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<tbody>
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ASSESSING
THE CAREER MATURITY PATTERNS
OF SECONDARY SCHOOL STUDENTS
IN BENUE STATE OF NIGERIA

A THESIS SUBMITTED TO THE
COMMITTEE OF POST-GRADUATE STUDIES
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THE DEGREE OF DOCTOR OF
PHILOSOPHY IN GUIDANCE AND
COUNSELING

BY
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This project is especially dedicated to my mentors: Professor O. C. Nwana (Professor in Educational Measurement) and Dr. (Mrs) C. C. Achebe (Reader in Guidance/Counseling), Dept. of Education, University of Nigeria, Nsukka. This project is also dedicated to Mrs. Akubueze Okere Federal Government College, Port Harcourt, who has taken all the pains in typing the manuscript over and over again and almost always with keen interest, and religious dedication.
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SALIHU ALHASSAN ARUWA,
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# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>TITLE PAGE</td>
<td>i</td>
</tr>
<tr>
<td>APPROVAL PAGE</td>
<td>ii</td>
</tr>
<tr>
<td>DEDICATION</td>
<td>iii</td>
</tr>
<tr>
<td>ACKNOWLEDGEMENT</td>
<td>iv</td>
</tr>
<tr>
<td>TABLE OF CONTENTS</td>
<td>vi</td>
</tr>
<tr>
<td>LIST OF TABLES AND FIGURES</td>
<td>ix</td>
</tr>
<tr>
<td>ABSTRACT</td>
<td>xv</td>
</tr>
<tr>
<td>CHAPTER I - INTRODUCTION</td>
<td>1-5</td>
</tr>
<tr>
<td>Background to the study</td>
<td>1</td>
</tr>
<tr>
<td>Theoretical Framework of</td>
<td>5</td>
</tr>
<tr>
<td>Vocational Development</td>
<td></td>
</tr>
<tr>
<td>Crites' New Formulation of</td>
<td>8</td>
</tr>
<tr>
<td>Vocational Maturity (VM)</td>
<td></td>
</tr>
<tr>
<td>Statement of the problem</td>
<td>10</td>
</tr>
<tr>
<td>The purpose of the study</td>
<td>10</td>
</tr>
<tr>
<td>The Significance of the Study</td>
<td>11</td>
</tr>
<tr>
<td>Research Questions</td>
<td>12</td>
</tr>
<tr>
<td>Hypotheses</td>
<td>13</td>
</tr>
<tr>
<td>Scope and Delimitation of Study</td>
<td>14</td>
</tr>
<tr>
<td>Definition of Terms</td>
<td>14</td>
</tr>
<tr>
<td>CHAPTER II - REVIEW OF LITERATURE</td>
<td>16-34</td>
</tr>
<tr>
<td>Concept of Vocational Maturity</td>
<td>16</td>
</tr>
<tr>
<td>Dimensions of Vocational Maturity</td>
<td>18</td>
</tr>
<tr>
<td>The Career Pattern Study (CPS)</td>
<td>19</td>
</tr>
<tr>
<td>Findings</td>
<td>20</td>
</tr>
<tr>
<td>Follow-up study</td>
<td>21</td>
</tr>
<tr>
<td>Summary of Related Studies and Findings</td>
<td>21</td>
</tr>
<tr>
<td>Studies in Shift in Vocational Plans</td>
<td>22</td>
</tr>
<tr>
<td>Studies in Vocational decision-making</td>
<td></td>
</tr>
<tr>
<td>Ability and higher academic aptitude</td>
<td>23</td>
</tr>
</tbody>
</table>
Career Development Study (CDS) ........................................... 24
Findings
Vocational Development Inventory (VDI) ......................... 25
Crites' New Model ......................................................... 26
Related Research Studies with
Career Maturity Inventory (CMI) Scale ......................... 27
Cultural differences (ethnic/racial groups) ................... 29
Summary of Studies Using CMI in recent time ............. 30
Nigerian Studies Using the CMI .......................................... 31
Summary ............................................................................. 33

CHAPTER III - METHODOLOGY .................................................. 35
Instrument and Procedure ............................................... 35
Test Modification ............................................................ 37
The Pilot Study ................................................................. 39
The Subjects .................................................................... 41
Data Scoring and Analysis ............................................... 43
Post-hoc Comparison of Means ......................................... 43

