. In America, probably the best noted studies were the NORC Study in 1947 by North and Hatt (Kahl, 1957) and the Hodge, Seigel, and Rossi Study (1964).
So, the prestige of the school and the students' parents' occupations were considered as two important criteria to determine the social class of the subjects. The rationale for this procedure is more easily explained when one considers the fact that in Haiti, because of the economic structure of the country, the profession alone is not an absolute criterion to determine an individual's social class. In some occupations, it is not uncommon to find people belonging to two opposite groups in terms of social class. When such is the case, only the prestige of the school attended by the students can help determine his social standing. A good example would be that of lawyers who can be in the lower, middle, or higher class. Thus, in this study, in order to determine the respondents' social standing, schools and parents' occupations were classified as very prestigious, prestigious, or of low prestige. As to the classification of the respondents in three different social groups, the following procedure was used.

1. A student was classified in the higher class if (a) the school attended was very prestigious and his parents' occupations were also very prestigious or prestigious; (b) the school attended was prestigious and his parents' occupations were very prestigious.

2. A student was classified in the middle class if (a) the school attended was very prestigious and his parents' occupations were of low prestige; (b) the school attended was prestigious and his parents' occupations were prestigious or of low prestige; (c) the school attended was of low prestige but his parents' occupations were very prestigious.
3. A student was classified in the lower class if the school attended was of low prestige and his parents' occupations were prestigious or of low prestige. But, again, this classification is very subjective and was one of the limitations of the study as indicated in Chapter 1 (p. 21).

Instruments

Three instruments were used for this study: the Self Directed Search (SDS) designed by Holland (see appendix 1 and 2), and two other instruments designed by the researcher: a semantic differential instrument with six-step rating scales applied to six occupational titles and a paired-comparisons instrument designed to measure the relative importance of occupational stereotypes to the career aspirations of the subjects in relation to other selected variables. A French version of each instrument was used.

The SDS

The SDS is a self-administered test of 228 items based on Holland's theory of Vocational Choice (1966) and his occupational classification. It consists of two booklets: an assessment booklet and an occupational classification booklet. The assessment booklet includes check lists of preferred activities, competencies, occupational preferences, and self-rating. At the end of the assessment booklet, the student scores responses and organizes results into a single profile which indicates his or her resemblance to each of Holland's personality types: Realistic, Investigative, Artistic, Social, Enterprising, and Conventional. The letters of the three
highest scales form a three-letter summary code. For example, a person with the code RIE would resemble the Realistic, the Investigative, and the Enterprising personality type in that order of importance.

The occupational classification includes a list of 500 occupations organized according to the same three-letter codes. Thus, a student uses his or her code obtained from the assessment booklet to search for suitable occupations in the occupational classification booklet. The final steps in the assessment booklet ask the student to list the occupations which match the individual code exactly and then to list occupations which correspond to all permutations of the letters in that code.

The rationale for selecting the SDS to test particular hypotheses was fourfold: (1) its simplicity: it is easy to administer and the reading level, except for the occupations section, is estimated to be at the seventh and eight grade levels (Holland, 1972); (2) the number of studies lending some support to the theory's typology and classification scheme (more than 90 studies); (3) its suitability for cross-cultural studies (Holland, 1973; Turner & Horn, 1975; Gendre et al., 1977) and (4) its reliability and the validity of the items and scales in the assessment booklet. O'Connell and Sedlacek (1971) reported a test-retest reliability coefficient (average rank order correlation) for the summary code of .92 over a seven-month interval for samples of high-school and college students. Lacey (1971), Gaffey and Walsh (1974), Horton and Walsh (1976), and O'Brien and Walsh (1976) demonstrated the concurrent validity of Holland's theory.
with regard to the SDS. Gottfredson (1980) found that Holland typology had considerable validity.

For the purpose of this study, a slight modification was made in the first section of the test, namely, the exclusion of the first section dealing with occupational daydreams. Instead, questions requiring subjects to indicate their sex, the type of school they attend (public or private secondary schools), the geographical location of the school (Port-au-Prince or provinces), their parents' occupations, their own most preferred occupation, and their second choice of occupation were included.

The students' occupational aspirations determined by their most preferred occupation and their second choice of an occupation were coded according to Holland's occupational classifications. The relation between career aspiration codes and SDS summary codes were translated into numerical congruence scores by a simple mathematical operation adapted from Schaefer (1975):

3 points = exact correspondence between the first letter of the subject's career aspiration summary code and the first letter of the subject's summary code on the SDS

2 points = exact correspondence between the second letter of the subject's career aspiration summary code and the second letter of the subject's summary code on the SDS

2 points = exact correspondence between the third letter of the subject's career aspiration summary code and the third letter of the subject's summary code on the SDS

2 points = exact correspondence between the first letter of
the subject's career aspiration summary code and the second or third letter of the subject's summary code on the SDS

2 points = exact correspondence between the second letter of the subject's career aspiration summary code and the first letter of the subject's summary code on the SDS

2 points = exact correspondence between the third letter of the subject's career aspiration summary code and the first letter of the subject's summary code on the SDS

1 point = exact correspondence between the second letter of the subject's career aspiration summary code and the third letter of the subject's summary code on the SDS

1 point = exact correspondence between the third letter of the subject's career aspiration summary code and the second letter of the subject's summary code on the SDS

Thus, for the first occupational choice the scoring scale used is shown in table 2.

This measure of congruence gives 7 points as maximum possible.

For the second occupational choice, the same scoring scale was used but the total score was multiplied by .75. These two scores were summed up to give an overall maximum congruence score of 12.25 (a measure of realistic occupational choice). For example, if a respondent chooses "biologist" as his first choice and "podiatrist" as second choice of occupation, his summary codes for these two occupations, according to the occupational classification booklet, would be respectively ISR and SIR. Assuming that his summary code on the SDS is IRS, his overall congruence score would be: (3+1+1) + (2+2+1) x .75 = 5+3.75 = 8.75.
TABLE 1

CODE USED TO SCORE FIRST OCCUPATION CHOICE

<table>
<thead>
<tr>
<th>Career Aspiration Letter</th>
<th>Agrees with</th>
<th>SDS Code Letter</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>&quot;</td>
<td>1st</td>
<td>3</td>
</tr>
<tr>
<td>2nd</td>
<td>&quot;</td>
<td>2nd</td>
<td>2</td>
</tr>
<tr>
<td>3rd</td>
<td>&quot;</td>
<td>3rd</td>
<td>2</td>
</tr>
<tr>
<td>1st</td>
<td>&quot;</td>
<td>2nd or 3rd</td>
<td>2</td>
</tr>
<tr>
<td>2nd</td>
<td>&quot;</td>
<td>1st</td>
<td>2</td>
</tr>
<tr>
<td>3rd</td>
<td>&quot;</td>
<td>1st</td>
<td>2</td>
</tr>
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<td>2nd</td>
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<td>3rd</td>
<td>1</td>
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<tr>
<td>3rd</td>
<td>&quot;</td>
<td>2nd</td>
<td>1</td>
</tr>
</tbody>
</table>

The OSS (Occupational Stereotypes Scales)

The OSS was designed for this study to determine subjects' stereotypes according to Holland's formulations. Using seventy-two bipolar ratings scales covering mainly the psychological characteristics associated with six selected occupational titles, an attempt was made to determine: (1) if subjects hold stereotypes of the selected occupations according to Holland's personality types and (2) if differences in stereotypes occurred among different groups within the sample. The construct used in preparing the scales was that of identifying stereotypes of six occupations with adjectives employed by Holland (1973) to describe six types of personality, members of six occupational groups. These groups included: Auto Mechanic for realistic; Mathematician for investigative; Musician for artistic; Physician for social; Lawyer for
enterprising; Accountant for conventional. Though physician has been classified as an investigative type in Holland's more recent formulation of the theory (1973), the first classification suggested by Holland (1966) was preferred for this study with regard to the sample envisaged (see instrument in appendix 7).

The Scoring of the Semantic Differential Scales (OSS)

For each occupation, ten relevant adjectives and their semantic opposites were included. In addition, two irrelevant adjective pairs were also included. For example, for the social type occupation, the ten relevant adjectives were: cooperative, friendly, generous, helpful, insightful, persuasive, responsible, sociable, tactful, and understanding. The two irrelevant adjectives were pessimistic and frank. But, in order to evoke unbiased judgments as far as possible, the ten relevant adjectives and their semantic opposites were presented in such a way that five relevant adjectives and five semantic opposites were alternately presented in the first column under each occupation. No particular arrangement was adopted for the insertion of the two irrelevant adjectives; for example, for physician, a social type in this study, the scales were presented as follows:

Physician

Cooperative ___:___:___:___:___:___
Uncooperative

Unfriendly ___:___:___:___:___:___
Friendly

Optimistic ___:___:___:___:___:___
Pessimistic

Generous ___:___:___:___:___:___
Selfish

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Six response options (positions) were included for each scale as those in the example given and scores were assigned by category of response as follows:

1. For the relevant adjectives, the score was +1 if the response was in one of the two positions at the correct end of each scale, -1 if the response was in one of the two positions at the wrong end of the scale, and 0 if the response was in one of the two middle positions.

2. For an irrelevant adjective pair, the score was +1 if the response was in one of the two middle positions, indicating that the characteristic was of no import, and -1 if the response was in any other position.

A score was derived for each of the six occupations, and for the overall instrument (see instrument in appendix 7.)

Paired Comparison Scale

The third purpose of the study (as stated above) was to compare the influence of a number of factors on career choice. These
factors are perception (stereotype) of the career, prestige of the career, personal interest, intellectual ability, parents, peer, sex, and manpower needs.

For this purpose, a paired-comparison technique was used. Since there were eight factors, they yielded \(8(8-1)/2 = 28\) pairs. Each of the pairs was presented to the respondent who indicated the relative influence of each factor upon his or her career choice. Half of the respondents, randomly selected, received a form with the members of a pair in one order; the other half of the respondents received a form with the members of the pair in the opposite order.

The respondents were asked to write a 1 on the line beside the item number if the first factor were more important or a 2 if the second factor were more important.

The instrument was also designed to collect in the first section the following information: parents' occupation, sex, type of school (private or public), geographical location of the school, most preferred occupation, second choice of occupation (see instrument in appendix 4).

Field Procedures

Field procedures involved: (1) requesting permission from John L. Holland to translate and to use his SDS and the descriptive adjectives provided for each type; (2) requesting permission from the educational leaders in Haiti to conduct the study; (3) enlisting the collaboration of the seniors of the schools selected; (4) administering the instruments to all seniors present at every school on the day of
testing; and (5) analyzing the data.

Requesting Permission from Holland

Two letters were written to the two important personalities whose collaboration was needed for the success of the study. The first letter was sent to Dr. John Holland requesting permission to translate and to use his SDS as well as the list of personality traits of each type provided in his book, *Making Vocational Choices: A Theory of Careers* (1973). Dr. Holland granted permission to use the list of personality traits of each type and indicated that a French version of the SDS prepared by the University of Toronto was already available. Steps were taken to use the existing French version in the collection of data.

Requesting Permission from Haitian Educational Leaders

A letter was written to the Minister of Education in Haiti to secure permission to conduct the study. Having received no reply after two months, another letter was sent to the Director of the Guidance Center in Port-au-Prince to enlist his collaboration. It was suggested that the study could be conducted within the framework of the research activities of the Center. As a result, the proposition was accepted and full cooperation was assured. Thus, in the first week of June 1982, the researcher travelled to Haiti to spend one month administering the three tests and collecting data.

The first step taken in Haiti was a visit to the ministry of education to request the lists of all secondary schools in the country.
with the number of seniors attending each. After one week, the lists for all secondary schools and "lycées" in Port-au-Prince were collected. One week later, another list for provincial schools was received. Finally permission to administer the test was granted. The two lists provided helped to determine the number of students needed for the sample. The Guidance Center in Port-au-Prince was visited and, through its Director, the principals of the schools were contacted by telephone and by a letter to obtain permission to use the seniors of their schools as subjects for the study.

Enlisting the Collaboration of the Seniors of the Schools Sampled

Since psychological testing is a new practice in Haiti, it was necessary to visit every school and to enlist the cooperation of the senior class. A date prior to the day of testing was set with each principal in order to explain the need of the study to the students. This was done to enlist cooperation, to get voluntary participation, and thus to increase the reliability of the results. The date and time of testing were set by the students themselves.

The Administration of the Instruments

A final step was the actual administration of the three instruments. In each school, the SDS was administered first in the regular classroom. The paired comparison scales and the OSS were then administered in that order but at the same session. Since the paired comparison scales consist of two forms, half of the respondents were randomly selected to receive one form; the other half received the
other form. All three instruments were administered and all data collected by the researcher except in one case where the instruments were administered and data were collected by another educator. In this case, not only were directions and procedures explained to him, but he had previously assisted the researcher in administering the test to the seniors in one of the other schools.

After all the data had been collected and scored, each student was assigned an ID number and all variables were coded to facilitate computer analysis of the data.

**Hypotheses and Data Analysis**

For statistical testing, the hypotheses are stated here in the null form.

1. Subjects' stereotypes of six selected types of occupation are not significantly related to Holland's theoretical formulation of the six different types of occupations.

   a. Subjects' stereotypes of a selected realistic-type occupation are not significantly related to Holland's theoretical formulation of the realistic type of occupations.

   b. Subjects' stereotypes of a selected investigative-type occupation are not significantly related to Holland's theoretical formulation of the investigative type occupations.

   c. Subjects' stereotypes of a selected artistic-type occupation are not significantly related to Holland's theoretical formulation of the artistic type occupations.

   d. Subjects' stereotypes of a selected social-type occupation are not significantly related to Holland's theoretical formulation of the social type occupations.

   e. Subjects' stereotypes of a selected enterprising-type
occupation are not significantly related to Holland's theoretical formulation of the enterprising type occupations.

f. Subjects' stereotypes of a selected conventional-type occupation are not significantly related to Holland's theoretical formulation of the conventional type occupations.

The six sub-hypotheses (la, b, c, d, e, f) were tested by use of the t-test for a single sample mean. The hypothesis was to be rejected if the mean score of the respondents on the OSS for that particular occupation was significantly greater than 0. This was a one-tailed test.

2. There is no statistically significant difference in the degree of consistence of the stereotypes of the selected occupations on the part of male and female subjects.

Hypothesis 2 was tested by One-Way Multivariate Analysis of Variance, using the six scores from the OSS. This analysis was selected because different variables were to be handled simultaneously. Moreover, as Kerlinger (1973) argued, "of all methods of analysis, multivariate methods are the most powerful and appropriate for behavioral scientific and educational research" (p. 149).

Following the rejection of the null hypothesis, discriminant analysis was used to study on which of the stereotypes the groups were most different.

3. There is no statistically significant difference in the degree of consistence of the stereotypes of the selected occupations on the part of subjects from private schools and "lycées."

4. There is no statistically significant difference in the degree of consistence of the stereotypes of the selected occupations
on the part of subjects from Port-au-Prince, the capital city, and the provinces.

5. There is no statistically significant difference in the degree of consistence of the stereotypes of the selected occupations on the part of subjects from high, middle, and low socio-economic levels.

Hypotheses 3, 4, 5 were tested the same as hypothesis 2.

6. Those students who have made use of Vocational Guidance Services do not have more correct stereotypes of the occupations than those who have not made use of such services.

Hypothesis 6 was tested by Multivariate Analysis of Variance, using the six sub-scores from the OSS. Following the rejection of the hypothesis, discriminant analysis was used to study on which of the stereotypes the two groups were most different.

7. There is no congruence between subjects' career aspirations and realistic career choices as determined by their summary codes on the SDS.

This hypothesis was tested for the following groups:

a. Total respondents
b. Males
c. Females
d. Private-schools students
e. "Lycées" students
f. Capital city students
g. Provincial students
h. Students from low socio-economic level
i. Students from middle socio-economic level
j. Students from high socio-economic level

Each of the ten sub-hypotheses of hypothesis 7 was tested by the t-test for a single sample mean. The hypothesis was rejected if the mean congruence score was significantly greater than 6.125 which is half the total maximum congruence score possible for the first and second occupational choice of each respondent (see p. 86). This again is a one-tailed test.

8. Those students who have made use of Vocational Guidance Services do not have more realistic career aspirations than those who have not made use of such services.

Hypothesis 8 was tested by the t-test for independent group using the congruence scores (as described on page 86). This was a one-tailed test.

9. Those students who have a more correct understanding of occupations do not make more realistic career choices than those who have a less correct understanding of occupations.

Hypothesis 9 was tested by finding the correlation between OSS scores and the congruence scores. The hypothesis was to be rejected if a significant positive correlation coefficient was obtained (again a one-tailed test).

For the test of each hypothesis, \( \alpha \) was set at .05.

**Analysis of the Paired Comparisons Data**

Data from the paired comparisons scales provide a matrix \( P_{ij} \), indicating, for every value of \( i \) and \( j \), the proportion of respondents
who stated that factor i was more influential than factor j upon career choice. This was an 8 x 8 matrix.

The paired-comparison scaling technique (Bock & Jones, 1968, Ch. 6) was used to place the eight factors on an interval scale indicating their relative importance in career choice. This scaling procedure was performed for the complete group of respondents and also for the following categories of respondents:

1. Males and females, separately
2. Private schools and "lycées," separately
3. City and provincial students, separately
4. Students from high, middle, and low socio-economic levels, separately.

For each of the above four categorizations, the relative importance of the eight factors was compared subjectively.