CHAPTER IV - DATA ANALYSIS AND RESULTS .......... 44 - 97
Section 1: Research Questions and Research
hypotheses 1, 3 and 4 (Class; Geographic
Location of Schools; Sex) ............................................... 46
Summary ............................................................................. 55
Section II: Hypothesis on the Age
Variable and Results ....................................................... 61
Summary
Section III: Hypothesis of Interactions
(Class; Sex; Geographic Location of Schools) .......... 62
Summary of results for hypothesis of
Interactions ....................................................................... 81
Summary of the Findings .................................................. 82
Post-hoc Comparison of Mean: Maturity Score
Differences Using Scheffe's Method ....................... 84
Summary ............................................................................. 95
<table>
<thead>
<tr>
<th>CHAPTER V - DISCUSSION, CONCLUSION AND IMPLICATIONS</th>
<th>98 - 116</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discussion of the Hypotheses</td>
<td>98</td>
</tr>
<tr>
<td>Conclusion</td>
<td>111</td>
</tr>
<tr>
<td>Implications</td>
<td></td>
</tr>
<tr>
<td>Suggestions for future Research</td>
<td>115</td>
</tr>
<tr>
<td>Bibliography</td>
<td>117</td>
</tr>
</tbody>
</table>

**APPENDICES**

| A. Graphs on the Computer Calculated Mean Score Values on Instrument (CMI) | 127 - 143 |
| B. Career Maturity Inventory (CMI) Modified Version | 144      |
LIST OF TABLES AND FIGURES

A Model of Career Maturity in Adolescence
(Super, et al. 1974) ............................................. 4
A Model of Career Maturity in Adolescence
(Crites, 1978) ................................................. 7
A Simplified Version of Crites' Model of
Career Choice Process. ...................................... 9
Inter-correlation Between Adequate and Marginal
Measures of Vocational Maturity .......................... 20
Internal Consistency Co-efficients (KR20)
for Competence Test .......................................... 37
Sampling Distribution of Subjects for Subjects for Study
by Zones .......................................................... 40
Distributions of respondents by class ..................... 41
Distribution of respondents by Age Group ............... 42
Distribution of respondents by School Location .......... 43
Means, Standard Deviations and Standard Errors
Obtained on the Attitude Scale, parts I, II and IV
(CMI) by class. ................................................... 45
Means, Standard Deviation and Standard Errors
obtained on the Attitude Scale, parts I, II and IV (CMI) by School Location ................. 47
Means, Standard Deviations and Standard Errors
Obtained on the Attitude Scale, parts I, II and IV (CMI) by sex ................................. 48
A 5 x 2 x 2 Factorial AIOYA design of the
Attitude Scale Scores of 660 students of
Benue State Secondary Schools Classified
according to class, sex and Geographic
Location of Schools. /Urban/Rural/ ...................... 50
A 5 x 2 x 2 Factorial ANOVA design of the Self-Appraisal Test Scores of 660 Students of Benue State Secondary Schools classified according to class, Sex and Geographic Location of Schools. (Urban/Rural) .................. 51

A 5 x 2 x 2 Factorial ANOVA design of the Occupational Information Test Scores of 660 students of Benue State Secondary Schools classified according to class, sex and geographic location of schools. (Urban/Rural) .................. 52

A 5 x 2 x 2 Factorial ANOVA design of the Planning Test Scores of 660 Students of Benue State Secondary Schools classified according to class, sex and Geographic Location of Schools. .................. 53

Means, Standard Deviations and Standard Errors Obtained on Attitude Scale, parts I, II and IV (CMI) by age Group . ................................. 58

A 1 x 8 Analysis of Variance of the Attitude Scale Scores of 656 students of Benue State Secondary Schools classified according to Age Group . ............... 59

A 1 x 8 Analysis of Variance of the Self-Appraisal scores of 656 students of Benue State Secondary Schools classified according to Age Group . ................................. 59
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>A 1 x 8 Analysis of the Variance of the Occupational Information</td>
<td>60</td>
</tr>
<tr>
<td>Scores of 656 Students of Benue State Secondary Schools classified</td>
<td></td>
</tr>
<tr>
<td>according to Age Group</td>
<td></td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>A 1 x 8 Analysis of Variance of the Planning Scores of 656 students of Benue State Secondary Schools classified according to Age Group</td>
<td>60</td>
</tr>
<tr>
<td>Data for the Interaction between class and sex on the Attitude Scale (CMI)</td>
<td>63</td>
</tr>
<tr>
<td>Data for the Interaction between class and sex on the Self-Appraisal (part I CMI)</td>
<td>63</td>
</tr>
<tr>
<td>Data for the Interaction between class and sex on the Occupational Information (part II) CMI</td>
<td>63</td>
</tr>
<tr>
<td>Data for the Interaction between class and sex on the Planning (part IV) CMI</td>
<td>64</td>
</tr>
<tr>
<td>Illustration of the Interaction between class and sex on the Attitude Scale (CMI)</td>
<td>65</td>
</tr>
<tr>
<td>Illustration of the Interaction between class and sex on Self-Appraisal (CMI)</td>
<td>66</td>
</tr>
<tr>
<td>Illustration of the Interaction pattern between class and sex on Occupational Information (CMI)</td>
<td>67</td>
</tr>
<tr>
<td>Illustration of the Interaction Pattern between class and sex on planning (CMI)</td>
<td>68</td>
</tr>
</tbody>
</table>
Data for the Interaction between sex and geographical location (Urban/Rural) of schools on the Attitude Scale .................................. 75
Illustration of the Interaction pattern between sex and geographic location of schools on the Attitude Scale (CMI) .................. 76
Illustration of the Interaction between sex and geographic location of schools on Self-Appraisal CMI. ............................... 77
Illustration of the Interaction pattern between sex and geographic location of schools on Planning ........................................ 78
Illustration of the Interaction pattern between sex and geographic location of schools on Occupational Information ............ 79
Data for the Interaction between sex and geographical location of schools on the self-appraisal ........................................ 80
Data for the Interaction between sex and geographic location of schools on the Occupational Information CMI. ........... 80
Data for the interaction between sex and Geographic location of Schools on the Planning CMI .................. 80
Source of significance of mean score difference among JSS I - SS II students on Attitude Scale ........................................ 86
Source of significance of mean score difference among JSS I - SS II students on Occupational Information ..................................... 87

Source of significance of mean score difference among JSS I - SS II students on Planning............................................ 88

Source of significance between male and female students on Planning................................................................. 88

Source of significance between urban and rural school location on Planning.............................................................. 89

Source of significance among Age Groups on Occupational Information ............................................................. 90

Source of significance of Interaction between class and geographic location of schools on Occupational Information .................. 91

Source of significance of Interaction between sex and geographic location of schools on Occupational Information .................. 92

Source of significant Interaction effects among the triplet of class x sex x geographic location of schools on the Attitude Scale.

Source of significant interaction effects among the triplet of class x sex x geographic location of schools on Self-Appraisal (CMI) ................................................................. 93

Source of significant interaction effect among class x sex x geographic locations of schools on Occupational Information (CMI) .................. 95
ABSTRACT

The study was designed to test whether Crites' (1973; 1976) Career Maturity Theory that in adolescence, career maturity progresses systematically with increasing class and age, irrespective of sex and geographic school location applies to Benue State Secondary School Students. A stratified random sample of six hundred and sixty, 11-25 year old boys and girls from urban and rural schools were drawn from eleven secondary schools in the Gboko and Ayangba educational zones of the State. For the collection of data the Career Choice Attitude Scale; Self-Appraisal; Occupational Information and Planning subtests of Crites' Career Maturity Inventory (CMI) were used, with reliability co-efficients of 0.934; 0.921; 0.933 and 0.899 respectively.

Analysis of variance was used to test the hypotheses of 'no significant' difference in the mean career maturity scores of students by class; age; sex, and by geographic location of schools. The hypotheses were tested at the .05 level of confidence.

The results showed significant mean score difference for class on the Career Choice Attitude Scale; Occupational Information and Planning subtests. The null hypothesis was rejected. For the age effect variable the hypothesis was rejected on the Occupational Information. Significant mean score differences were obtained on the Planning subtest for sex, and for school location. The hypotheses were therefore rejected.

There were significant interaction effects for class x school location, and for sex x school location on the Occupational Information subtest. Similar results were obtained for the class x sex x school location on the Career Choice Attitude Scale; Self-Appraisal, and on Occupational Information. In both cases the hypothesis was rejected.