**Summary**

The purpose of this chapter was to present the methodology used in the study of occupational stereotypes of Haitian high-school seniors with respect to career aspirations and implications for educational leadership. The methodology included: the determination of the variables, an explanation of the procedure used to select the sample, a description of the instruments used in the study as well as the scoring procedure of each instrument, an explanation of the procedure used in the collection of data, and an outline of the statistical analyses used.
CHAPTER IV

PRESENTATION AND ANALYSIS OF THE DATA

The purpose of this study was to determine the nature of occupational stereotypes among a sample of Haitian high-school students and the relative importance of stereotypes to the career aspirations of those students in relation to other variables with implications for educational leadership. This chapter presents and analyzes the data yielded by the administration of the three instruments described above on 327 seniors in eight high schools randomly selected with attention focused on the type, the prestige, and the location of the schools. The chapter has two main sections: the first, which is descriptive, presents the data of the study; the second analyzes the data by testing the null hypotheses and interpreting the results of the paired-comparison scales.

Presentation of the Data

The data are presented in a series of eight tables which show the distribution of the sample into different groups and the classification of the respondents into six different types of occupations with respect to their first and second choice. Table 2 indicates that about 68 percent of the sample was male; 86 percent was from Port-au-Prince, the capital city, and 67 percent attended private schools; social class comprised about 10 percent for higher, 32 percent for
TABLE 2
NUMBER OF SENIORS IN THE EIGHT HIGH SCHOOLS SAMPLED WITH NUMBER TESTED AND USED IN THE SAMPLE

<table>
<thead>
<tr>
<th>School's Name</th>
<th>No. of Students</th>
<th>Students Taking The Three Tests</th>
<th>No. of Students Used</th>
<th>Sex</th>
<th>Location</th>
<th>Types of School</th>
<th>Social Standing</th>
<th>No. of Students Used</th>
<th>No. of Students Who Made Use of Guidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.  Centre de Formation Classique</td>
<td>65</td>
<td>51</td>
<td>45</td>
<td>29</td>
<td>16</td>
<td>45</td>
<td>-</td>
<td>45</td>
<td>21</td>
</tr>
<tr>
<td>2.  College St. Pierre</td>
<td>44</td>
<td>34</td>
<td>34</td>
<td>23</td>
<td>11</td>
<td>34</td>
<td>-</td>
<td>34</td>
<td>2</td>
</tr>
<tr>
<td>3.  Institut Adventiste Frano-Haitien</td>
<td>30</td>
<td>20</td>
<td>20</td>
<td>13</td>
<td>7</td>
<td>20</td>
<td>-</td>
<td>20</td>
<td>1</td>
</tr>
<tr>
<td>5.  Lycée Antenor Firmin</td>
<td>65</td>
<td>65</td>
<td>62</td>
<td>62</td>
<td>-</td>
<td>-</td>
<td>62</td>
<td>-</td>
<td>6</td>
</tr>
<tr>
<td>6.  Lycée Toussaint Louverture</td>
<td>67</td>
<td>45</td>
<td>45</td>
<td>44</td>
<td>1</td>
<td>45</td>
<td>-</td>
<td>45</td>
<td>-</td>
</tr>
<tr>
<td>8.  Ecole St. Rose de Lima</td>
<td>45</td>
<td>36</td>
<td>36</td>
<td>-</td>
<td>36</td>
<td>36</td>
<td>-</td>
<td>27</td>
<td>27</td>
</tr>
<tr>
<td>Total</td>
<td>451</td>
<td>336</td>
<td>327</td>
<td>222</td>
<td>105</td>
<td>281</td>
<td>46</td>
<td>220</td>
<td>107</td>
</tr>
<tr>
<td>Percentage of 451</td>
<td>100</td>
<td>75</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Percentage of 336</td>
<td>-</td>
<td>100</td>
<td>.97</td>
<td>66</td>
<td>31</td>
<td>84</td>
<td>13.7</td>
<td>.65</td>
<td>31.8</td>
</tr>
<tr>
<td>Percentage of 327</td>
<td>-</td>
<td>-</td>
<td>100</td>
<td>62</td>
<td>32</td>
<td>86</td>
<td>14</td>
<td>67</td>
<td>33</td>
</tr>
</tbody>
</table>
middle and 58 percent for lower. About 23 percent of the sample, when responding to the question relative to guidance services, indicated that they made use of such services.

Table 3 shows that: (1) the number of students who selected realistic, investigative, artistic, social, enterprising, conventional type occupations as their first choice were, respectively, 42, 130, 22, 108, 19, and 6; (2) the number of students who selected realistic, investigative, artistic, social, enterprising, and conventional-type occupations as their second choice were, respectively, 34, 126, 22, 39, and 31. Investigative and Social occupations were by far the most popular.

**TABLE 3**

**RESPONDENTS' OCCUPATIONAL ASPIRATIONS**

<table>
<thead>
<tr>
<th></th>
<th>R</th>
<th>I</th>
<th>A</th>
<th>S</th>
<th>E</th>
<th>C</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Choice</td>
<td>42</td>
<td>130</td>
<td>22</td>
<td>108</td>
<td>19</td>
<td>6</td>
<td>327</td>
</tr>
<tr>
<td>Second Choice</td>
<td>34</td>
<td>126</td>
<td>22</td>
<td>69</td>
<td>39</td>
<td>31</td>
<td>321</td>
</tr>
<tr>
<td>Total</td>
<td>76</td>
<td>256</td>
<td>44</td>
<td>177</td>
<td>58</td>
<td>37</td>
<td></td>
</tr>
<tr>
<td>Percentage</td>
<td>23.2</td>
<td>78.2</td>
<td>13.4</td>
<td>54.1</td>
<td>17.7</td>
<td>11.3</td>
<td></td>
</tr>
</tbody>
</table>

Table 4 presents the specific occupational choice of the Realistic type. Nearly 13 percent (12.8) of the sample selected realistic type occupation as their first choice and over 10 and a half percent (10.59) selected the same type as their second choice.
<table>
<thead>
<tr>
<th>Occupation</th>
<th>No. First Choice</th>
<th>Percentage</th>
<th>No. Second Choice</th>
<th>Percentage</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Aircraft Mechanic</td>
<td>1</td>
<td>0.3</td>
<td>-</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>2-Automobile Body Repairman</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>0.3</td>
<td>1</td>
</tr>
<tr>
<td>3-Automobile Mechanic</td>
<td>-</td>
<td>-</td>
<td>10</td>
<td>3.1</td>
<td>10</td>
</tr>
<tr>
<td>4-Army (unclassified)</td>
<td>4</td>
<td>1.2</td>
<td>9</td>
<td>2.8</td>
<td>13</td>
</tr>
<tr>
<td>5-Civil Engineer</td>
<td>18</td>
<td>5.5</td>
<td>9</td>
<td>2.8</td>
<td>27</td>
</tr>
<tr>
<td>6-Mechanical Engineer</td>
<td>18</td>
<td>5.5</td>
<td>3</td>
<td>0.9</td>
<td>21</td>
</tr>
<tr>
<td>7-Shoemaker</td>
<td>1</td>
<td>0.3</td>
<td>-</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>8-Tailor</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>0.3</td>
<td>1</td>
</tr>
<tr>
<td>9-Vocational Agriculture Teacher</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>0.3</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>42</td>
<td>12.8</td>
<td>34</td>
<td>10.59 or 10.6</td>
<td>76</td>
</tr>
</tbody>
</table>

Of the nine realistic type occupations listed, civil engineer and mechanical engineer were most frequently stated as first choice (36 out of 42); for the second choice there was no occupation selected with important frequency.

Table 5 presents the specific occupational choices of the investigative type.

Well over 39 percent (39.7%) of the sample selected investigative type occupations as their first choice. Almost the same percentage
(39%) of the sample selected the same type as their second choice.

### TABLE 5

INVESTIGATIVE OCCUPATIONS

<table>
<thead>
<tr>
<th>Occupation</th>
<th>N First Choice</th>
<th>Percentage</th>
<th>N Second Choice</th>
<th>Percentage</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Agronomist</td>
<td>38</td>
<td>11.6</td>
<td>34</td>
<td>10.6</td>
<td>72</td>
</tr>
<tr>
<td>2-Airplane Navigator</td>
<td>1</td>
<td>0.3</td>
<td>-</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>3-Anthropologist</td>
<td>1</td>
<td>0.3</td>
<td>-</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>4-Astronomer</td>
<td>2</td>
<td>0.6</td>
<td>-</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td>5-Biochemist</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>0.3</td>
<td>1</td>
</tr>
<tr>
<td>6-Chemical Engineer</td>
<td>1</td>
<td>0.3</td>
<td>4</td>
<td>1.2</td>
<td>5</td>
</tr>
<tr>
<td>7-Computer Operator</td>
<td>2</td>
<td>0.6</td>
<td>3</td>
<td>0.9</td>
<td>5</td>
</tr>
<tr>
<td>8-Computer Programmer</td>
<td>2</td>
<td>0.6</td>
<td>-</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td>9-Economist</td>
<td>1</td>
<td>0.3</td>
<td>4</td>
<td>1.2</td>
<td>5</td>
</tr>
<tr>
<td>10-Electrical Engineer</td>
<td>5</td>
<td>1.5</td>
<td>7</td>
<td>2.2</td>
<td>12</td>
</tr>
<tr>
<td>11-Electronic Engineer</td>
<td>24</td>
<td>7.3</td>
<td>13</td>
<td>4.0</td>
<td>37</td>
</tr>
<tr>
<td>12-Electronic Technician</td>
<td>7</td>
<td>2.1</td>
<td>15</td>
<td>4.7</td>
<td>22</td>
</tr>
<tr>
<td>13-Engineer</td>
<td>26</td>
<td>8.9</td>
<td>20</td>
<td>6.2</td>
<td>46</td>
</tr>
<tr>
<td>14-Geologist</td>
<td>3</td>
<td>0.9</td>
<td>-</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>15-Horticulturist</td>
<td>1</td>
<td>0.3</td>
<td>-</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>16-Mathematician/Stat</td>
<td>1</td>
<td>0.3</td>
<td>4</td>
<td>1.2</td>
<td>5</td>
</tr>
<tr>
<td>17-Medical Technologist</td>
<td>3</td>
<td>0.9</td>
<td>4</td>
<td>1.2</td>
<td>7</td>
</tr>
<tr>
<td>18-Natural Science Teacher</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>0.3</td>
<td>1</td>
</tr>
<tr>
<td>19-Pharmacist</td>
<td>8</td>
<td>2.4</td>
<td>7</td>
<td>2.2</td>
<td>15</td>
</tr>
<tr>
<td>20-Psychologist</td>
<td>2</td>
<td>0.6</td>
<td>2</td>
<td>0.6</td>
<td>4</td>
</tr>
<tr>
<td>21-Surgeon</td>
<td>2</td>
<td>0.6</td>
<td>-</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td>22-Technician</td>
<td>-</td>
<td>-</td>
<td>7</td>
<td>2.2</td>
<td>7</td>
</tr>
<tr>
<td>Total</td>
<td>130/327</td>
<td>39.7</td>
<td>126/321</td>
<td>39.7</td>
<td>256</td>
</tr>
</tbody>
</table>

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Of the twenty-two investigative type occupations listed, agronomist, electronic engineer, and engineer were most frequently stated as first choice (88 out of 130); and agronomist, electronic engineer, electronic technician, engineer, as second choice (82 out of 126).

Table 6 presents the specific occupational choices of the artistic type.

**TABLE 6**

**ARTISTIC OCCUPATIONS**

<table>
<thead>
<tr>
<th>Occupations</th>
<th>N First Choice</th>
<th>Percentage</th>
<th>N Second Choice</th>
<th>Percentage</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Architect</td>
<td>5</td>
<td>1.5</td>
<td>6</td>
<td>1.9</td>
<td>11</td>
</tr>
<tr>
<td>2-Artist</td>
<td>4</td>
<td>1.2</td>
<td>4</td>
<td>1.2</td>
<td>8</td>
</tr>
<tr>
<td>3-Designer</td>
<td>1</td>
<td>0.3</td>
<td>-</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>4-Dramatist</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>0.3</td>
<td>1</td>
</tr>
<tr>
<td>5-Fashion Model</td>
<td>1</td>
<td>0.3</td>
<td>-</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>6-Foreign Language Interpreter</td>
<td>2</td>
<td>0.6</td>
<td>5</td>
<td>1.6</td>
<td>7</td>
</tr>
<tr>
<td>7-Interior Decorator</td>
<td>1</td>
<td>0.3</td>
<td>1</td>
<td>0.3</td>
<td>2</td>
</tr>
<tr>
<td>8-Journalist Reporter</td>
<td>4</td>
<td>1.2</td>
<td>2</td>
<td>0.6</td>
<td>6</td>
</tr>
<tr>
<td>9-Literature Teacher</td>
<td>2</td>
<td>0.6</td>
<td>1</td>
<td>0.3</td>
<td>3</td>
</tr>
<tr>
<td>10-Photographer</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>0.3</td>
<td>1</td>
</tr>
<tr>
<td>11-Writer</td>
<td>2</td>
<td>0.6</td>
<td>1</td>
<td>0.3</td>
<td>3</td>
</tr>
</tbody>
</table>

| Total              | 27/327         | 6.6        | 22/321         | 6.8        | 44     |

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Over 6.5 percent of the sample considered artistic-type occupations as their first choice. An equal percentage selected the same type as their second choice. Of the eleven artistic-type occupations listed, none of them was chosen as first choice by more than five students or second choice by more than six.

Table 7 presents the specific occupational choices of the social type. Thirty-three percent of the sample selected social type occupations as their first choice and about twenty-one percent (21.3) selected the same type as their second choice.

**TABLE 7**

**SOCIAL OCCUPATIONS**

<table>
<thead>
<tr>
<th>Occupations</th>
<th>N</th>
<th>First Choice</th>
<th>Percentage</th>
<th>N</th>
<th>Second Choice</th>
<th>Percentage</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Athletic Coach</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>0.3</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>2-Clergyman</td>
<td>4</td>
<td>1.2</td>
<td>3</td>
<td>6</td>
<td>0.9</td>
<td></td>
<td>7</td>
</tr>
<tr>
<td>3-Elementary Teacher</td>
<td>1</td>
<td>0.3</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>4-Foreign Serv. Officer</td>
<td>6</td>
<td>1.8</td>
<td>6</td>
<td>6</td>
<td>1.9</td>
<td></td>
<td>12</td>
</tr>
<tr>
<td>5-Housewife</td>
<td>1</td>
<td>0.3</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>6-Houseparent</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>7-Licensed Prac. Nurse</td>
<td>5</td>
<td>1.5</td>
<td>5</td>
<td>1</td>
<td>1.6</td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>8-Physical Therapist</td>
<td>1</td>
<td>0.3</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>9-Physician</td>
<td>80</td>
<td>24.5</td>
<td>34</td>
<td>34</td>
<td>10.6</td>
<td></td>
<td>114</td>
</tr>
<tr>
<td>10-Political Scientist</td>
<td>6</td>
<td>1.8</td>
<td>5</td>
<td>1</td>
<td>1.6</td>
<td></td>
<td>11</td>
</tr>
<tr>
<td>11-Teacher</td>
<td>4</td>
<td>1.2</td>
<td>14</td>
<td>-</td>
<td>4.4</td>
<td></td>
<td>18</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>108/327</td>
<td>33.0</td>
<td>69/321</td>
<td>21.3</td>
<td></td>
<td></td>
<td>177</td>
</tr>
</tbody>
</table>

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The respondents selected eleven different occupations from the social type. Of this group physician was most frequently stated (80 out of 108) as first choice, and, physician and teacher as second choice (48 out of 69).

Table 8 presents the specific occupational choices of the enterprising type. Less than six percent (5.8%) of the sample selected enterprising type occupations as their first choice and about 12 percent (12.1%) as their second choice. Of the four enterprising type occupations listed, administrator/manager was most frequently stated (11 out of 19) as first choice; and again, administrator/manager, was stated as second choice (27 out of 39).

**TABLE 8**

**ENTERPRISING OCCUPATIONS**

<table>
<thead>
<tr>
<th>Occupation</th>
<th>N First Choice</th>
<th>Percentage</th>
<th>N Second Choice</th>
<th>Percentage</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Administrator/Manager</td>
<td>11</td>
<td>3.3</td>
<td>27</td>
<td>8.4</td>
<td>38</td>
</tr>
<tr>
<td>2-Airline Stewardess</td>
<td>5</td>
<td>1.5</td>
<td>2</td>
<td>0.6</td>
<td>7</td>
</tr>
<tr>
<td>3-Lawyer</td>
<td>3</td>
<td>.9</td>
<td>8</td>
<td>2.5</td>
<td>11</td>
</tr>
<tr>
<td>4-Sales Manager</td>
<td>-</td>
<td>-</td>
<td>2</td>
<td>0.6</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>19/327</td>
<td>5.8</td>
<td>39/321</td>
<td>12.1</td>
<td>58</td>
</tr>
</tbody>
</table>

Table 9 presents the specific occupational choices of the conventional type. Only 1.8 percent of the sample selected conventional type occupations as first choice, whereas 9.6 percent selected the same
type occupations as second choice. Of the three conventional-type occupations listed, only secretary was frequently stated as second choice (21 out of 37).