In the main, (i) the findings provided support to Crites' Career Maturity Theory, more for the class main effect than for the age variable; and (ii) the results for sex difference and
geographic location of schools were inconsistent with Crites' standardisation sample reports of 'negligible' score difference. The class x school location; sex x school location, and the class x sex x school location interaction effects on the tests should be qualified by their main effect variables.

Career guidance/counseling for rural schools and girls was suggested.
CHAPTER 1

INTRODUCTION

BACKGROUND TO THE STUDY: The Federal Government identifies (1977; 1981) Career Counseling as one of those complementary services that ought to be given greater attention in the Junior and Senior Secondary Schools Programme. In the Five Year National Development Plan (1975-1980), the Federal Government stated inter alia:

For education to be complete, the beneficiary must have a good sense of fulfilment. This particular feeling must go with the right choice of career. Such choices are best identified in secondary stages of students' career. The absence of career counseling in our educational and training systems in the past must be held responsible for frustrations observed among many of the nation's young men and women. To remedy the situation career counseling will be institutionalised in all the nation's educational and training systems with adequate support of the Federal and State Governments ...

In view of the apparent ignorance of many young people about career prospects, and in view of personality mal-adjustment among school children, careers officers and counselors will be appointed in post-primary institutions (1977: 30).

In other words, a secondary school student cannot have a sense of fulfilment in education if appropriate career choice is not made before the end of the school course. Most secondary school students in Nigeria are ignorant of career prospects resulting often in frustration. This ignorance is seen as a result of lack of career counseling in educational institutions, and to remedy the situation career masters or officers are being trained to help the students to make wise career choices. Thus, the essence of properly guiding and counseling the students in their career decision-making to pursue professional or non-professional Careers would not be left to the tender and uninformed intuition of the students themselves.
What the career masters or officers are required to do is
evertheless to give career guidance that is a function of planned,
deliberate and purposeful occupational activities and education
over time. Theoretically therefore, these activities in adolescence
should include helping individual students to make appraisal of
themselves in matters of career choice, to develop wise career
choice attitude, to acquire self and occupational knowledges and
to acquire job-planning skills as well as other career choice
competencies.

The adolescent period coincides with the 3 - 3 unit of the
6 - 3 - 3 - 4 system of education. Within the 3 - 3 segment of
the Policy, students are exposed to educational experiences in the
area of academic (Mathematics, English, Nigerian Language,
Science, Social Studies. Art and Music, Practical Agriculture,
Religious and Moral Instrustions, physical Education and Vocation-
ral) and prevocational courses including woodwork, metal work,
Electronics, Mechanics, Local crafts, Home Economics and Business
Studies (N.P.E. 1981 - 17 - 18; 1977: 11; 19). But the vocational
experiences which should include the development of career choice
attitude and competencies are lacking.

That apart, the present methods that are in use, especially
based on Continuous Assessment Scheme that tend to elicit infor-
mation purely on curricular content, are in-adequate. Career
guidance service that meets the expectation of the National Policy
on Education (N.P.E.) should be more than advising and guiding
students based on academic achievements alone. Career guidance is
expected to expand and become more comprehensive, encompassing
academic content as well as career experiences within the course
of studies. It is expected that during adolescence, and especia-
ally while in secondary school, a youngster should be able to mani-
fest increasing maturity in his career choice attitude (such as
career preference, involvement, independence, orientation and
compromise) and career choice competencies (in self-appraisal, occupational information, goal selection, planning and problem solving) (Walsh & Osipow, ed. 1983: 269). These vocational behaviours deemed essential for producing a vocationally mature and Self-directed individual are theoretically (Crites, 1978; 1973) expected to mature systematically from class to class and with increasing age.

Studies (Achebe, 1975; Agulana, 1977) on secondary school students in Anambra and Imo States have shown to generally fulfil the predicted systematic increase in choice attitude, occupational information and planning competencies with increasing class and age. Anambra and Imo States are considered educationally advantaged areas. For Nigerian counselors to be able to generalise these results to a wider segment of the country, the results should be across students from both advantaged and disadvantaged educational areas. Since the latter did not form part of the previous studies, the question becomes: will the students from the educationally disadvantaged areas be just as mature as the students from Anambra and Imo States?

Furthermore, when the sex and geographic location of Anambra and Imo State students were taken into consideration the main findings for some of the career dimensions tested no longer held true because some interactions were noticed, thus suggesting the need to re-examine the findings. No such studies have so far been done and students other than Anambra State have not been included in the sample. For this reason, this study asks whether the theory is applicable to Benue State students as well. The present study focuses on the effect of class, age, sex and geographic location of schools on career maturity of students in Benue State Schools, using the Career Choice Attitude Scale; Self-Appraisal; Occupational Information, and Planning subtests of Crites' Career Maturity Inventory (CMI).
Source:
Career development has for long been conceptualized in this country in terms of choice itself by which the individual considers personal values and characteristics against the entry requirements of the various occupations. Consequently, the trait-Factor theoretical orientation as was made popular in the writings and works of Buehler (1933), Carter (1940), Form and Miller (1951) among others remained the vogue in most career counseling literature of this country until recently. Since 1957 Super has re-defined career choice orientation as a life long process, and career maturity as "... a place reached on a continuum ...".

The emergence of Super's concept of career choice as a developmental process (Fig. 2 p. 7) has historical antecedent in the pre-Super publications, most notably among them were Ginzberg and his associates' (1951) (in Hopson and Hayes, 1975: 4 14 - 15). This process has come to be known as "Career development theory". As a process, the development typically takes place over a long period during which the individual forms appropriate vocational attitudes, and the vocational choice ends in a compromise between interests, capacities, values and opportunities and the individual making the choice (Ginzberg, 1951: Hopson and Hayes, 1975: 20 - 22). After a survey of the diverse elements of the Ginzberg theory of vocational development, Super came up with propositions considered essential to theory building and which are incorporated into a developmental theory of vocational behaviour (Fig. 1, p 4).

One of the central concepts of Super's theory is that vocational development is synonymous with the development of the self-concept and that the process of vocational adjustment depends upon implementing the self-concept. As a person moves through the developmental stages Super contends there are three processes by which the developing self-concept affects vocational development. The first is the process of formation during which
interests, values, and capacities increasingly develop, and are integrated into the self-concept. He contended that these would begin to take a vocational meaning through identification, role playing and reality testing.

The second process is that of translation, during which the self-concept is translated into vocational terms. This process takes place through increased awareness of one's attributes with practical realities and/or experience (Super, et al.: 1963; Dumphy, ed. 1973: 16).

The third process is that of implementation, and it is simply the process of fulfilling the self-concept formed during the first two processes of formation and translation. Thus, the extent of work and life satisfaction depends on the extent to which a person can find outlets for abilities, interests, values and personality traits in his job.

The concept of vocational development is a continuous birth to death process; divided into discernible stages and substages. Each individual has his own special developmental tasks that call for a measurement or assessment of where a person stands along the vocational continuum (Super and Overstreet, 1960: 31 - 34; Carew, 1985: 186). Super hypothesized five dimensions along which vocational behaviour could be assessed during adolescence. These dimensions are (1) Orientation to vocational choice; (2) Information and planning about preferred occupation; (3) consistency of vocational preferences; (4) crystallisation of traits, and (5) wisdom of vocational preferences. Super (1955; 1975) elaborated upon his theory of career development and introduced the concept of Vocational Maturity which he defines as "... the place reached on the continuum of vocational development from exploration to decline" (Super, 1955; 153; Crites, 1973: 6; 1978).

Super had sought to assess the individual's vocational Maturity (VM) from either the vocationally relevant tasks appro-
Fig. 2 A Model of Career Maturity in Adolescence (Crites, 1978a: 4).

priate to the developmental stage the individual is in, or those vocationally relevant tasks that the individual may be experiencing with (Super and Overstreet, 1960: 33, Kuti, 1978: 314).

CRITES' NEW FORMULATION OF VOCATIONAL MATURITY (VM)

Crites' (1961) reviewed Super's work and emerged with a redefinition of vocational Maturity. His new formulation of VM comprises two independent variances: 'degree' and 'rate' of vocational development (Crites, 1961; 1964; 1965; 1973; 1978. Walsh and Osipow, ed. 1983: 267). The 'degree of vocational development' indicates the similarity between the individual's vocational behaviour and that of the oldest individual in his vocational life stage. This variable can be measured from the individual's responses to an inventory of vocational behaviour which differentiates older from younger age group within his life stage. The number of behaviours endorsed in the same way as the older group provides an indication of the individual's raw score. The individual's degree of vocational development is computed from the raw score. The higher the score the greater his degree of vocational development.