**TABLE 9**

**CONVENTIONAL OCCUPATIONS**

<table>
<thead>
<tr>
<th>Occupation</th>
<th>N First Choice</th>
<th>Percentage</th>
<th>N Second Choice</th>
<th>Percentage</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Accountant</td>
<td>2</td>
<td>0.6</td>
<td>10</td>
<td>3.1</td>
<td>12</td>
</tr>
<tr>
<td>2-Reservations Agent</td>
<td>1</td>
<td>0.3</td>
<td>-</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>3-Secretary</td>
<td>3</td>
<td>0.9</td>
<td>21</td>
<td>6.5</td>
<td>24</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>6/327</td>
<td>1.8</td>
<td>31/321</td>
<td>9.6</td>
<td>37</td>
</tr>
</tbody>
</table>

From the foregoing presentation, it appears that the sample used in the study tends to select mostly realistic-and social-type occupations as first and second choice. For the first choice only, these two groups represented 73 percent of the sample, with Physician having the highest frequency (80), more than twice as many as Agronomist which ranks second with a frequency of 38. Similarly, for the second choice, Physician and Agronomist had the same and the highest frequencies (34). Other occupations with relatively high frequencies were: Automobile Mechanic, Civil Engineer, and Mechanical Engineer for the realistic type; Electronic Engineer, and Engineer, for the investigative type; High-School Teacher, for the social type;
Administrator/Manager for the enterprising type; Secretary for the conventional type.

Analysis of Data

Analysis of Data for Hypothesis 1

Hypothesis 1(a): Subjects' stereotypes of a selected realistic-type occupation are not significantly related to Holland's theoretical formulation of the realistic-type occupations.

Hypothesis 1(b): Subjects' stereotypes of a selected investigative-type occupation are not significantly related to Holland's theoretical formulation of the investigative-type occupations.

Hypothesis 1(c): Subjects' stereotypes of a selected artistic-type occupation are not significantly related to Holland's theoretical formulation of the artistic-type occupations.

Hypothesis 1(d): Subjects' stereotypes of a selected social-type occupation are not significantly related to Holland's theoretical formulation of the social-type occupations.

Hypothesis 1(e): Subjects' stereotypes of a selected enterprising-type occupation are not significantly related to Holland's theoretical formulation of the enterprising-type occupations.

Hypothesis 1(f): Subjects' stereotypes of a selected conventional-type occupation are not significantly related to Holland's theoretical formulation of the conventional-type occupations.

Hypothesis 1 was tested with the t-test for a single sample mean. As the scoring scheme described in chapter 3 would yield a score of zero for no significant relationship, the criterion used to
determine relationship between respondents' stereotypes of a selected occupation and Holland's theoretical formulation was a mean score significantly greater than 0.

Table 10 indicates the mean and standard deviation of the total sample on each of the OSS categories, as well as the t-values for the test of the hypotheses. The mean for the social type as compared to the other means is particularly high; this seems to indicate, in light of the data presented in Tables 5 and 7, that the most popular occupations are those for which the respondents had more accurate stereotypes. A t-test was performed for each of the six types of occupations selected to represent Holland's classification type. Since the level of rejection for this t-test was set at .05, hypothesis 1 was rejected.

**TABLE 10**

MEANS SCORES ON OSS SCALES

<table>
<thead>
<tr>
<th>Occupation (Type)</th>
<th>N</th>
<th>Means Scores</th>
<th>SD</th>
<th>T</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auto Mechanic (Realistic)</td>
<td>327</td>
<td>3.1682</td>
<td>2.569</td>
<td>22.2998</td>
<td>&lt;.0005</td>
</tr>
<tr>
<td>Mathematician (Investigative)</td>
<td>327</td>
<td>4.9664</td>
<td>2.770</td>
<td>32.4263</td>
<td>&lt;.0005</td>
</tr>
<tr>
<td>Musician (Artistic)</td>
<td>327</td>
<td>1.1560</td>
<td>3.830</td>
<td>5.4585</td>
<td>&lt;.0005</td>
</tr>
<tr>
<td>Physician (Social)</td>
<td>327</td>
<td>6.8746</td>
<td>2.290</td>
<td>54.2820</td>
<td>&lt;.0005</td>
</tr>
<tr>
<td>Lawyer (Enterprising)</td>
<td>327</td>
<td>3.9480</td>
<td>3.398</td>
<td>21.0102</td>
<td>&lt;.0005</td>
</tr>
<tr>
<td>Accountant (Conventional)</td>
<td>327</td>
<td>3.9450</td>
<td>2.049</td>
<td>34.8117</td>
<td>&lt;.0005</td>
</tr>
</tbody>
</table>

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The conclusion is made that there is a significant difference between the respondents' mean scores on the OSS for each of the six types of occupations and the hypothesized mean 0. Thus, the test results confirmed the research hypothesis that subjects' stereotypes of the six occupations selected by the researcher were consistent with Holland's theoretical formulation of the model category they represented.

Analysis of Data for Hypotheses 2-6

Hypothesis 2: There is no difference in the stereotypes of the selected occupations on the part of male and female students.

Table 11 shows the means of the two groups, male and female students, on the OSS for each of the six occupations.

TABLE 11

MEANS ON THE SIX VARIABLES - STUDENTS' STEREOTYPES OF OCCUPATIONS - MALES AND FEMALES

<table>
<thead>
<tr>
<th>Variable</th>
<th>Occupation</th>
<th>Entire Sample</th>
<th>Sex Male</th>
<th>Sex Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Auto Mechanic</td>
<td>3.1682</td>
<td>3.1126</td>
<td>3.2857</td>
</tr>
<tr>
<td>2</td>
<td>Mathematician</td>
<td>4.9664</td>
<td>4.9369</td>
<td>5.0286</td>
</tr>
<tr>
<td>3</td>
<td>Musician</td>
<td>1.1560</td>
<td>.4775</td>
<td>2.5705</td>
</tr>
<tr>
<td>4</td>
<td>Physician</td>
<td>6.8746</td>
<td>6.7928</td>
<td>7.0476</td>
</tr>
<tr>
<td>5</td>
<td>Lawyer</td>
<td>3.9480</td>
<td>4.0450</td>
<td>3.7429</td>
</tr>
<tr>
<td>6</td>
<td>Accountant</td>
<td>3.9450</td>
<td>3.6712</td>
<td>4.5238</td>
</tr>
</tbody>
</table>

To test the hypothesis, one way multivariate analysis of variance (MANOVA) was performed. The multivariate analysis of variance yielded
a Wilks' Lambda of .9021, and F ratio of 5.7889 with 6 and 320 degrees of freedom (df), and a probability (p) = .001. The null hypothesis was therefore rejected. The male and female students' stereotypes of the six selected occupations were significantly different.

Since the null hypothesis was rejected, discriminant analysis was used to determine which of the six stereotypes were the most important in differentiating the two groups (male and female).

Table 12 gives the standardized discriminant function weights for the two groups. The discriminant analysis yielded an approximate chi square of 33.1806 with 6 degrees of freedom and a p < .00005.

The discriminant function was significant. The means on the

**TABLE 12**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Occupation</th>
<th>Standardized Weights</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Auto Mechanic</td>
<td>6.6022</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Mathematician</td>
<td>-11.8594</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Musician</td>
<td>42.5841</td>
<td>(1)</td>
</tr>
<tr>
<td>4</td>
<td>Physician</td>
<td>-1.1923</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Lawyer</td>
<td>-7.9415</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Accountant</td>
<td>25.6504</td>
<td>(2)</td>
</tr>
</tbody>
</table>

discriminant function of the two groups were as follows: Female, 3.435 and male, 1.451. The numbers in parentheses in Table 12 indicate
the order of importance of the weights. Since the most significance is attached to those variables with the highest absolute weight values, the result on the table shows there were two variables with the largest weights in absolute value. They were artistic and conventional. Only those two variables have been ranked adopting the conventional method in discriminant analysis to rank only those weights that fall within no less than 50 percent of the largest weights. Thus, since the maximum weight of 42.5841 was established for variable 3, the only other weight to qualify was 25.6504 for variable 6.

The conclusion is made that, compared to male students, female students tended to have better stereotypes with regard to the artistic and conventional-type occupations selected. This result failed to support the research hypothesis that there is no difference in the stereotypes of the six occupations selected on the part of male and female students.

**Hypothesis 3:** There is no difference in the stereotype of the selected occupations on the part of students from private secondary schools and "lycées."

Table 13 shows the means of the two groups on the OSS for each of the six variables. To test the hypothesis, one way multivariate analysis of variance was performed, which yielded a Wilk's Lambda of .9183, an F ratio of 5.7889 with 6 and 320 degrees of freedom, and a p = .003. The null hypothesis was thus rejected. The students from private secondary schools and "lycées" have significantly different stereotypes of the six occupations selected.
Since the null hypothesis was rejected, discriminant analysis was used to determine which of the six stereotypes of the group were the most important in differentiating between the two groups.

Table 14 shows the standardized discriminant function weights for the two types of school. The discriminant analysis yielded an approximate Chi square of 27.2539 with 6 degrees of freedom and a probability of \( p = .0001 \). The discriminant function was significant. The means on the discriminant function were 2.035 for private school students and .053 for "lycée" students. Since it is a conventional method in discriminant analysis to rank only those weights that fall within no less than 50 percent of the largest weight, only variable 3 was ranked. Though variable 2 was far above variables 1, 2, 4, 5, it was not ranked because its weight was less than 50 percent of the highest weight. The number in parenthesis indicates the highest weight.
TABLE 14

DISCRIMINANT FUNCTION WEIGHTS - PRIVATE SCHOOLS AND "LYCEES" STUDENTS

<table>
<thead>
<tr>
<th>Variable</th>
<th>Occupation</th>
<th>Standardized Weights</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Auto Mechanic</td>
<td>6.1869</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Mathematician</td>
<td>-9.6137</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Musician</td>
<td>53.0211</td>
<td>(1)</td>
</tr>
<tr>
<td>4</td>
<td>Physician</td>
<td>-6.7581</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Lawyer</td>
<td>.2153</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Accountant</td>
<td>19.6227</td>
<td></td>
</tr>
</tbody>
</table>

Since the discriminant function was significant, the conclusion was made that, compared to "lycées" students, private-school students tended to have better occupational stereotypes with respect to the artistic and to some extent the conventional type. The result failed to support the research hypothesis that there is no difference in the stereotypes on the part of private-school students and lycée students.

Hypothesis 4: There is no difference in the stereotypes of the selected occupations on the part of students from Port-au-Prince and students from the provinces.

The means of the two geographical groups on the OSS are shown on Table 15 for each of the six occupations selected. One way multivariate analysis of variance was performed, which yielded a Wilk's Lambda of .9042, and F ratio of 3.1504 with 6 and 320 degrees of freedom and a probability of .0054. The null hypothesis was thus
rejected. The result suggests that students from Port-au-Prince and students from the provinces have significantly different stereotypes of the six occupations selected.

**TABLE 15**

**MEANS ON THE SIX VARIABLES**
**STUDENTS' STEREOTYPES OF OCCUPATIONS**
**CAPITAL CITY AND PROVINCIAL STUDENTS**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Occupation</th>
<th>Entire Sample</th>
<th>Location of the Schools</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Capital City</td>
</tr>
<tr>
<td>1</td>
<td>Auto Mechanic</td>
<td>3.1682</td>
<td>3.1174</td>
</tr>
<tr>
<td>2</td>
<td>Mathematician</td>
<td>4.9664</td>
<td>4.7438</td>
</tr>
<tr>
<td>3</td>
<td>Musician</td>
<td>1.1560</td>
<td>.9075</td>
</tr>
<tr>
<td>4</td>
<td>Physician</td>
<td>6.8746</td>
<td>6.8363</td>
</tr>
<tr>
<td>5</td>
<td>Lawyer</td>
<td>3.9480</td>
<td>3.8754</td>
</tr>
<tr>
<td>6</td>
<td>Accountant</td>
<td>3.9450</td>
<td>3.8790</td>
</tr>
</tbody>
</table>

Since the null hypothesis was rejected, discriminant analysis was used to determine which of the stereotypes were the most important in differentiating the two groups. The discriminant analysis yielded an approximate chi square of 18.4801 with 6 degrees of freedom and a probability of .0051. The discriminant function was significant in differentiating the two groups. The means on the discriminant function were 7.718 for students from the provinces and 5.492 for students from Port-au-Prince. Table 16 shows the discriminant function weights for the two groups. It also indicates that there were two variables with the largest weights in absolute
value. They were investigative and artistic occupations. Their rank order is indicated in parentheses.

TABLE 16

DISCRIMINANT FUNCTION WEIGHTS - CAPITAL CITY AND PROVINCE STUDENTS

<table>
<thead>
<tr>
<th>Variable</th>
<th>Occupations</th>
<th>Standard Weights</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Auto Mechanic</td>
<td>6.9725</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Mathematician</td>
<td>39.9779</td>
<td>(1)</td>
</tr>
<tr>
<td>3</td>
<td>Musician</td>
<td>26.9167</td>
<td>(2)</td>
</tr>
<tr>
<td>4</td>
<td>Physician</td>
<td>-6.1156</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Lawyer</td>
<td>7.3113</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Accountant</td>
<td>12.7861</td>
<td></td>
</tr>
</tbody>
</table>

Since the discriminant function was significant, the conclusion is made that, compared to students from Port-au-Prince, students from the provinces have better occupational stereotypes with respect to investigative and artistic type occupations. The result failed to support the research hypothesis that there is no difference in the stereotypes of the selected occupations on the part of students from Port-au-Prince and the provinces.

**Hypothesis 5:** There is no difference in the stereotypes of the selected occupations on the part of students from high, middle, and low socio-economic level.

The means of the three social groups on the OSS are shown on Table 17 for each of the six occupations selected.
### TABLE 17

**MEANS ON THE SIX VARIABLES**

**STUDENTS' STEREOTYPES OF OCCUPATIONS**

**SOCIAL STANDING**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Occupation</th>
<th>Entire Sample</th>
<th>Social Standing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>High</td>
</tr>
<tr>
<td>1</td>
<td>Auto Mechanic</td>
<td>3.1944</td>
<td>3.2813</td>
</tr>
<tr>
<td>2</td>
<td>Mathematician</td>
<td>5.0188</td>
<td>6.7188</td>
</tr>
<tr>
<td>3</td>
<td>Musician</td>
<td>1.0972</td>
<td>4.8750</td>
</tr>
<tr>
<td>4</td>
<td>Physician</td>
<td>6.9185</td>
<td>8.0000</td>
</tr>
<tr>
<td>5</td>
<td>Lawyer</td>
<td>3.9436</td>
<td>3.1875</td>
</tr>
<tr>
<td>6</td>
<td>Accountant</td>
<td>3.9467</td>
<td>5.5312</td>
</tr>
</tbody>
</table>

To test the hypothesis, one-way multivariate analysis of variance was performed, which yielded a Wilk's Lambda of .7949, an F ratio of 6.3041 with 12 and 622 degrees of freedom, and a probability p < .00005. The null hypothesis was therefore rejected. The result suggests that there is a significant difference in the stereotypes of the selected occupations on the part of students from high, middle, and low socio-economic level.

Since the null hypothesis was rejected, discriminant analysis was used once more to determine which of the stereotypes were the most important in differentiating the three groups. The discriminant analysis yielded an approximate chi square of 71.9633 with 12 degrees of freedom, and a probability of .0001. The first discriminant function was thus significant. The means on the three groups...
were 9.713 for students from high economic level, 5.335 for students from middle socio-economic level, and 4.594 for students from low economic level.

Table 18 shows the discriminant function weights for the six variables and also the variables with the largest weights in absolute value. They were musician and accountant. Their rank order is indicated in parentheses.

\textbf{TABLE 18}

\textbf{DISCRIMINANT FUNCTION WEIGHTS}
\textbf{STUDENTS' SOCIAL STANDING}

<table>
<thead>
<tr>
<th>Variable</th>
<th>Occupation</th>
<th>Standardized Weights</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Auto Mechanic</td>
<td>- .9182</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Mathematician</td>
<td>13.0052</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Musician</td>
<td>41.5549</td>
<td>(1)</td>
</tr>
<tr>
<td>4</td>
<td>Physician</td>
<td>10.7771</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Lawyer</td>
<td>-14.5900</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Accountant</td>
<td>21.6467</td>
<td>(2)</td>
</tr>
</tbody>
</table>

Since the discriminant function was significant, the conclusion is made that students from high socio-economic level have better occupational stereotypes than students from middle and low socio-economic level, with respect to artistic and conventional type occupation.

For the second discriminant function, the data yielded an approximate chi square of 8.8390 with 5 degrees of freedom and a probability of .1156 (p. > .05). The test was not significant in
differentiating the three socio-economic groups.

Since the first discriminant function was significant, one can conclude that the result failed to support the research hypothesis that there is no difference in the stereotypes of the selected occupations on the part of students from high, middle, and low socio-economic level.

Hypothesis 6: Those students who have made use of vocational guidance services do not have more accurate stereotypes of the selected occupations than those who have not made use of such services.

Table 19 shows the means of the two groups on the OSS for each of the six variables.

TABLE 19

MEANS ON THE SIX VARIABLES - STUDENTS WHO MADE USE OF GUIDANCE AND STUDENTS WHO DID NOT

<table>
<thead>
<tr>
<th>Variable</th>
<th>Occupation</th>
<th>Entire Sample</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Auto Mechanic</td>
<td>3.1693</td>
<td>3.1622</td>
<td>3.1714</td>
</tr>
<tr>
<td>2</td>
<td>Mathematician</td>
<td>4.9342</td>
<td>5.6216</td>
<td>4.7265</td>
</tr>
<tr>
<td>3</td>
<td>Musician</td>
<td>1.2038</td>
<td>1.8243</td>
<td>1.0163</td>
</tr>
<tr>
<td>4</td>
<td>Physician</td>
<td>6.8777</td>
<td>7.3108</td>
<td>6.7469</td>
</tr>
<tr>
<td>5</td>
<td>Lawyer</td>
<td>4.0125</td>
<td>5.1622</td>
<td>3.6653</td>
</tr>
<tr>
<td>6</td>
<td>Accountant</td>
<td>3.9561</td>
<td>4.0405</td>
<td>3.9306</td>
</tr>
</tbody>
</table>

To test the hypothesis, multivariate analysis of variance was performed, which yielded a Wilk's Lambda of .9441, an F ratio of 3.0795 with
6 and 312 degrees of freedom, and a probability of .0063. The null hypothesis was rejected. The result, thus, confirmed the research hypothesis that students who have made use of vocational guidance services have more accurate stereotypes of the selected occupations than those who have not made use of such services (see table 19).