Crites, like Super, indicates that vocational behaviour, in a developmental context, should mature systematically with increasing age and also grade. His 'rate of vocational development' refers to the maturity of the individual's vocational behaviour in comparison with that of his own age group. This is determined by interpreting the individual's raw score in accordance with the appropriate age norms. This will show whether the individual is relatively more or less vocationally mature than his peers.

In his new model (Fig. 2, p. 7) Crites collapsed Super's five dimensions into four general factors, viz; consistency of Career choices; Realism of Career Choices (as Career Choice Content); Career choice competencies, and Career Choice Attitudes (Super et al., 1974 26; Crites, 1961; 255 - 259 (as Career
Fig. 3:

Choice Process). He then further concentrated on only two out of
the four group factors, that is, on Career Choice Attitude and
Career Choice Competencies, which he further broke down into a
total of ten variables, five in each group factor. Out of these
variables in the model of career maturity (Fig. 2, p. 7), the
Career Maturity Inventory (CMI) was conceived and constructed to
measure Career Choice Process, or Career Choice Attitudes and
Career Choice Competencies (Crites, 1961; 1973; 1978; Fig. 3, page
9).

Crites' work is an extension of Super's. Literature
review shows that Crites' revised definition of VM that symbolises
progressive change seems however less complex to measure, and as
he himself points out, "probably more readily translated into
specific measuring operations ... and persimmonious", (Crites,
1973: 10; 1978). Before Crites' no instrument existed to
measure the dimensions and variables being discussed by theorists
in the field of vocational maturity. His major contribution
therefore is in the construction of a measurement instrument
which can assess emerging career awareness exploration and
decision-making.

STATEMENT OF THE PROBLEM: Crites' Career Maturity Theory (1978;
1973) states that in adolescence career choice attitudes (prefere-
ence, involvement, independence, orientation and compromise) and
competencies (self-appraisal, occupational information, goal
selection, planning and problem solving) increase systematically
with increasing class-level and age, irrespective of sex or
geographic location of schools. The problem is whether Benue
State Secondary School students systematically exhibit increased
career choice attitudes, and competencies with increasing class-
level and age when assessed on Crites' Career Choice Attitude
Scale; and the self-Appraisal; Occupational Information and
Planning subtests of the Career Maturity Inventory (CMI).

Further more, Crites contends that differences in item
responses between male and female subjects are negligible, and therefore recommends his instrument to be applicable to both sexes. The problem is whether the male and female subjects from urban and rural school locations in Benue State fulfill these patterns when their career maturity is assessed on Crites' inventory.

PURPOSE OF STUDY

The investigator surveyed the career development patterns of secondary school students in Benue State of Nigeria. The purpose was to find out if the rationale of prototypic trend in Career maturity theoretically (Crites, 1973, 1978) assumed to occur systematically with increasing class and age would apply to students, irrespective of sex and geographic school location, in secondary schools in Benue State, which invariably, is an educationally disadvantaged area.

The purpose of this study was to use the additional variable (Self-Appraisal subtest) other than the Career Choice Attitude, Occupational Information and Planning subtests of Crites Career Maturity Inventory in Achebe's (1975) and Agulana's (1977) studies.

SIGNIFICANCE OF STUDY:

The view that career choice is made only at a particular point in time, usually when leaving school, has been challenged in recent time (Crites, 1973; 1978). It is usual to see many students enter into the world of work with little or no references to the limitations imposed by their own career related behaviours such as career choice attitudes, Self- and Career Knowledges and planning competencies. Students therefore require assistance in the appraisal of their own potentialities and aspirational levels in choosing careers.

The essence of this study is therefore not only to establish the applicability of Crites' Career Maturity Theory to Benue State students but also to help provide answers to the specific questions
on career choice competence more, particularly about how well students in Benue State appraise their job-related capabilities, how much they know about the world of work, and how foresightful in their planning for career development.

The success of this study should have implications for education and guidance programme of the state. For instance, studies (Crites, 1973; 1969; 1958; Super et al., 1960; Herr and Gramer, 1972) have shown that educational achievement is also related to planfulness, correct choices of subjects and vocational fields. In this way, the study may afford the State Ministry of Education to take appropriate steps not only to enrich guidance programmes for the secondary schools, but also in evaluating the programme itself.