Since the null hypothesis was rejected, discriminant analysis was used to study on which of the stereotypes the two groups were most different. Table 20 shows the standardized discriminant function weights for the two groups. The discriminant analysis yielded an approximate chi square of 18.0659 with 6 degrees of freedom and a probability of .0061. The discriminant function was significant in differentiating the two groups. The means of the two groups were 9.942 for those who made use of guidance services, and 8.096 for those who did not. Table 20 also indicates that there were two variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Occupation</th>
<th>Standardized Weights</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Auto Mechanic</td>
<td>-7.3448</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Mathematician</td>
<td>23.2108</td>
<td>(2)</td>
</tr>
<tr>
<td>3</td>
<td>Musician</td>
<td>6.8248</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Physician</td>
<td>19.1173</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Lawyer</td>
<td>42.2152</td>
<td>(1)</td>
</tr>
<tr>
<td>6</td>
<td>Accountant</td>
<td>4.4833</td>
<td></td>
</tr>
</tbody>
</table>
with the largest weights in absolute value. They were enterprising (lawyer) and investigative (mathematician) type occupations. Their rank order is indicated in parentheses.

Since the discriminant function was significant, the conclusion is made that, compared to students who have not made use of guidance services, students who have used guidance services have better occupational stereotypes with respect to enterprising and investigative-type occupations selected.

Analysis of Data for Hypothesis 7

Hypothesis 7(a): There is no congruence between the total respondents' career aspirations and realistic career choices as determined by their summary code on the SDS.

Hypothesis 7(b): There is no congruence between male students' career aspirations and realistic career choices as determined by their summary code on the SDS.

Hypothesis 7(c): There is no congruence between female students' career aspirations and realistic career choices as determined by their summary code on the SDS.

Hypothesis 7(e): There is no congruence between "lycée" students' career aspirations and realistic career choice as determined by their summary code on the SDS.

Hypothesis 7(f): There is no congruence between Capital City students' career aspirations and realistic career choices as determined by their summary code on the SDS.

Hypothesis 7(g): There is no congruence between provincial
students' career aspirations and realistic career choices as determined by their summary code on the SDS.

_Hypothesis 7(h):_ There is no congruence between the career aspirations of the students from low socio-economic level and realistic career choices as determined by their summary code on the SDS.

_Hypothesis 7(i):_ There is no congruence between the career aspirations of the students from middle socio-economic level and realistic career choices as determined by their summary code on the SDS.

_Hypothesis 7(j):_ There is no congruence between the career aspirations of the students from high socio-economic level and realistic career choices as determined by their summary code on the SDS.

In Table 21, the mean congruence score and standard deviation are given for the total respondents and each of the sub-groups for which the hypothesis was tested. Each mean congruence score was compared to the hypothesized population mean of 6.1250. This figure represents half the total maximum score possible for the first and second occupational choice. For each sub-hypothesis a t-test was performed to determine whether the mean congruence score and the population mean were significantly different. Since the level of rejection was set at .05 level of significance on a one-tailed test, an observation of the table indicates that the criterion used to determine congruence was satisfactorily met for the total respondents and for each of the nine sub-groups. Therefore, hypothesis 7 was rejected.

The conclusion is made that there is congruence between the
<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Sample Mean</th>
<th>Hypothesized Pop. Mean</th>
<th>Mean Difference</th>
<th>SD</th>
<th>t</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>1- Total respondents</td>
<td>327</td>
<td>7.2446 (6)</td>
<td>6.1250</td>
<td>1.1196</td>
<td>2.225</td>
<td>9.1007</td>
<td>&lt; .0005</td>
</tr>
<tr>
<td>2- Male</td>
<td>227</td>
<td>7.0529 (9)</td>
<td>6.1250</td>
<td>.9279</td>
<td>2.187</td>
<td>6.3229</td>
<td>&lt; .0005</td>
</tr>
<tr>
<td>3- Female</td>
<td>105</td>
<td>7.6500 (2)</td>
<td>6.1250</td>
<td>1.5250</td>
<td>2.261</td>
<td>6.9128</td>
<td>&lt; .0005</td>
</tr>
<tr>
<td>4- Private Schools students</td>
<td>220</td>
<td>7.4102 (3)</td>
<td>6.1250</td>
<td>1.2852</td>
<td>2.245</td>
<td>8.4899</td>
<td>&lt; .0005</td>
</tr>
<tr>
<td>5- &quot;Lycées&quot; Students'</td>
<td>107</td>
<td>6.9042 (10)</td>
<td>6.1250</td>
<td>.7792</td>
<td>2.157</td>
<td>3.7452</td>
<td>&lt; .0005</td>
</tr>
<tr>
<td>6- Capital City students</td>
<td>281</td>
<td>7.2509 (4)</td>
<td>6.1250</td>
<td>1.1259</td>
<td>2.213</td>
<td>8.5299</td>
<td>&lt; .0005</td>
</tr>
<tr>
<td>7- Provincial students</td>
<td>46</td>
<td>7.2065 (7)</td>
<td>6.1250</td>
<td>1.0815</td>
<td>2.322</td>
<td>3.1588</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>8- Students from low S.E.L.</td>
<td>184</td>
<td>7.0/07 (8)</td>
<td>6.1250</td>
<td>.9957</td>
<td>2.180</td>
<td>5.8730</td>
<td>&lt; .0005</td>
</tr>
<tr>
<td>9- Students from middle S.E.L.</td>
<td>103</td>
<td>7.2476 (5)</td>
<td>6.1250</td>
<td>1.1206</td>
<td>2.283</td>
<td>4.9812</td>
<td>&lt; .0005</td>
</tr>
<tr>
<td>10- Students from high S.E.L.</td>
<td>32</td>
<td>8.1875 (1)</td>
<td>6.1250</td>
<td>2.0625</td>
<td>1.990</td>
<td>5.8576</td>
<td>&lt; .0005</td>
</tr>
</tbody>
</table>
subjects' career aspirations and their summary code on the SDS. This finding failed to support the research hypothesis that there is no congruence between the subjects' career aspirations and their summary code on the SDS. For hypothesis 7 (g and f) the power of this test was less than .99. This stems from the fact that the size of each of these two groups (provincial students and students from high socio-economic level) was less than 61, the size needed to guarantee a high level of power of .99 in the t-tests (see p. 80). Even though power was less than .99, the test rejected the null hypothesis for 7 (g and f).

Analysis of Data for Hypothesis 8

Hypothesis 8: Those students who have made use of vocational guidance services do not have more realistic career aspirations than those who have not made use of such services.

Table 22 shows the mean score for each of the two different groups with respect to their congruence score. The F-test was performed

<table>
<thead>
<tr>
<th>Group</th>
<th>Number of Cases</th>
<th>Mean Score</th>
<th>Group Variance</th>
<th>T</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Made use of guidance</td>
<td>74</td>
<td>7.1284</td>
<td>5.2966</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-Did not make use of guidance</td>
<td>245</td>
<td>7.2673</td>
<td>4.9333</td>
<td>-.4677</td>
<td>.6796</td>
</tr>
</tbody>
</table>

TABLE 22

MEAN CONGRUENCE SCORES - THOSE WHO RECEIVED GUIDANCE AND THOSE WHO DID NOT

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to determine whether the variances of the two groups were significantly different. The assumption of homogeneity of variance was upheld. A t-test was used to determine whether the means of the two groups were significantly different. Since the region of rejection was set at the 0.5 level of significance on a one-tailed test, the result indicates insufficient reason to reject the null hypothesis. It was therefore retained.

**Analysis of Data for Hypothesis 9**

**Hypothesis 9:** Those students who have a more correct understanding of occupations do not make more realistic career choices than those who have a less correct understanding of occupations.

To test hypothesis 9, a product-moment correlation coefficient was performed between the OSS scores and the congruence scores. This correlation was -.0216, the probability being .349. Since the level of rejection was set at .05 level of significance, the result was not significant and indicated no relationship between OSS scores and the congruence scores. The test failed to reject the null hypothesis. The result suggests that students who have a more correct understanding of occupation do not make more realistic career choices than those who have a less correct understanding of occupations.

**Analysis of Data for the Paired Comparison Scales**

The purpose of the paired-comparison scales was to determine the relative importance of occupational stereotypes to the career aspirations of the subjects with respect to the following seven factors: students' interest, parental influence, friends' influence, intellectual
ability, manpower needs, sex and prestige of occupations.

The paired-comparison scaling technique formulated by Thurstone (Bock & Jones, 1968, chapter 6) was used to place the eight factors on an arbitrary interval scale (see appendix 9). For ease of reading, each scale has been adjusted to give the lowest scaling attribute a value of zero. Table 23 shows the adjusted scale values of the eight factors on the part of the complete group of respondents and nine subgroups. The rank in parentheses indicates the relative influence attributed to each factor on career aspirations by the total sample and by each subgroup separately. The results suggest that:

1. There was fairly high agreement among the complete group of respondents and each category of subgroups. Rank order correlations of the adjusted scale values of the eight factors on the part of the total respondents and nine subgroups were very high (see appendix 10).

2. Male and female students completely agreed on the relative importance of three factors; fairly high agreement was found for the other five factors.

3. Private school and "lycées" students completely agreed on the relative importance of each of the eight factors on their career aspirations as indicated by the rank order in parentheses.

4. Similarly, Capital City and provincial school students completely agreed on the relative importance of each of the eight factors on their career aspirations as indicated by the rank order in parentheses.

5. Students from low and middle socio-economic level completely agreed on the relative importance of three factors; fairly high
TABLE 23

PAIRED COMPARISONS--ADJUSTED SCALE VALUES OF THE EIGHT FACTORS
ON THE PART OF THE TOTAL RESPONDENTS AND NINE SUBGROUPS
(RANK IN PARENTHESES)

<table>
<thead>
<tr>
<th>Factors</th>
<th>Total Respondents</th>
<th>Male</th>
<th>Female</th>
<th>Private School Students</th>
<th>&quot;Lycees&quot; Students</th>
<th>City-School Students</th>
<th>Provincial School Students</th>
<th>Low S.E.L. Students</th>
<th>Medium S.E.L. Students</th>
<th>High S.E.L. Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest</td>
<td>1.5 (3)</td>
<td>1.5 (3)</td>
<td>1.5 (2)</td>
<td>1.5 (3)</td>
<td>1.8 (3)</td>
<td>1.6 (3)</td>
<td>1.3 (3)</td>
<td>1.5 (3)</td>
<td>1.5 (2)</td>
<td>2.3 (2)</td>
</tr>
<tr>
<td>Conception of occupations</td>
<td>1.6 (2)</td>
<td>1.6 (2)</td>
<td>1.5 (3)</td>
<td>1.5 (2)</td>
<td>1.8 (2)</td>
<td>1.6 (2)</td>
<td>1.3 (2)</td>
<td>1.6 (2)</td>
<td>1.4 (3)</td>
<td>2.0 (3)</td>
</tr>
<tr>
<td>Parents' Influence</td>
<td>.4 (7)</td>
<td>.3 (7)</td>
<td>.4 (7)</td>
<td>.3 (7)</td>
<td>.6 (7)</td>
<td>.4 (7)</td>
<td>.2 (7)</td>
<td>.3 (7)</td>
<td>.4 (7)</td>
<td>.6 (7)</td>
</tr>
<tr>
<td>Friends' Influence</td>
<td>0 (8)</td>
<td>0 (8)</td>
<td>0 (8)</td>
<td>0 (8)</td>
<td>0 (8)</td>
<td>0 (8)</td>
<td>0 (8)</td>
<td>0 (8)</td>
<td>0 (8)</td>
<td>0 (8)</td>
</tr>
<tr>
<td>Intellectual ability</td>
<td>1.8 (1)</td>
<td>1.8 (1)</td>
<td>1.8 (1)</td>
<td>1.8 (1)</td>
<td>2.3 (1)</td>
<td>1.9 (1)</td>
<td>1.8 (1)</td>
<td>1.8 (1)</td>
<td>1.7 (1)</td>
<td>2.8 (1)</td>
</tr>
<tr>
<td>Manpower needs</td>
<td>1.1 (4)</td>
<td>1.2 (4)</td>
<td>.9 (6)</td>
<td>1.0 (4)</td>
<td>1.5 (4)</td>
<td>1.1 (4)</td>
<td>1.1 (4)</td>
<td>1.2 (4)</td>
<td>1.0 (5)</td>
<td>1.2 (6)</td>
</tr>
<tr>
<td>Sex</td>
<td>.6 (6)</td>
<td>.5 (6)</td>
<td>.7 (5)</td>
<td>.6 (6)</td>
<td>.7 (6)</td>
<td>.6 (6)</td>
<td>.5 (6)</td>
<td>.5 (6)</td>
<td>.6 (6)</td>
<td>1.3 (5)</td>
</tr>
<tr>
<td>Prestige of occupations</td>
<td>1.0 (5)</td>
<td>1.0 (5)</td>
<td>1.0 (4)</td>
<td>1.0 (5)</td>
<td>1.3 (5)</td>
<td>1.1 (5)</td>
<td>.6 (5)</td>
<td>1.0 (5)</td>
<td>1.0 (4)</td>
<td>1.4 (4)</td>
</tr>
</tbody>
</table>
agreement was found for the other five factors.

6. Students from low and high socio-economic level completely agreed on the relative importance of three factors; fairly high agreement was found for the other five factors.

7. Students from middle and high socio-economic level completely agreed on the relative importance of six factors on the career aspirations. There was fairly high agreement on the relative importance of the other two factors.

8. The complete group of respondents and the nine subgroups agreed that intellectual ability is the most influential factor in their career aspirations.

9. Six subgroups out of nine according to their adjusted scale values agreed that, after intellectual ability, occupational stereotypes (conception of occupation) is the most influential factor in their career aspirations. The other three subgroups agreed that occupational stereotypes is the third influential factor and considered preferably interest as the second influential factor.

10. The complete group of respondents and the nine subgroups agreed that friend's influence is the least influential factor in their career aspirations. The same agreement was found as to the influence of parents as a factor in determining occupational choice. The adjusted scale values found for this factor indicated that the respondents attributed seventh rank in importance to parental influences.

Summary

The purpose of this chapter was to present and analyze the
data yielded by the three instruments used in the study of occupational stereotypes with a sample of Haitian high-school seniors.

Several null hypotheses were tested. The results indicated that all hypotheses except 8 and 9 were rejected. For the purpose of this study, the support given to the research hypotheses 1 and 6 indicates that not only do the subjects have stereotypes of occupations but also those who have made use of guidance services have better stereotypes than those who did not. Moreover, an analysis of the results obtained for the paired-comparison scales revealed the importance attributed to each of the eight factors used, in the respondents' career aspirations. Such findings suggest implications for educational leadership and lead to chapter five which is devoted to the discussion of those findings and their implications.
CHAPTER V

SUMMARY, IMPLICATIONS, AND RECOMMENDATIONS

This chapter is divided into three parts. The first part is a summary of the whole study presenting the purpose, methodology and findings; the second part presents a discussion of the findings leading to the implications for educational administration; and the third part presents the recommendations for further study.

Summary

Summary of the Purpose

The main purpose of this study was to determine the nature of occupational stereotypes among a sample of Haitian high-school seniors and their relative importance to career aspirations with implications for educational leadership. Specifically, this study sought to determine: (1), whether stereotypes of selected occupations held by the respondents were generally consistent with Holland's theoretical formulations for each category; (2), whether the career aspirations of the respondents were consistent with their major personal orientation; (3) the relative importance of the respondents' occupational stereotypes in relation to selected variables; and (4) the implications of the findings for educational leadership.

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Nine hypotheses were developed for the study along with six subcategories under hypothesis one, and ten subcategories under hypothesis seven. In addition, a paired-comparison scaling technique was used to determine the relative importance of occupational stereotypes in relation to selected variables.

Summary of Methodology

The population for this study consisted of all seniors of eight randomly selected Haitian high schools who were present on the day of testing. A stratified random-sampling of schools was used to include males and females, students from private and public schools, students from the capital city and from the provinces, and students from three socio-economic levels. All available seniors were tested, representing a total of 336 seniors. Of this number, 327 completed the instruments and were used for this study.

Three instruments were used to collect the data: the Self-Directed Search (SDS), a self-administered interest test designed by John L. Holland; and two other instruments designed by the researcher: a semantic differential scale with six-step rating scales applied to six occupational titles, and a paired-comparisons instrument. A French version of each instrument was used.

Data were collected during the month of June in the 1981-1982 school year; generally, the tests were administered to high-school seniors during regularly scheduled class periods at their respective schools.
Summary of Findings

Several statistical procedures were used in analyzing the data. They were: t-tests for a single sample mean and for two independent groups, multivariate analysis of variance, discriminant analysis, product-moment correlation coefficient, and the paired comparison-scaling technique.

The major findings of the study were as follows:

1. Subjects' stereotypes of the six occupations selected by the researcher were significantly related to Holland's theoretical formulation of the model category they represented.

2. There was a significant difference in the stereotypes of the selected occupations on the part of male and female students.

3. There was a significant difference in the stereotypes of the selected occupations on the part of students from private secondary schools and "lycée" students.

4. There was a significant difference in the stereotypes of the selected occupations on the part of students from Port-au-Prince and the provinces.

5. There was a significant difference in the stereotypes of the selected occupations on the part of students from high, middle, and low socio-economic level.

6. Those students who had made use of vocational guidance services had more accurate stereotypes of the selected occupations than those who did not.

7. The discriminant analysis used because of the rejection of hypotheses 2-6 indicated that: female students had better occupational
stereotypes than male students on artistic-and conventional-type occupations; private school students had better occupational stereotypes than "lycées" students particularly on artistic-type occupations; provincial students had better occupational stereotypes than capital-city students on investigative-and artistic-type occupations; students from high socio-economic level had better occupational stereotypes than students from middle and low socio-economic level on artistic-and conventional-type occupations; students who made use of vocational guidance services had better occupational stereotypes than those who did not on enterprising-and investigative-type occupations.

8. There was congruence between the subjects' career aspirations and realistic career choices as determined by their summary code on the SDS. For each of the ten sub-groups, the mean congruence score was significantly higher than the hypothesized mean.

9. Those students who made use of vocational guidance services did not have more realistic career aspirations than those who had not made use of such services.

10. Those students who had a more correct understanding of occupations did not make more realistic career choices than those who had a less correct understanding of occupations.

11. There was perfect agreement between the total respondents and each of the sub-group on the relative importance of three factors on their career aspirations.

12. There was close agreement between the total respondents and each sub-group on the relative importance of the other five factors on their career aspirations.
13. There was close agreement between the total respondents and each subgroup on the relative importance of occupational stereotypes on their career aspirations. After intellectual ability, occupational stereotypes were the second most influential factor on the respondents' career aspirations.

Discussion of the Results

On the basis of the data collected and as a result of the test of the hypotheses, the following comments appear to be of interest.

Discussion Related to Occupational Choices

Investigative and social occupations were by far the most popular with 40 percent of the sample selecting nineteen different investigative-type occupations and 33 percent of the sample selecting nine social-type occupations as their first choice. Similarly, for the second choice, the same two types again had the highest percentage as a whole; moreover these had the largest number of individual occupations selected. However, while the investigative-type was the most popular, the medical profession (social) was the most popular occupation with frequency of eighty, that is, more than twice as many as agronomy (investigative) which came second with frequency of thirty-six. The same observation holds true for the second choice of occupation. In general, students were more likely, on both first and second choice, to choose professions which offer status, prestige, upward mobility, superior economic and social rewards.

There can be speculation as to the reason why investigative and social occupations were viewed more favorably by the respondents.
However, a possible explanation would be that students in Haiti do not have the same opportunity for selecting a wide variety of occupations as do American students. It is of interest that no more than sixty-three occupations figured in the first two choices. Moreover, even for the two types found to be most popular among the respondents, the number of occupations chosen with relatively high frequency was very limited. This stems from the fact that the respondents have a very limited knowledge of the world of work. Though vocational guidance exists in Haiti, it is having a very modest beginning. As indicated by the review of literature, the number of qualified personnel available to provide vocational guidance is limited; there are only eight qualified people to provide all the guidance services. First, this shortage in qualified personnel was particularly noticeable when data provided by the Haitian document, *Manpower Employment and Human Resources* (1982) are taken into consideration. This document indicated that, in 1981, there were 3,300 schools in Haiti, including elementary and secondary, technical and vocational, and schools for higher education. As far as enrollment was concerned, there were 580,000 elementary-school students and 91,000 secondary-school students.

Secondly, this shortage was also noticeable with regard to the ratio of students to qualified guidance personnel. Some guidance writers contend that it should be as low as 300 to 1 (Peter & Shertzer, 1963; Shertzer & Stone, 1976), which would call for 223 in Haitian secondary and elementary schools.

Other possible explanations for the popularity of investigative and social-types occupations are briefly listed below:
1. It appears that most of the respondents majored in areas particularly suitable to those occupations.

2. There is in Haiti as elsewhere a legitimate desire to satisfy the basic needs according to Maslow's hierarchy of human needs. Thus, the respondents tend to choose occupations more conducive to satisfying those needs.

3. There is a cultural indoctrination of the second-class status of some occupations considered in other culture as first-class status occupations.

4. Respondents chose mainly occupations for which they possessed some information. The best evidence of this statement is provided by the respondents' means scores on the OSS scales in relation to their career aspirations defined by their first and second choice of occupation.

5. It appears that a certain body of cultural information particularly about the medical profession is being transmitted with equal effectiveness to Haitian young people regardless of their sex, the type of schools they attend, the location of those schools, and their social status.

The implications of the findings presented here for the need of vocational guidance are immediately apparent. With due regard for the obstacles imposed by the limited knowledge the students have of the world of work, cultural indoctrination of the second-class status of some occupations, problems related to school curriculum, and lack of guidance, the schools in Haiti are challenged to bring the students to such a state of educational and vocational maturity.
that they are equipped to plan their futures with clear alternative
courses in action in mind in case their preferred plans do not work.
More specifically, schools should provide vocational guidance in order
to help each student broaden his/her knowledge of careers in such a
way that his/her choice becomes more realistic.

Discussion Related to Career Aspirations and Manpower-needs Projection

The career aspirations of Haitian high-school seniors as deter-
mined by the respondents' first and second choice of occupations indi-
cated an obvious discrepancy with respect to the manpower-needs pro-
jection of the country. The data provided by the review of litera-
ture on manpower-needs projection in Haiti indicated for the decade
of 1980s: (a) a shortage of superior trained personnel in technical
and administrative occupations; (b) a shortage of middle trained per-
sonnel in technical and administrative occupations; (c) a shortage of
superior specialized technicians for maintenance and repairs of
machines; (d) a shortage in qualified trained personnel for the educa-
tional system. In light of those data and the career aspirations of
the respondents focusing mainly on medicine, agronomy, and engineering
(see tables 4 through 9), it would appear that there was an over supply
of aspirants for white-collar jobs and an under supply of many other
necessary types of workers for a developing country such as Haiti. As
Seligman (1977) observed, "In light of the Haitian emphasis on status
and education, it is not surprising that many Haitians aspire toward a
college degree" (p. 411). This would have been a very legitimate de-
sire provided the students had the potential to acquire a college
degree. But such was not always the case. In Haiti, the "baccalaureat"
is a very selective examination; because of that, it is notoriously difficult to pass. It seems that very often there is a failure rate of well over 50 percent, even though some candidates take the examination four or five times. Thus, there are many students who would be better off in choosing a technical or vocational field according to their aptitude, interest, personality, and the situation of the labor market. Unfortunately, it is rare to find a student who is willing to undertake a technical or vocational training after the completion of the first six years of secondary school. This may be due in part to the recognition and the financial reward which are not always commensurate with the skills acquired in those schools. At any rate, this should be viewed as a problem to educational leaders. For, if Haiti has to be dependent on its human resources for economic development, it would be appropriate to undertake efforts in order to help the youth become aware of the needs of the country.

Discussion Related to the Hypotheses

The results of the data analysis related to hypothesis 1 indicated that subjects' stereotypes of the six occupations used in this study were consistent with Holland's theoretical formulations of the model category they represented. In the tests of all six subhypotheses, the respondents obtained mean scores on the OSS scales significantly higher than the hypothesized mean 0. This was interpreted to mean that the students held stereotypes of occupations according to Holland's theoretical formulation. All means, except for musician (artistic type), were above 3 with the highest being 6.8746 for physician. Though the criterion used to determine the existence of
stereotypes was different from procedures used in other research, this outcome appears to be in line with previous findings as reviewed in chapter 2.

In addition, the findings that the respondents had a higher mean score for physician provided clues to a tentative explanation that they tended to select, even "overchoose"--occupations for which they had better stereotypes. This was also evidenced by the fact that investigative-type occupations were the most popular, and the mean score for mathematican (an investigative type) came second after physician. Those findings are important and also should have tremendous implications for vocational guidance and career education. For, if the accuracy of the stereotypes which a student has of a typical physician, for example, will influence his decision regarding his entry or non entry into the medical profession, then, through vocational guidance and career education, each student should be helped to have more accurate stereotypes of other occupations.

With respect to the categories of sex, types of school, location of the schools, social standing, and guidance, a one-way multivariate analysis of variance followed by discriminant analysis was performed for hypotheses 2 through 5. This was to determine if differences in stereotypes existed among the subgroups in each category. The results of the MANOVA performed indicated that there was a significant difference in the stereotypes of the selected occupations on the part of male and female students; private secondary-school and "lycee" students; students from the capital city and provincial students; students from high, middle, and low socio-economic level;
and between students who made use of guidance services and those who did not. It was also found that:

1. In all cases, except for lawyer, female students had higher mean scores than male on the OSS scales; this difference was particularly important on variables three and six (musician and accountant).

2. In all cases, private-school students had higher mean scores than "lycée" students on the OSS scales; again, this difference was particularly important on variables three and six.

3. In all cases, provincial students had higher mean scores than capital-city students on the OSS scales; this difference was particularly important on variables two and three (mathematician and artist).

4. In four cases, students from high socio-economic level had better mean scores than students from middle socio-economic level and higher on five cases than low socio-economic level students; the difference was particularly important on variables three and six (musician and accountant).

5. Students from middle socio-economic level had higher mean scores than students from low socio-economic in five cases.

6. In all cases, except for variable one (auto mechanic), students who made use of vocational guidance services had higher mean scores than students who did not; this difference was particularly important with respect to variables two and five (mathematician and lawyer).

Further positive evidence was provided by the results of the discriminant analyses. For each category of subgroups, except for
students from middle and low socio-economic level, two variables were found to differentiate significantly among the subgroups in each category and separated them in terms of stereotype accuracy.

According to the discriminant function weights, it was concluded that: (a) female students had more accurate stereotypes than male students with respect to artistic-and conventional-type occupations; (b) private-school students had more accurate stereotypes than "lycée" students particularly with respect to artistic type occupations; (c) provincial students had more accurate stereotypes than capital-city students with respect to investigative-and artistic-type occupations; (d) students from high socio-economic level had better stereotypes than students from middle and low socio-economic level with respect to artistic-and conventional-type occupations; (e) students who made use of guidance services had better stereotypes than those who had not made use of such services with respect to enterprising-and investigative-type occupations.

A possible explanation of those results could be that female students, private-school students, students from the provinces, students from high socio-economic level, and students who made use of guidance services had at least one common characteristic that affected in all cases the group centroids of each category. In fact, when the issue of sex differences was explored it was found, by observation of the data with reference to the criteria used to determine social standing, that female students as compared to male came mainly from high social standing. If that explanation is valid, the obvious conclusion here would be that they had more educated parents and may
have received more help from them as far as the world of work was concerned. Particularly with respect to hypothesis 6, the potential for guidance applications seems promising, although much more work is needed before this potential can be realized. It would appear that additional staff and other centers are needed if the guidance center in Haiti is to achieve the goals for which it was created.

Students' career aspirations were congruent with realistic career choices as determined by their summary code on the SDS. Using the t-test for a single sample mean, it was found that in all ten subtests the mean congruence score was significantly greater than the hypothesized mean. The results on congruence did suggest that students made choices on the basis of their interest, and did lend support to the concept of congruence in Holland's theory. It may be, however, that the conclusion is unwarranted since the findings were at variance with what would be normally expected from a sample with so-limited a knowledge of the world of work and which barely made use of guidance services. Thus, one might speculate that the respondents were able to distort their scores on the SDS in such a way that their summary code corresponded with their career aspirations. If such was the case, this speculation would be in line with several studies reviewed in chapter 2 (Steinmetz, 1932; Bordin, 1943; Longstaff, 1948; Gehman, 1957).

Hypothesis 8 was not supported. The result of the t-test for independent groups showed no significant difference between those students who have made use of vocational guidance services and those who have not made use of such services. The lack of statistically
significant differences in the predicted direction was at variance
with what would be expected with regard to previous research indicating
that guidance payed off (Stone, 1948; Cuony & Hoppock, 1954, 1957;
Huston, 1968).

No positive product-moment correlation coefficient between
the USS scores and the congruence scores was found. Surprisingly,
students who had a more correct understanding of occupations did not
make more realistic career choices than those who had a less correct
understanding of occupations. One possible explanation might be that
some of the factors, cultural or otherwise, that influenced the res­
pondents in their career aspirations were so strong that they out­
weighed all other factors that should contribute to helping students
discriminate more precisely among occupations and hence make more rea­
listic career choices. This argument may be proved valid when one
knows that the respondents' career aspirations had very little corres­
pondence with the manpower-needs projection of the country. Therefore
the other possible argument that all respondents made realistic career
choices is unwarranted.

Although the findings for hypotheses 7, 8, and 9 were in need
of replication, some possible implications for guidance could be in­
ferred. If the findings are unwarranted, they should serve as added ra­
tionale for vocational guidance and career-education programs. These
findings mean that efforts are needed to minimize the strength of stereo­
types that are so prevalent in the career aspirations of the students.

Discussion Related to the
Paired-Comparisions Data

As indicated by the results of the paired-comparisons scaling,
intellectual ability was the first and foremost influence on the respondents' career aspirations. The total respondents taken separately and all four categories of respondents were in perfect agreement in this respect. It is of interest that occupational stereotypes also played a very important role in the respondents' career aspirations. This finding was in line with the findings of research done on the relationship of occupational stereotypes to career choices. According to the results, occupational stereotypes--after intellectual ability--were considered as the most influential factor on career aspirations by the total respondents and by three categories of subgroups. Those three categories were found to be in perfect agreement not only on the importance of stereotypes but also on the relative importance of the eight factors. Though the adjusted scale values presented in rank order for the total respondents, and for each subgroup, highlighted some differences between male and females, and students from three different social standing, the results on the whole indicated that the respondents were in agreement as to the relative importance of each of the eight factors to career aspirations. In terms of implications for guidance, the same observations made with regard to the previous discussion on the nature of occupational stereotypes are still valid. Moreover, it seems that for a developing country, the importance of manpower-needs was not emphasized enough in the educational program as a whole. According to the rank order attributed to the adjusted scale values, manpower-needs could be ranked as the fourth, the fifth, and the sixth influential factor in career choice on the part of the total respondents and various subgroups.
Implications of the Findings for Educational Leadership

Before discussing the implications of the findings of this study for educational leadership, it might be of interest to indicate the goals of education in Haiti. As stated in The Reform of the Haitian Educational System (1979), those goals are as follows:

1. To provide indiscriminately to all, a polyvalent and solid basic education, equal chances, and opportunities of specialized training at different levels as well as real possibilities to succeed in the development of individual aptitudes.

2. To encourage the participation of every Haitian in the community life with full awareness and in a responsible, competent, and productive way.

3. To give a basic education that makes possible the modification of the physical, material, and spiritual conditions of the milieu so as to create more wealth, goods, and services, and thus to contribute to the improvement of the quality of life at the local, regional, and national levels.

4. To develop a national awareness likely to promote positive attitudes in relation to the enrichment of the socio-cultural inheritance as the source of individual and social development.

On the basis of the findings reported in the present research and with regard to the fulfillment of the educational goals, the need for vocational guidance services becomes vital and leads to the implications of the results for educational leadership.

Campbell, Bridges, and Nystrand (1977) indicated four primary
types of activities which school administrators should perform: (a) to discern and influence the development of goals and policies; (b) to stimulate and direct the development of programs designed to achieve the goals and purposes; (c) to establish and coordinate an organization concerned with planning and implementing the programs; and (d) to procure and manage resources, money, and material necessary to support the organization and its program.

The observations made by Campbell and his associates are particularly relevant as far as Haiti is concerned. This country has a unitary system of government. Thus, the educational system is very centralized. Based on its French pattern, all important decisions in education are made in Port-au-Prince by the Minister of education. It is apparent that, without leadership, it is impossible to coordinate the efforts of people to achieve the goals of the school as stated earlier.

Though a reform is in progress in the educational system, the problem associated with career development, as made evident by the findings of this research, deserves an urgent and special consideration. If emphasis is put here on the need for vocational guidance services and career education, it is because there is a noticeable shortage in personnel in these areas. Only a limited number of students can make use of these services. It seems that, if schools in Haiti are to make education more relevant according to the present and future needs of every student, the entire school program needs to be restructured; not only do guidance services need to be expanded, but the school needs to focus on the theme of career education. To the extent that
the true resources of a nation are its human resources, occupational education, counselor training, and career-education programs could be considered a form of investment in human capital, an investment which would provide comparatively high returns to both the individual and society. But, for career education to be effective, trained guidance and counseling personnel with adequate facilities and properly organized programs are an absolute necessity. Educational administrators who assume the position of leaders need to exhibit leadership skills for they are accountable for solving this problem associated with career development.

Implications for Educational Leaders as Problem Solvers

It is a great temptation for developing countries to develop an approach that has been used in America or other developed nations. Many difficulties may arise when one attempts for example, to carry educational programs developed for America to developing countries. There is the temptation to copy indiscriminately approaches that might be irrelevant for a different target population. However, there are extremely interesting and important concepts and developments arising out of the experience of developed countries from which most developing countries of the world can profit. Thus, in the present study, there has been an attempt to incorporate some of the concepts and techniques borrowed from educational leaders as they apply to the development and initiation of new programs.

The findings of this study indicate clearly that there is a problem in Haiti associated with career development of the students.
Specifically, increasing needs are being felt in Haiti for vocational guidance. If the schools are to fulfill their goals, educational leaders as problem solvers need to bring an urgent solution to this problem.