It is hoped that the results of this study would bring the CMI into focus as an appraisal instrument as more users cautiously put it to use and accumulate data concerning career maturity in Benue State where no such instrument conceived and constructed to measure the career attitude and competencies that are critical in realistic career decision-making is used. The Career Maturity Inventory (CMI) can be used to supplement existing ability and interest measures with assessment of students' career maturity.

On the whole, if the results from this study are consistent with earlier findings, it should provide an opportunity to adopt the instrument for use in career counseling programmes in secondary schools in Benue State.

RESEARCH QUESTIONS

To help accomplish this purpose the following research questions were asked:-

1. Do the mean career maturity scores of Benue State students on the Career Choice Attitude, the Self-Appraisal, Occupational Information and Planning subtests of the Career Maturity Inventory increase systematically by class.
2. Do the mean career maturity scores of Benue State students on the Career Choice Attitude, the Self-Appraisal, Occupational Information and Planning subtests of the Career Maturity Inventory increase systematically by age?

3. Does geographic location (urban or rural) of the school affect the mean career maturity scores of Benue State students on the Career Choice Attitude, the Self-Appraisal, Occupational Information and Planning subtests of the Career Maturity Inventory?

4. Are there significant differences on the mean career maturity scores by sex of Benue State students on the career Choice Attitude, the Self-Appraisal, Occupational Information and Planning subtests of the Career Maturity Inventory?

5. Are there interaction effects between class and sex; class and school location and between sex and school location on the career maturity scores of Benue State students on the Career Choice Attitude, Self-Appraisal, Occupational Information and Planning subtests of the Career Maturity Inventory?

HYPOTHESES

To answer the research questions the following null hypotheses were tested;

1. There is no significant difference in the mean career maturity scores of students in the JSS classes I to SS classes I & II on the Career Attitude Scale, subtest I (Self-Appraisal), Subtest II (Occupational Information) and subtest IV (Planning) of Crites' Career Maturity Inventory, (CMI).

2. There is no significant difference in the mean career maturity scores of students by age group on the Career Choice Attitude Scale; subtest I (Self-Appraisal); Subtest II (Occupational Information), and subtest IV (Planning) on the Career Choice Competence Test of Crites' Career Maturity Inventory (CMI).

3. There is no significant difference in the mean career maturity scores of students in urban and rural schools on the
Career Choice Attitude Scale; subtest I (Self-Appraisal); Subtest II (Occupational Information), and subtest IV (planning) of the Career Choice Competence Test of Crites' Career Maturity Inventory (CMI).

5. There is no significant interaction effect among:
   (a) class and sex;
   (b) class and school location and;
   (c) sex and school location in the mean career maturity scores of students on the Career Choice Attitude Scale;
   Subtest I, subtest II, and subtest IV of the Career Choice Competence Test of Crites' CMI.

SCOPE AND DELIMITATION OF STUDY:

While this study may have implications for schools in other parts of Nigeria, sampling procedures limit the generalizability of the finding to Benue State Secondary School Students, that is, boys and girls of age ranging from 11 to 25 in JSS classes I to SS classes I & II urban and rural areas. Furthermore, there are many variables which may influence individual student's career maturity pattern.

The present study focuses on the Career Choice Attitude, Self-Appraisal, Occupational Information and planning variables of the Career Maturity Inventory (CMI) to test the applicability of Crites' theory of career maturity on Benue State Students using the variables of age, class, sex and school location as 'predictors' of career maturity patterns.

DEFINITION OF TERMS USED:

Career Maturity In this study, refers to an individual student's degree or rate as shown by his score on the Career Choice Attitude Scale, and on the Self-Appraisal (part I) Occupational Information, (part II) and Planning (part IV) sub-tests (CMI) as compared with his class or age group.

Career Maturity Score is the total score obtained by an individual
student on each of three competence subtests and on the Attitude Scale. This will include each student's total score on the 50-item Career Choice Attitude and the 20-item of each of subtests I (Self-Appraisal), II (Occupational Information) and Subtest IV (Planning) of the Career Maturity Inventory (CMI).

CLASS refers to 'form-placement' or grade level (American) in a secondary school. JSS 1 stands for Junior-secondary school classes while 'SS' stands for Senior secondary classes. On the Computer calculated sheets (Appendix A) numbers 1 - 6 are used to represent the two segments of secondary school classes.

URBAN/RURAL Urban - all local Government Area Headquarters. Any other human settlement not within this definition is rural. The Headquarters are development nuclei (Housing and Urban Development Corporation - HUDCO., 1982).