Three alternatives appear to offer the needed solution: (1) to initiate a guidance-training program according to the requirements set forth by the Association for Counselor Education and Supervision in America; that is, a minimum of two years of graduate level preparation with a heavy emphasis on vocational guidance; (2) to provide scholarships to a significant number of able students who exhibit some interest in working with people; these students would be sent to renowned universities in America and in France to receive their preparation; (3) to offer a program for undergraduate preparation in counselor education.

An aspect of the problem-solving approach which deserves the most considered administrative attention is the anticipation of the consequences. Administrators sometimes forget that no decision, or delay in making a decision, is a form of decision which must be analysed along with consequences of various alternatives. What would happen, for example, if no decision were to be made with regard to the problem under consideration? What would happen if administrators delayed to solve the problem? It is likely that Haitian young people would not have the opportunity for self-examination; neither would they have the adequate preparation needed for making decisions that are essential to their educational progress, career development, and personality fulfillment. Consequently, the goals of the schools could not be fulfilled.
Following the anticipation of possible consequences of alternative solution, the administrator as problem solver must make a judgment about which alternative is maximally beneficial to the problem he or she wants to solve. As far as Haiti is concerned, it is apparent that there are some major drawbacks in the first two alternatives mentioned. First, except in medicine, dentistry, and ethnology, postgraduate study is non-existent in Haiti. It would be difficult to provide courses at the graduate level particularly in a new field such as guidance. Second, as evidenced by the numbers of students who are in need of guidance services, preparing counselors abroad would not offer an economical solution. Thus, the most viable solution would be to offer a program for undergraduate preparation in counselor education. Some countries, including the USA, are currently offering such a program (Hybert, 1972; Wittmer, 1972; Berg & Landreth, 1978). It seems that the evaluation of those programs indicated positive results. Furthermore, if an undergraduate program in counseling and guidance is advocated here, it is not to minimize the importance of training at the graduate level, but it is presented as the most viable solution. It is understood that educational leaders would have to proceed on a local basis but within a professionally acceptable framework.

The final step that the problem solver needs to take is to review the consequences of the solution adopted and to take possible remedial steps. A continuing review of decisions made is implicit in the problem-solving approach to decision making. Here, multiple channels of information feedback are of paramount importance. If feedback indicates that the consequences of the decision are not as
anticipated, the administrator as problem solver should be willing to modify the action. With regard to the problem discussed in this section, if the alternative adopted does not prove effective, remedial steps should be taken.

Implications for Educational Leaders as Decision Makers

Though problem solving and decision making are theoretically two different concepts in administration, in practice there is considerable overlap. Both concepts suggest choice between two or more alternatives. If problem solving refers to thinking which results in the solution of problems, decision making refers to action which results in the solution of problems. Educational leaders viewed as decision makers need the ability to make decisions and to help others make decisions. Thus, in view of the needs as assessed by the results of this research and in view of the goals of the school in Haiti, some important decisions with respect to career development need to be made. They are as follows:

1. Initiation of new programs. In order to help students develop an understanding of the world of work and gain insight as to how they can relate to it, guidance services should be expanded to all schools. Some suggestions that grew out of the findings of this research would be: (a) planning for the initiation of a counselor-education program; (b) planning for the integration of career education into the curriculum; (c) providing in-service training for teachers; (d) creation of a technological school.

2. Development of vocational education
3. Providing financial assistance and adequate and functional physical facilities for the implementation of the programs

4. Planning occupational programs for which there are available employment opportunities

5. Determining, in collaboration with other government agencies, financial rewards commensurate to the skills that should be provided to the graduates of technical and vocational schools for their services.

Implications for Educational Leaders as Agents of Change

It is obvious that educational leaders in Haiti committed to expanding career options for the students automatically work as agents of change. If the recommendations made in this study are implemented, several noticeable changes in their consequences might require the educational leaders to use their skills as agents of change.

The first most noticeable change to be expected is change in the curriculum, particularly at the elementary or secondary level where career education is to be a major component of the total educational system.

A second noticeable change to be expected is change in attitude of teachers and students. It is axiomatic that people resist change. Some teachers or students might find it difficult to accept the guidance point of view. But leaders are able to accept individual differences; they can seize every possibility to assist those teachers and students and understand their views. For this reason, the curriculum-development process for the new programs should be carefully spelled out so that it is clear to all concerned what factors must be
considered in recommending a new program. Furthermore, if recognition is given to a diploma and if financial rewards are commensurate to the skills of the graduates of technical and vocational schools, increasing numbers of students will be interested in preparing for careers through vocational and technical education programs.

Lastly, by exercising their leadership skills with respect to the issue under discussion, educational administrators will act as change agents of the environment. In America particularly, occupational education has demonstrated its capacity to contribute to economic growth of a nation. If the educational system in Haiti directs itself toward the goal of making the provision for every student to acquire the skills which will allow him/her to make a livelihood for him/herself and for future families regardless of the level of the educational system at which he/she leaves, then increased appreciation and support of the values and benefit of vocational guidance, career education, and vocational and technical education will be observed. As is the case in America and elsewhere, this change will contribute to the economic growth of Haiti.

**Recommendations for Further Study**

Clearly the present study has not included all the dimensions which might be relevant to all aspects of occupational stereotypes and career aspirations of Haitian students. Certain questions could not be answered satisfactorily because they were not within the scope of this investigation. Thus, this recognition makes further research desirable. Following is a list of recommendations:
1. Research is required to determine what factors are responsible for differences in stereotypes found among the categories of students.

2. A study could be made to determine if the students' stereotypes of the six occupational group members used in this study are congruent with stereotypes of workers in those occupations.

3. A longitudinal study is desirable to find out whether there is any change in the career aspirations of the same students during their college years.

4. A replication of this study is desirable with college students and elementary-school students. This would help determine the reliability of the findings resulting from hypotheses 7, 8, and 9, namely: (a) the career aspirations of Haitian students are congruent with realistic career choices as determined by their summary code on the SDS; (b) no statistically significant difference exists between those who made use of guidance services and those who did not; (c) students who have a more correct understanding of occupations did not make more realistic career choices than those who have a less correct understanding of occupations.

5. A research study could be undertaken to determine the relative importance of occupational stereotypes in relation to selected variables with respect to American students.

6. A study could be undertaken to develop a model for a counselor education program in Haiti.

7. A research could be undertaken to develop a model for career education in Haiti.
APPENDIX 1

Self Directed Search
French Version as Used in the Study:
L'Orientation par Soi Meme
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These consist of pages:

154-160

162-168
APPENDIX 2

Self Directed Search
APPENDIX 3

Paired Comparisons Scales
Form A
FORM A

The purpose of this test is to determine the relative importance of several factors in your career aspirations. Please provide all the information requested and answer all the questions as frankly as you can.

Section A.

Personal Information

1. Name of the school in which you are currently enrolled __________

2. Indicate your sex: 1. Male _____; 2. Female _____

3. Indicate your father's occupation ____________________________

4. If you could be anything you wanted to be, what would be your most preferred occupational choice? ____________________________

5. If you cannot implement your most preferred occupational choice, what would be your second choice? ____________________________

6. Did you receive advice from a guidance counselor with respect to your career choice? (Check A. or B.) A. YES _____ B. NO _____

Section B.

Paired Comparison Scales

A number of factors influence a person's choice of career. Each of the 28 items below contains two factors. For each item, decide which one of the two factors named was the greater influence in your career.
choice. On the line beside the item number, write a 1 if the first factor was more important, or a 2 if the second factor was the most important.

1. ____ Image of occupation or prestige of occupation.
2. ____ Personal interest or parental influence.
3. ____ Intellectual ability or peer influence.
4. ____ Sex or Haiti's manpower needs.
5. ____ Image of occupation or personal interest.
6. ____ Parental influence or prestige of occupation.
7. ____ Haiti's manpower needs or peer influence.
8. ____ Intellectual ability or sex.
9. ____ Image of occupation or parental influence.
10. ____ Prestige of occupation or personal interest.
11. ____ Sex or peer influence.
12. ____ Haiti's manpower needs or intellectual ability.
13. ____ Parental influence or sex.
14. ____ Peer influence or image of occupation.
15. ____ Prestige of occupation or intellectual ability.
16. ____ Haiti's manpower needs or personal interest.
17. ____ Sex or image of occupation.
18. ____ Intellectual ability or parental influence.
19. ____ Prestige of occupation or Haiti's manpower needs.
20. ____ Peer influence or personal interest.
21. ____ Intellectual ability or image of occupation.
22. ____ Parental influence or Haiti's manpower needs.
23. ____ Sex or personal interest.
24. ____ Prestige of occupation or peer influence.
25. ___ Haiti's manpower needs or image of occupation.
26. ___ Personal interest or intellectual ability.
27. ___ Prestige of occupation or sex.
28. ___ Peer influence or parental influence.
APPENDIX 4

Paired Comparisons Scales
Form B
FORM B

The purpose of this test is to determine the relative importance of several factors in your career aspirations. Please provide all the information requested and answer all the questions as frankly as you can.

Section A.

**Personal Information**

1. Name of the school in which you are currently enrolled ______________

2. Indicate your sex: 1. Male _______; 2. Female _____________

3. Indicate your father's occupation ______________________________________

4. If you could be anything you wanted to be, what would be your most preferred occupational choice? ______________________________

5. If you cannot implement your most preferred occupational choice, what would be your second choice? __________________________

6. Did you receive advice from a guidance counselor with respect to your career choice? (Check A or B). A. YES____  B. NO____

Section B.

**Paired Comparison Scales**

A number of factors influence a person's choice of career. Each of the 28 items below contains two factors. For each item, decide which one of the two factors named was the greater influence in your career.
choice. On the line beside the item number, write a 1 if the first factor was more important, or a 2 if the second factor was the most important.

1. ___ Prestige of occupation or image of occupation.
2. ___ Parental influence or personal interest.
3. ___ Peer influence or intellectual ability.
4. ___ Haiti's manpower needs or sex.
5. ___ Personal interest or image of occupation.
6. ___ Prestige of occupation or parental influence.
7. ___ Peer influence or Haiti's manpower needs.
8. ___ Sex or intellectual ability.
9. ___ Parental influence or image of occupation.
10. ___ Personal interest or prestige of occupation.
11. ___ Peer influence or sex.
12. ___ Intellectual ability or Haiti's manpower needs.
13. ___ Sex or parental influence.
14. ___ Image of occupation or peer influence.
15. ___ Intellectual ability or prestige of occupation.
16. ___ Personal interest or Haiti's manpower needs.
17. ___ Image of occupation or sex.
18. ___ Parental influence or intellectual ability.
19. ___ Haiti's manpower needs or prestige of occupation.
20. ___ Personal interest or peer influence.
21. ___ Image of occupation or intellectual ability.
22. ___ Haiti's manpower needs or parental influence.
23. ___ Personal interest or sex.
24. ___ Peer influence or prestige of occupation.
25. Image of occupation or Haiti's manpower needs.
26. Intellectual ability or personal interest.
27. Sex or prestige of occupation.
28. Parental influence or peer influence.
APPENDIX 5

Paired Comparisons Scales
French Version: Comparaison
des Paires. Forme A
FORME A

Ce test a pour but de déterminer l'importance relative de plusieurs éléments dans vos aspirations à la carrière de votre choix. Prière de fournir toutes les informations demandées et de répondre franchement à toutes les questions dans la mesure de vos possibilités.

A. Information Personnelle
1. Indiquez le nom de l'établissement scolaire que vous fréquentez

2. Indiquez votre sexe: a) Masculin _______; b) Féminin _______
3. Indiquez l'occupation de votre père _______________________
4. Si vous pouviez choisir n'importe quelle carrière, laquelle choisiriez-vous? _____________________________________________
5. Si vous ne pouvez pas choisir la profession de vos rêves, quel serait votre second choix? ________________________________
6. Avez-vous reçu l'aide d'un conseiller d'orientation avant de choisir la carrière dans laquelle vous aimeriez vous engager? Ecrivez un X dans l'espace qui correspond a votre réponse.
   a) Oui _____; b) Non ______

B. Echelles de Comparison des Paires

Il y a un certain nombre d'éléments qui influencent une personne dans le choix de sa carrière. Huit de ces éléments sont représentés ci-dessous par groupes de deux en 28 différents points. Pour chaque
point, choisissez l'élément qui a exercé la plus grande influence sur votre choix d'une carrière. Ecrivez le chiffre 1 sur la ligne placée à côté de chaque paire si le premier élément est le plus important. Si c'est le second élément qui est le plus important, écrivez le chiffre 2.

1. ___ Votre conception de l'occupation ou le prestige de l'occupation.

2. ___ Vos intérêts professionnels ou l'influence de vos parents.

3. ___ Votre aptitude intellectuelle ou l'influence de vos amis.

4. ___ Votre sexe ou les besoins de la main-d'œuvre du pays.

5. ___ Votre conception de l'occupation ou vos intérêts professionnels.

6. ___ L'influence de vos parents ou le prestige de l'occupation.

7. ___ Les besoins de la main-d'œuvre du pays ou l'influence de vos amis.

8. ___ Votre aptitude intellectuelle ou votre sexe.

9. ___ Votre conception de l'occupation ou l'influence de vos parents.

10. ___ Le prestige de l'occupation ou vos intérêts professionnels.

11. ___ Votre sexe ou l'influence de vos amis.

12. ___ Les besoins de la main-d'œuvre du pays ou votre aptitude intellectuelle.

13. ___ L'influence de vos parents ou votre sexe.

14. ___ L'influence de vos amis ou votre conception de l'occupation.

15. ___ Le prestige de l'occupation ou votre aptitude intellectuelle.

16. ___ Les besoins de la main-d'œuvre du pays ou vos intérêts professionnels.

17. ___ Votre sexe ou votre conception de l'occupation.

18. ___ Votre aptitude intellectuelle ou l'influence de vos parents.

19. ___ Le prestige de l'occupation ou les besoins de la main-d'œuvre du pays.

20. ___ L'influence de vos amis ou vos intérêts professionnels.
21. ___ Votre aptitude intellectuelle ou votre conception de l'occupation.

22. ___ L'influence de vos parents ou les besoins de la main-d'œuvre du pays.

23. ___ Votre sexe ou vos intérêts professionnels.

24. ___ Le prestige de l'occupation ou l'influence de vos amis.

25. ___ Les besoins de la main-d'œuvre du pays ou votre conception de l'occupation.

26. ___ Vos intérêts professionnels ou votre aptitude intellectuelle.

27. ___ Le prestige de l'occupation ou votre sexe.

28. ___ L'influence de vos amis ou l'influence de vos parents.
APPENDIX 6

Paired Comparison Scales
French Version: Comparaison Des Paires. Forme B
FORME B

Ce test a pour but de déterminer l'importance relative de plusieurs éléments dans vos aspirations à la carrière de votre choix. Prière de fournir toutes les informations demandées et de répondre franchement à toutes les questions dans la mesure de vos possibilités.

A. Information Personnelle

1. Indiquez le nom de l'établissement scolaire que vous fréquentez

2. Indiquez votre sexe: a) Masculin_________; b) Féminin__________

3. Indiquez l'occupation de votre père _____________________________________

4. Si vous pouviez choisir n'importe quelle carrière, laquelle choisiriez-vous? __________________________________________________________

5. Si vous ne pouvez pas choisir la profession de vos rêves, quel serait votre second choix? ________________________________

6. Avez-vous reçu l'aide d'un conseiller d'orientation avant de choisir la carrière dans laquelle vous aimeriez vous engager? Ecrivez un X dans l'espace qui correspond à votre réponse. a) Oui  b) Non __

Il y a un certain nombre d'éléments qui influencent une personne dans le choix de sa carrière. Huit de ces éléments sont représentés ci-dessous par groupe de deux en 28 différents points. Pour chaque point, choisissez l'élément qui a exercé la plus grande influence sur votre choix d'une carrière. Ecrivez le chiffre 1 sur la
ligne placée à côté de chaque paire si le premier élément est le plus important. Si c'est le second élément qui est le plus important, écrivez le chiffre 2.

1. ___ Le prestige de l'occupation ou votre conception de l'occupation.
2. ___ L'influence de vos parents ou vos intérêts professionnels.
3. ___ L'influence de vos amis ou votre aptitude intellectuelle.
4. ___ Les besoins de la main-d'œuvre du pays ou votre sexe.
5. ___ Vos intérêts professionnels ou votre conception de l'occupation.
6. ___ Le prestige de l'occupation ou l'influence de vos parents.
7. ___ L'influence de vos amis ou les besoins de la main-d'œuvre du pays.
8. ___ Votre sexe ou votre aptitude intellectuelle.
9. ___ L'influence de vos parents ou votre conception de l'occupation.
10. ___ Vos intérêts professionnels ou le prestige de l'occupation.
11. ___ L'influence de vos amis ou votre sexe.
12. ___ Votre aptitude intellectuelle ou les besoins de la main-d'œuvre du pays.
13. ___ Votre sexe ou l'influence de vos parents.
14. ___ Votre conception de l'occupation ou l'influence de vos amis.
15. ___ Votre aptitude intellectuelle ou le prestige de l'occupation.
16. ___ Vos intérêts professionnels ou les besoins de la main-d'œuvre du pays.
17. ___ Votre conception de l'occupation ou votre sexe.
18. ___ L'influence de vos parents ou votre aptitude intellectuelle.
19. ___ Les besoins de la main-d'œuvre du pays ou le prestige de l'occupation.
20. ___ Vos intérêts professionnels ou l'influence de vos amis.

22. Les besoins de la main-d'œuvre du pays ou l'influence de vos parents.

23. Vos intérêts professionnels ou votre sexe.

24. L'influence de vos amis ou le prestige de l'occupation.

25. Votre conception de l'occupation ou les besoins de la main-d'œuvre.

26. Votre aptitude intellectuelle ou vos intérêts professionnels.

27. Votre sexe ou le prestige de l'occupation.

28. L'influence de vos parents ou l'influence de vos amis.
APPENDIX 7

Occupational Stereotypes Scales
OCCUPATIONAL STEREOTYPES SCALES (OSS)

The purpose of this test is to find out the impression that you have of various occupations by having you judge the occupations against a series of descriptive scales. In taking this test, please make your judgments on the basis of what you feel about these occupations. On each page of this test you will find different occupations to be judged and beneath each one a set of scales. You are to rate the occupation on each of these scales in order.

If you feel that the occupation to be judged is *very closely related* to one end of the scale, you should place your check-mark as follows:

practical _:_:_:_:_ unpractical

or

practical _:_:_:_:_ unpractical

If you feel that the occupation is *quite closely related* to one or the other end of the scale (but not extremely), you should place your check-mark as follows:

masculine _:_:_:_:_ feminine

or

masculine _:_:_:_:_ feminine

The direction toward which you check, of course, depends upon which of the two ends of the scale seems most characteristic of the occupation you are judging.
If you consider the occupation to be neutral on the scale, both sides of the scale equally associated with the occupation, or if the scale is completely irrelevant, unrelated to the occupation, then you should place your check-mark in one of the two middle spaces:

pessimistic _:_:_:_:_ optimistic

or

pessimistic _:_:_:_:_ optimistic

Important: (1) place your check-marks in the middle of spaces, not on the boundaries:

This Not this

_:_:_:_:_:_;

(2) be sure you check every scale for every occupation, do not omit any;
(3) never put more than one check-mark on a single scale.

You will notice that some scales are sometimes for more than one occupation, so do not look back and forth through the scales. Do not try to remember how you checked similar scales earlier in the test.

Make each item a separate and independent judgment. Work at fairly high speed through this test. Do not worry or puzzle over individual items.

It is your first impressions, the immediate "feelings" about the occupations, that we want. On the other hand, please do not be careless, because we want your true impressions.*

* Instructions adapted from O'Dowd and Beardslee (1960).
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APPENDIX 8

Occupational Stereotypes Scales
French Version: Echelles D'Evaluation
de Votre Conception de Certaines Professions
ESCHELLES D'EVALUATION DE VOTRE CONCEPTION
DE CERTAINES PROFESSIONS

Le but de ce test est de découvrir l'idée que les gens se font
de différentes occupations, en les faisant juger certaines professions
d'après une série d'échelles descriptives. En prenant ce test, donnez
vos opinions suivant ce que vous éprouvez à l'endroit de ces
occupations. À chaque page de ce test, vous trouverez deux (2)
professions différentes que vous devez considérer et au-dessous de
echacune d'elle une série d'échelles.

Si vous pensez que l'un des adjectifs de l'échelle correspond
très bien à la profession, vous devez cocher comme suit:

| pratique _:_:_:_:_ | peu pratique
| ou |
| pratique _:_:_:_:_ | peu pratique

Si vous pensez que l'adjectif correspond assez bien à la
profession (mais pas entièrement), vous devez cocher ainsi:

| masculine _:_:_:_:_ | féminin
| ou |
| masculine _:_:_:_:_ | féminin

La direction vers laquelle vous cochez dépend, bien sûr, de
l'extrémité qui vous paraît la plus caractéristique de la profession.

Si vous considérez l'occupation comme neutre sur l'échelle,
les deux côtés pouvant également être liés à l'occupation, ou si
l'échelle est complètement non appropriée avec l'occupation, alors cochez dans l'un des deux espaces du milieu:

pessimiste __:__:__:__:__ optimiste

ou

pessimiste __:__:__:__:__ optimiste

Important: (1) cochez au milieu des espaces, non sur les limites comme ceci __:__:__:__:__ non comme cela:

(2) soyez sur d'avoir coché pour chaque occupation. N'omettez rien;

(3) ne cochez qu'une fois sur chaque échelle.

Vous remarquerez que certaines échelles sont parfois utilisées pour plus d'une occupation; cochez vos réponses sans vous arrêter. N'essayez pas de vous rappeler comment vous avez coché des échelles semblables un peu plus haut dans le test. Pour chaque question faites-vous une opinion distincte, indépendante. Répondez vite à ce questionnaire. Ne vous tracassez pas au sujet d'une question qui vous embarrasse. Ce que nous voulons, ce sont vos premières impressions, vos "sentiments" spontanées concernant la profession. D'autre part, ne soyez pas négligent, parce qu'il nous faut vos impressions réelles.
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<td><strong>:</strong><em>:</em><strong>:</strong><em>:</em>__</td>
<td>Indépendant</td>
</tr>
<tr>
<td>Logique</td>
<td><strong>:</strong><em>:</em><strong>:</strong><em>:</em>__</td>
<td>Intuitif</td>
</tr>
<tr>
<td>Non-conformiste</td>
<td><strong>:</strong><em>:</em><strong>:</strong><em>:</em>__</td>
<td>Conformiste</td>
</tr>
<tr>
<td>Optimiste</td>
<td><strong>:</strong><em>:</em><strong>:</strong><em>:</em>__</td>
<td>Pessimiste</td>
</tr>
<tr>
<td>Ordinaire</td>
<td><strong>:</strong><em>:</em><strong>:</strong><em>:</em>__</td>
<td>Original</td>
</tr>
<tr>
<td>Responsable</td>
<td><strong>:</strong><em>:</em><strong>:</strong><em>:</em>__</td>
<td>Irresponsable</td>
</tr>
</tbody>
</table>

### Médecin

<table>
<thead>
<tr>
<th>Trait</th>
<th>Médecin</th>
<th>Non-cooprérateur</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coopérateur</td>
<td><strong>:</strong><em>:</em><strong>:</strong><em>:</em>__</td>
<td>Non-coopérateur</td>
</tr>
<tr>
<td>Antipathique</td>
<td><strong>:</strong><em>:</em><strong>:</strong><em>:</em>__</td>
<td>Sympathique</td>
</tr>
<tr>
<td>Optimiste</td>
<td><strong>:</strong><em>:</em><strong>:</strong><em>:</em>__</td>
<td>Pessimiste</td>
</tr>
<tr>
<td>Généreux</td>
<td><strong>:</strong><em>:</em><strong>:</strong><em>:</em>__</td>
<td>Egoïste</td>
</tr>
<tr>
<td>Sincère</td>
<td><strong>:</strong><em>:</em><strong>:</strong><em>:</em>__</td>
<td>Hypocrite</td>
</tr>
<tr>
<td>Peu secourable</td>
<td><strong>:</strong><em>:</em><strong>:</strong><em>:</em>__</td>
<td>Secourable</td>
</tr>
<tr>
<td>Perspicace</td>
<td><strong>:</strong><em>:</em><strong>:</strong><em>:</em>__</td>
<td>Borne</td>
</tr>
<tr>
<td>Non-persuasif</td>
<td><strong>:</strong><em>:</em><strong>:</strong><em>:</em>__</td>
<td>Persuasif</td>
</tr>
<tr>
<td>Responsable</td>
<td><strong>:</strong><em>:</em><strong>:</strong><em>:</em>__</td>
<td>Irresponsable</td>
</tr>
<tr>
<td>Insociable</td>
<td><strong>:</strong><em>:</em><strong>:</strong><em>:</em>__</td>
<td>Sociable</td>
</tr>
<tr>
<td>Sans tact</td>
<td><strong>:</strong><em>:</em><strong>:</strong><em>:</em>__</td>
<td>Plein de tact</td>
</tr>
<tr>
<td>Compréhensif</td>
<td><strong>:</strong><em>:</em><strong>:</strong><em>:</em>__</td>
<td>Peu compatissant</td>
</tr>
</tbody>
</table>
### Avocat

<table>
<thead>
<tr>
<th>Trait</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Modeste</td>
<td>Ambitieux</td>
</tr>
<tr>
<td>Timide</td>
<td>Aventureux</td>
</tr>
<tr>
<td>Dominateur</td>
<td>Docile</td>
</tr>
<tr>
<td>Energetique</td>
<td>Nonchalant</td>
</tr>
<tr>
<td>Aimable</td>
<td>Peu aimable</td>
</tr>
<tr>
<td>Discrèt</td>
<td>Exhibitionniste</td>
</tr>
<tr>
<td>Impulsif</td>
<td>Circonspect</td>
</tr>
<tr>
<td>Pessimiste</td>
<td>Optimiste</td>
</tr>
<tr>
<td>Confiant</td>
<td>Anxieux</td>
</tr>
<tr>
<td>Insociable</td>
<td>Sociable</td>
</tr>
<tr>
<td>Bavard</td>
<td>Taciturne</td>
</tr>
<tr>
<td>Peu consciencieux</td>
<td>Consciencieux</td>
</tr>
</tbody>
</table>

### Comptable

<table>
<thead>
<tr>
<th>Trait</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insociable</td>
<td>Sociable</td>
</tr>
<tr>
<td>Consciencieux</td>
<td>Peu consciencieux</td>
</tr>
<tr>
<td>Détendu</td>
<td>Agité</td>
</tr>
<tr>
<td>Compétent</td>
<td>Incompétent</td>
</tr>
<tr>
<td>Inconstant</td>
<td>Constant</td>
</tr>
<tr>
<td>Soumis</td>
<td>Insoumis</td>
</tr>
<tr>
<td>Désordonné</td>
<td>Méthodique</td>
</tr>
<tr>
<td>Résolu</td>
<td>Irrésolu</td>
</tr>
<tr>
<td>Pratique</td>
<td>Peu pratique</td>
</tr>
<tr>
<td>Impulsif</td>
<td>Réfléchi</td>
</tr>
<tr>
<td>Imaginatif</td>
<td>Sans imagination</td>
</tr>
<tr>
<td>Taciturne</td>
<td>Bavard</td>
</tr>
</tbody>
</table>
APPENDIX 9

Scale Contrasts
and Adjusted Scale Values
of the Paired Comparisons
TABLE 24

SCALE CONTRASTS FOR THE TOTAL RESPONDENTS

<table>
<thead>
<tr>
<th>ALPHA 1 - ALPHA 8</th>
<th>ALPHA 2 - ALPHA 8</th>
<th>ALPHA 3 - ALPHA 8</th>
<th>ALPHA 4 - ALPHA 8</th>
<th>ALPHA 5 - ALPHA 8</th>
<th>ALPHA 6 - ALPHA 8</th>
<th>ALPHA 7 - ALPHA 8</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>= .507</td>
<td>= .543</td>
<td>= -.659</td>
<td>= -1.012</td>
<td>= .816</td>
<td>= .100</td>
</tr>
</tbody>
</table>

Setting the smallest scale values α4 to zero, the adjusted scale values for the total respondents are obtained by adding 1.012 to each contrast (See Table 25).

TABLE 25

ADJUSTED SCALE VALUES FOR THE TOTAL RESPONDENTS

<table>
<thead>
<tr>
<th>Professional interest</th>
<th>a1</th>
<th>1.519</th>
<th>(3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concept of occupations</td>
<td>a2</td>
<td>1.555</td>
<td>(2)</td>
</tr>
<tr>
<td>Parental influence</td>
<td>a3</td>
<td>.353</td>
<td>(7)</td>
</tr>
<tr>
<td>Peer influence</td>
<td>a4</td>
<td>0</td>
<td>(8)</td>
</tr>
<tr>
<td>Intellectual ability</td>
<td>a5</td>
<td>1.828</td>
<td>(1)</td>
</tr>
<tr>
<td>Haiti's manpower needs</td>
<td>a6</td>
<td>1.112</td>
<td>(4)</td>
</tr>
<tr>
<td>Sex of the respondents</td>
<td>a7</td>
<td>.596</td>
<td>(6)</td>
</tr>
<tr>
<td>Prestige of occupations</td>
<td>a8</td>
<td>1.012</td>
<td>(5)</td>
</tr>
</tbody>
</table>
TABLE 26

SCALE CONTRAST FOR MALE STUDENTS

<table>
<thead>
<tr>
<th></th>
<th>ALPHA 1 - ALPHA 8</th>
<th>ALPHA 2 - ALPHA 8</th>
<th>ALPHA 3 - ALPHA 8</th>
<th>ALPHA 4 - ALPHA 8</th>
<th>ALPHA 5 - ALPHA 8</th>
<th>ALPHA 6 - ALPHA 8</th>
<th>ALPHA 7 - ALPHA 8</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>.476</td>
<td>.536</td>
<td>-.735</td>
<td>-1.049</td>
<td>.788</td>
<td>.191</td>
<td>-.512</td>
</tr>
</tbody>
</table>

Setting the smallest scale values α4 to zero, the adjusted scale values for male students are obtained by adding 1.049 to each contrast (See Table 27).

TABLE 27

ADJUSTED SCALE VALUES FOR MALE STUDENTS

<table>
<thead>
<tr>
<th>Professional Interest</th>
<th>α1</th>
<th>1.525</th>
<th>(3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concept of Occupations</td>
<td>α2</td>
<td>1.586</td>
<td>(2)</td>
</tr>
<tr>
<td>Parental Influence</td>
<td>α3</td>
<td>.314</td>
<td>(7)</td>
</tr>
<tr>
<td>Peer Influence</td>
<td>α4</td>
<td>0</td>
<td>(8)</td>
</tr>
<tr>
<td>Intellectual Ability</td>
<td>α5</td>
<td>1.837</td>
<td>(1)</td>
</tr>
<tr>
<td>Haiti's Manpower Needs</td>
<td>α6</td>
<td>1.24</td>
<td>(4)</td>
</tr>
<tr>
<td>Sex of the Respondents</td>
<td>α7</td>
<td>.537</td>
<td>(6)</td>
</tr>
<tr>
<td>Prestige of Occupations</td>
<td>α8</td>
<td>1.049</td>
<td>(5)</td>
</tr>
</tbody>
</table>

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TABLE 28

SCALE CONTRASTS FOR FEMALE STUDENTS

<table>
<thead>
<tr>
<th>ALPHA</th>
<th>-</th>
<th>ALPHA</th>
<th>Scale Contrast</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td>8</td>
<td>.573</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>8</td>
<td>.559</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>8</td>
<td>-.521</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>8</td>
<td>-.959</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>8</td>
<td>.876</td>
</tr>
<tr>
<td>6</td>
<td></td>
<td>8</td>
<td>-.095</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td>8</td>
<td>-.237</td>
</tr>
</tbody>
</table>

Setting the smallest scale values α4 to zero, the adjusted scale values for female students are obtained by adding .959 (see Table 29).

TABLE 29

ADJUSTED SCALE VALUES FOR FEMALE STUDENTS

<table>
<thead>
<tr>
<th>Variable</th>
<th>α</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional Interest</td>
<td>α1</td>
<td>1.532</td>
</tr>
<tr>
<td>Concept of Occupations</td>
<td>α2</td>
<td>1.518</td>
</tr>
<tr>
<td>Parental Influence</td>
<td>α3</td>
<td>.438</td>
</tr>
<tr>
<td>Peer Influence</td>
<td>α4</td>
<td>0</td>
</tr>
<tr>
<td>Intellectual Ability</td>
<td>α5</td>
<td>1.835</td>
</tr>
<tr>
<td>Haiti's Manpower Needs</td>
<td>α6</td>
<td>.864</td>
</tr>
<tr>
<td>Sex of the Respondents</td>
<td>α7</td>
<td>.722</td>
</tr>
<tr>
<td>Prestige of Occupations</td>
<td>α8</td>
<td>.959</td>
</tr>
</tbody>
</table>
TABLE 28

SCALE CONTRASTS FOR FEMALE STUDENTS

<table>
<thead>
<tr>
<th>ALPHAs</th>
<th>ALPHAs</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALPHA 1</td>
<td>ALPHA 8</td>
<td>.573</td>
</tr>
<tr>
<td>ALPHA 2</td>
<td>ALPHA 8</td>
<td>.559</td>
</tr>
<tr>
<td>ALPHA 3</td>
<td>ALPHA 8</td>
<td>-.521</td>
</tr>
<tr>
<td>ALPHA 4</td>
<td>ALPHA 8</td>
<td>-.959</td>
</tr>
<tr>
<td>ALPHA 5</td>
<td>ALPHA 8</td>
<td>.876</td>
</tr>
<tr>
<td>ALPHA 6</td>
<td>ALPHA 8</td>
<td>.095</td>
</tr>
<tr>
<td>ALPHA 7</td>
<td>ALPHA 8</td>
<td>-.237</td>
</tr>
</tbody>
</table>

Setting the smallest scale values α4 to zero, the adjusted scale values for female students are obtained by adding .959 (See Table 29).

TABLE 29

<table>
<thead>
<tr>
<th>Professional Interest</th>
<th>αλ</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional Interest</td>
<td>α1</td>
<td>1.532</td>
</tr>
<tr>
<td>Concept of Occupations</td>
<td>α2</td>
<td>1.518</td>
</tr>
<tr>
<td>Parental Influence</td>
<td>α3</td>
<td>.438</td>
</tr>
<tr>
<td>Peer Influence</td>
<td>α4</td>
<td>0</td>
</tr>
<tr>
<td>Intellectual Ability</td>
<td>α5</td>
<td>1.835</td>
</tr>
<tr>
<td>Haiti's Manpower Needs</td>
<td>α6</td>
<td>.864</td>
</tr>
<tr>
<td>Sex of the Respondents</td>
<td>α7</td>
<td>.722</td>
</tr>
<tr>
<td>Prestige of Occupations</td>
<td>α8</td>
<td>.959</td>
</tr>
</tbody>
</table>
TABLE 30

SCALE CONTRAST FOR PRIVATE SCHOOL STUDENTS

<table>
<thead>
<tr>
<th>Alpha 1 - Alpha 8</th>
<th>Alpha 2 - Alpha 8</th>
<th>Alpha 3 - Alpha 8</th>
<th>Alpha 4 - Alpha 8</th>
<th>Alpha 5 - Alpha 8</th>
<th>Alpha 6 - Alpha 8</th>
<th>Alpha 7 - Alpha 8</th>
</tr>
</thead>
<tbody>
<tr>
<td>.512</td>
<td>.537</td>
<td>-.662</td>
<td>-.974</td>
<td>.781</td>
<td>.021</td>
<td>-.366</td>
</tr>
</tbody>
</table>

Setting the smallest scale values α4 to zero, the adjusted scale values for private school students are obtained by adding .974 to each contrast (See Table 31).

TABLE 31

ADJUSTED SCALE VALUES FOR PRIVATE SCHOOL STUDENTS

<table>
<thead>
<tr>
<th>Variable</th>
<th>α1</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional Interest</td>
<td>1.486</td>
<td>(3)</td>
</tr>
<tr>
<td>Concept of Occupations</td>
<td>1.511</td>
<td>(2)</td>
</tr>
<tr>
<td>Parental Influence</td>
<td>.312</td>
<td>(7)</td>
</tr>
<tr>
<td>Peer Influence</td>
<td>0</td>
<td>(8)</td>
</tr>
<tr>
<td>Intellectual Ability</td>
<td>1.755</td>
<td>(1)</td>
</tr>
<tr>
<td>Haiti's Manpower Needs</td>
<td>.995</td>
<td>(4)</td>
</tr>
<tr>
<td>Sex of the Respondents</td>
<td>.608</td>
<td>(6)</td>
</tr>
<tr>
<td>Prestige of Occupations</td>
<td>.974</td>
<td>(5)</td>
</tr>
</tbody>
</table>
TABLE 32

SCALE CONTRASTS FOR "LYCEE" STUDENTS

<table>
<thead>
<tr>
<th>Contrast</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alpha 1 - Alpha 8</td>
<td>0.518</td>
</tr>
<tr>
<td>Alpha 2 - Alpha 8</td>
<td>0.578</td>
</tr>
<tr>
<td>Alpha 3 - Alpha 8</td>
<td>-0.673</td>
</tr>
<tr>
<td>Alpha 4 - Alpha 8</td>
<td>-1.271</td>
</tr>
<tr>
<td>Alpha 5 - Alpha 8</td>
<td>1.050</td>
</tr>
<tr>
<td>Alpha 6 - Alpha 8</td>
<td>2.79</td>
</tr>
<tr>
<td>Alpha 7 - Alpha 8</td>
<td>-0.559</td>
</tr>
</tbody>
</table>

Setting the smallest scale values $a_4$ to zero, the adjusted scale values for "LYCEE" STUDENTS are obtained by adding 1.271 to each contrast (See Table 33).

TABLE 33

ADJUSTED SCALE VALUES FOR "LYCEE" STUDENTS

<table>
<thead>
<tr>
<th>Category</th>
<th>Scale Value</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional Interest</td>
<td>$\alpha_1$</td>
<td>1.789</td>
</tr>
<tr>
<td>Concept of Occupations</td>
<td>$\alpha_2$</td>
<td>1.849</td>
</tr>
<tr>
<td>Parental Influence</td>
<td>$\alpha_3$</td>
<td>0.598</td>
</tr>
<tr>
<td>Peer Influence</td>
<td>$\alpha_4$</td>
<td>0</td>
</tr>
<tr>
<td>Intellectual Ability</td>
<td>$\alpha_5$</td>
<td>2.321</td>
</tr>
<tr>
<td>Haiti's Manpower Needs</td>
<td>$\alpha_6$</td>
<td>1.55</td>
</tr>
<tr>
<td>Sex of the Respondents</td>
<td>$\alpha_7$</td>
<td>0.712</td>
</tr>
<tr>
<td>Prestige of Occupations</td>
<td>$\alpha_8$</td>
<td>1.271</td>
</tr>
</tbody>
</table>
### TABLE 34

**SCALE CONTRASTS FOR CAPITAL CITY SCHOOL STUDENTS**

<table>
<thead>
<tr>
<th>Contrast</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALPHA 1 - ALPHA 8</td>
<td>0.483</td>
</tr>
<tr>
<td>ALPHA 2 - ALPHA 8</td>
<td>0.521</td>
</tr>
<tr>
<td>ALPHA 3 - ALPHA 8</td>
<td>-0.699</td>
</tr>
<tr>
<td>ALPHA 4 - ALPHA 8</td>
<td>-1.081</td>
</tr>
<tr>
<td>ALPHA 5 - ALPHA 8</td>
<td>0.773</td>
</tr>
<tr>
<td>ALPHA 6 - ALPHA 8</td>
<td>0.044</td>
</tr>
<tr>
<td>ALPHA 7 - ALPHA 8</td>
<td>-0.455</td>
</tr>
</tbody>
</table>

Setting the smallest scale values α4 to zero, the adjusted scale values for capital city school students were obtained by adding 1.081 to each contrast (s, Table 35).

### TABLE 35

**ADJUSTED SCALE-VALUES FOR CAPITAL CITY SCHOOL STUDENTS**

<table>
<thead>
<tr>
<th>Variable</th>
<th>α</th>
<th>Value</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional Interest</td>
<td>α1</td>
<td>1.564</td>
<td>(3)</td>
</tr>
<tr>
<td>Concept of Occupations</td>
<td>α2</td>
<td>1.602</td>
<td>(2)</td>
</tr>
<tr>
<td>Parental Influence</td>
<td>α3</td>
<td>0.382</td>
<td>(7)</td>
</tr>
<tr>
<td>Peer Influence</td>
<td>α4</td>
<td>0</td>
<td>(8)</td>
</tr>
<tr>
<td>Intellectual Ability</td>
<td>α5</td>
<td>1.854</td>
<td>(1)</td>
</tr>
<tr>
<td>Haiti's Manpower Needs</td>
<td>α6</td>
<td>1.125</td>
<td>(4)</td>
</tr>
<tr>
<td>Sex of the Respondents</td>
<td>α7</td>
<td>0.626</td>
<td>(6)</td>
</tr>
<tr>
<td>Prestige of Occupations</td>
<td>α8</td>
<td>1.081</td>
<td>(5)</td>
</tr>
</tbody>
</table>
TABLE 36

SCALE CONTRASTS FOR PROVINCIAL STUDENTS

<table>
<thead>
<tr>
<th>Alpha 1 - Alpha 8</th>
<th>.650</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alpha 2 - Alpha 3</td>
<td>.684</td>
</tr>
<tr>
<td>Alpha 3 - Alpha 8</td>
<td>-.439</td>
</tr>
<tr>
<td>Alpha 4 - Alpha 8</td>
<td>-.647</td>
</tr>
<tr>
<td>Alpha 5 - Alpha 8</td>
<td>1.110</td>
</tr>
<tr>
<td>Alpha 6 - Alpha 8</td>
<td>.440</td>
</tr>
<tr>
<td>Alpha 7 - Alpha 8</td>
<td>-.190</td>
</tr>
</tbody>
</table>

Setting the smallest scale values \( \alpha_4 \) to zero, the adjusted scale values for provincial students were obtained by adding .647 to each contrast (see Table 37).

TABLE 37

ADJUSTED SCALE-VALUES FOR PROVINCIAL STUDENTS

<table>
<thead>
<tr>
<th>Factor</th>
<th>( \alpha )</th>
<th>Value</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional Interest</td>
<td>( \alpha_1 )</td>
<td>1.297</td>
<td>(3)</td>
</tr>
<tr>
<td>Concept of Occupations</td>
<td>( \alpha_2 )</td>
<td>1.331</td>
<td>(2)</td>
</tr>
<tr>
<td>Parental Influence</td>
<td>( \alpha_3 )</td>
<td>.208</td>
<td>(7)</td>
</tr>
<tr>
<td>Peer Influence</td>
<td>( \alpha_4 )</td>
<td>0</td>
<td>(8)</td>
</tr>
<tr>
<td>Intellectual Ability</td>
<td>( \alpha_5 )</td>
<td>1.757</td>
<td>(1)</td>
</tr>
<tr>
<td>Haiti's Manpower Needs</td>
<td>( \alpha_6 )</td>
<td>1.087</td>
<td>(4)</td>
</tr>
<tr>
<td>Sex of the Respondents</td>
<td>( \alpha_7 )</td>
<td>.457</td>
<td>(6)</td>
</tr>
<tr>
<td>Prestige of Occupations</td>
<td>( \alpha_8 )</td>
<td>.647</td>
<td>(5)</td>
</tr>
</tbody>
</table>
TABLE 38

SCALE CONTRASTS FOR STUDENTS FROM LOW SOCIO-ECONOMIC LEVEL

<table>
<thead>
<tr>
<th>Alpha Pair</th>
<th>Contrast Value</th>
</tr>
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<tbody>
<tr>
<td>1 - 8</td>
<td>0.488</td>
</tr>
<tr>
<td>2 - 8</td>
<td>0.591</td>
</tr>
<tr>
<td>3 - 8</td>
<td>-0.693</td>
</tr>
<tr>
<td>4 - 8</td>
<td>-1.030</td>
</tr>
<tr>
<td>5 - 8</td>
<td>0.805</td>
</tr>
<tr>
<td>6 - 8</td>
<td>0.213</td>
</tr>
<tr>
<td>7 - 8</td>
<td>-0.514</td>
</tr>
</tbody>
</table>

Setting the smallest scale values α4 to zero, the adjusted scale values for students from low socio-economic level were obtained by adding 1.030 to each contrast (see Table 39).

TABLE 39

ADJUSTED SCALE-VALUES FOR STUDENTS FROM LOW SOCIO-ECONOMIC LEVEL

<table>
<thead>
<tr>
<th>Factor</th>
<th>Scale Value</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional Interest</td>
<td>1.518</td>
<td>3</td>
</tr>
<tr>
<td>Concept of Occupations</td>
<td>1.621</td>
<td>2</td>
</tr>
<tr>
<td>Parental Influence</td>
<td>0.337</td>
<td>7</td>
</tr>
<tr>
<td>Peer Influence</td>
<td>0</td>
<td>8</td>
</tr>
<tr>
<td>Intellectual Ability</td>
<td>1.835</td>
<td>1</td>
</tr>
<tr>
<td>Haiti's Manpower Needs</td>
<td>1.243</td>
<td>4</td>
</tr>
<tr>
<td>Sex of the Respondents</td>
<td>0.516</td>
<td>6</td>
</tr>
<tr>
<td>Prestige of Occupations</td>
<td>1.030</td>
<td>5</td>
</tr>
</tbody>
</table>
TABLE 40

SCALE CONTRASTS FOR STUDENTS FROM MIDDLE SOCIO-ECONOMIC LEVEL

<table>
<thead>
<tr>
<th>Alpha 1 - Alpha 8</th>
<th>Alpha 2 - Alpha 8</th>
<th>Alpha 3 - Alpha 8</th>
<th>Alpha 4 - Alpha 8</th>
<th>Alpha 5 - Alpha 8</th>
<th>Alpha 6 - Alpha 8</th>
<th>Alpha 7 - Alpha 8</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.516</td>
<td>0.449</td>
<td>-0.591</td>
<td>-0.971</td>
<td>0.709</td>
<td>0.002</td>
<td>-0.367</td>
</tr>
</tbody>
</table>

Setting the smallest scale values α4 to zero, the adjusted scale values for students from middle socio-economic level were obtained by adding 0.971 to each contrast (see Table 41).

TABLE 41

ADJUSTED SCALE-VALUES FOR STUDENTS FROM MIDDLE SOCIO-ECONOMIC LEVEL

<table>
<thead>
<tr>
<th>Scale Value</th>
<th>Adjusted Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional Interest</td>
<td>α1 1.487 (2)</td>
</tr>
<tr>
<td>Concept of Occupations</td>
<td>α2 1.42 (3)</td>
</tr>
<tr>
<td>Parental Influence</td>
<td>α3 0.38 (7)</td>
</tr>
<tr>
<td>Peer Influence</td>
<td>α4 0 (8)</td>
</tr>
<tr>
<td>Intellectual Ability</td>
<td>α5 1.68 (1)</td>
</tr>
<tr>
<td>Haiti's Manpower Needs</td>
<td>α6 0.969 (5)</td>
</tr>
<tr>
<td>Sex of the Respondents</td>
<td>α7 0.604 (6)</td>
</tr>
<tr>
<td>Prestige of Occupations</td>
<td>α8 0.971 (4)</td>
</tr>
</tbody>
</table>
TABLE 42

SCALE CONTRASTS FOR STUDENTS FROM HIGH SOCIO-ECONOMIC LEVEL

<table>
<thead>
<tr>
<th>ALPHA 1 - ALPHA 8</th>
<th>=</th>
<th>.884</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALPHA 2 - ALPHA 8</td>
<td>=</td>
<td>.566</td>
</tr>
<tr>
<td>ALPHA 3 - ALPHA 8</td>
<td>=</td>
<td>-.847</td>
</tr>
<tr>
<td>ALPHA 4 - ALPHA 8</td>
<td>=</td>
<td>-1.426</td>
</tr>
<tr>
<td>ALPHA 5 - ALPHA 8</td>
<td>=</td>
<td>1.375</td>
</tr>
<tr>
<td>ALPHA 6 - ALPHA 8</td>
<td>=</td>
<td>-.238</td>
</tr>
<tr>
<td>ALPHA 7 - ALPHA 8</td>
<td>=</td>
<td>-.112</td>
</tr>
</tbody>
</table>

Setting the smallest scale values $a4$ to zero, the adjusted scale values for students from high socio-economic level were obtained by adding 1.426 to each contrast (see Table 43).

TABLE 43

ADJUSTED SCALE-VALUES FOR STUDENTS FROM HIGH SOCIO-ECONOMIC LEVEL

<table>
<thead>
<tr>
<th>Professional Interest</th>
<th>$a_1$</th>
<th>2.31</th>
<th>(2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concept of Occupations</td>
<td>$a_2$</td>
<td>1.992</td>
<td>(3)</td>
</tr>
<tr>
<td>Parental Influence</td>
<td>$a_3$</td>
<td>.579</td>
<td>(7)</td>
</tr>
<tr>
<td>Peer Influence</td>
<td>$a_4$</td>
<td>0</td>
<td>(8)</td>
</tr>
<tr>
<td>Intellectual Ability</td>
<td>$a_5$</td>
<td>2.801</td>
<td>(1)</td>
</tr>
<tr>
<td>Haiti's Manpower Needs</td>
<td>$a_6$</td>
<td>1.188</td>
<td>(6)</td>
</tr>
<tr>
<td>Sex of the Respondents</td>
<td>$a_7$</td>
<td>1.314</td>
<td>(5)</td>
</tr>
<tr>
<td>Prestige of Occupations</td>
<td>$a_8$</td>
<td>1.426</td>
<td>(4)</td>
</tr>
</tbody>
</table>
APPENDIX 10

Rank Order Correlations of the
Adjusted Scale Values for
the Paired Comparisons
Data
<table>
<thead>
<tr>
<th>Factors</th>
<th>Total Respondents</th>
<th>Male</th>
<th>Female</th>
<th>Private School Students</th>
<th>&quot;Lycees&quot; Students</th>
<th>City-School Students</th>
<th>Provincial School Students</th>
<th>Low S.E.L. Students</th>
<th>Medium S.E.L. Students</th>
<th>High S.E.L. Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest</td>
<td></td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Conception of occupation</td>
<td></td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>3</td>
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<tr>
<td>Parents' influence</td>
<td></td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
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<tr>
<td>Friends' influence</td>
<td></td>
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<td>8</td>
<td>8</td>
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<td>8</td>
<td>8</td>
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<td>8</td>
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<tr>
<td>Intellectual ability</td>
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<td>1</td>
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</tr>
<tr>
<td>Manpower needs</td>
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<td>4</td>
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<td>4</td>
<td>4</td>
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<td>Prestige of occupations</td>
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<td>4</td>
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<td>5</td>
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<tr>
<td>Groups</td>
<td>Total Respondents 1</td>
<td>Male 2</td>
<td>Female 3</td>
<td>Private School Students 4</td>
<td>&quot;Lycees&quot; Students 5</td>
<td>City School Students 6</td>
<td>Provincial School Students 7</td>
<td>Low S.E.L. Students 8</td>
<td>Medium S.E.L. Students 9</td>
<td>High S.E.L. Students 10</td>
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<tr>
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<td>9</td>
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</tr>
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</table>


Hanson, Mark E. Educational Administration and Organizational Behavior. Boston: Allyn and Bacon, 1979.


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O'Dowd, Donald D. and Beardslee, David C. Development and Consistency of Student Images of Occupations. Cooperative Research Project No. 5-0858, Oakland University, 1967.


NAME: Michel Lamartine Porcena

Date and Place of Birth: October 23, 1942; Chantal, Cayes, Haiti

Marital Status: Married to Marie Angélique Porcena

Undergraduate & Graduate Schools Attended:
- I.A.F.H., Séminaire Adventiste du Salève, and Andrews University

Degrees Awarded:
- 1969 Associate Degree in Religion - I.A.F.H
- 1973 Licence in Theology - Séminaire Adventiste du Salève
- 1980 Master of Arts (Education) Andrews University

Experience:
- Door-to-door salesman (6 years), Port-au-Prince, Haiti
- Pastor-Evangelist 2 years - Martinique Conference
- Bible Teacher and Pastor (3 years and a half) I.A.F.H Port-au-Prince

Present Appointment: Academic Dean of "Institut Adventiste Franco-Haitien"