CHAPTER II

REVIEW OF RELATED LITERATURE

The review of literature was organised as follows: The concept of Vocational maturity (VM) and studies dealing with it. These studies specifically concern the Career Pattern Studies, the Career Development study and the Vocational Development Project - the fore-runner of the Career Maturity Inventory. Finally, there is a brief review report of research relating to sex and to urban/rural (school location).

CONCEPT OF VOCATIONAL MATURITY

The Concept of Super's VM has historical antecedents in the writings of Ginzberg et al., (1951) and Carl Rogers (1943; 1951). Others whose works Super leaned heavily on include Deilin (1955) and Havighurst (1953). Super's (1957) theory represents the school of career counseling that can be variously called the "psychology of careers" or "Career Development theory" (Kuti, 1978: 34). This theory conceptualises career choice in terms of process and development, leading to eventual choice of career. Thus, for Super, eventual choice of an occupation climaxes in implementation of self-concept.

Historically therefore, the term 'Vocational Maturity', and its definition of the dimensions and behaviours hypothesized as being part of the construct began to appear in the literature of Vocational psychology after Super's (1955) publication of "Dimensions and Measurement of Vocational Maturity". The concept thus grew out of the theory of vocational development and was first operationally defined by Super (1957) as the degree of vocational development, the place reached on the continuum of vocational development from exploration to decline (Achebe, 1981: 107, Super, 1955: 153; Crites, 1973; 1978).

Super then identified five vocational life stages in the process of Vocational Development (Achebe, 1981: 109 - 11; Super, 1957: 40 - 41) each with its own characteristic behaviour. These
include (1) GROWTH (Birth to 14 years); (2) EXPLORATION (15 - 24 years); (3) ESTABLISHMENT (25 - 44 years); (4) MAINTENANCE (45 - 64 years), and (5) DECLINE (65 - 70 years).

What these indicate is that Vocational Development is a life long process that consists of a series of related decisions spreading through a prolonged period of time with distinct life-stage from growth period through exploration, establishment, maintenance and terminating with decline (Achebe, 1981). However Super believes that the manner in which self-concept is implemented vocationally is dependent upon conditions external to the individual. It is this condition that accounts for vocational decision-making, especially during adolescence, to take different forms (Osipow, 1973: 137).

Super's conception of career development is built upon the frame-work of these life-stages and based on the assumption that vocational tasks reflect larger life tasks. Super (1975: Kline 1975: 175 - 176) identified Vocational Development Tasks of various life-stages of the pre-school child, the Elementary school child and that of the High school Adolescence. Others are the young adult, the Mature adult and the Older person.

Understandably, the life-stage and the developmental tasks, reflect physical, psychological and social growth systematic changes vis-a-vis the differentiation in career planning and in career decision-making process. They also reflect the fact that with increasing development, new behaviours are added to the previous ones resulting in modified behaviour. Super (Super et al., 1975: 36) points to the fact that as the young persons work through a sequence of vocational developmental tasks, "patterns of behaviour become differentiated and integrated into repertoires of habit and skills." He however cautioned that new behaviours can only become established in the individual's behaviour repertoire if those behaviours accumulated in the previous periods have been sufficiently mastered.
DIMENSIONS OF VOCATIONAL MATURITY'

Super (1955: 153; Kline 1975: 177) delineates five behavioural dimensions and a total of twenty quantitative indices which he considers specific to define vocational maturity operationally in terms of measures that can be devised. They are illustrated as follows:

1. Orientation to vocational choice - defined as the individual's concern with the problem of vocational choice and the use he makes of the resources around him in solving the problem.

2. Information and Planning - specificity of information about the chosen occupation, extent and specificity of planning with respect to chosen occupations.

3. Consistency of Vocational Choice-stability of vocational choice over time and agreement among vocational choices in field, level and family.

4. Crystallisation of traits - defined as extent to which vocationally relevant aptitudes and personal dispositions, such as mechanical comprehension and work values, have developed toward adult status.

5. Wisdom of Vocational choice - extent to which vocational choice agrees with abilities, activities, interests and socio-economic background.

To assess the Vocational Maturity of the individual, Super (1960: 8) suggested comparing the behaviour of the individual with either the behaviour to be expected from one in his life-stage as determined by his age or the behaviour of others dealing with the same developmental tasks as those with which the individual under consideration is dealing.
THE CAREER PATTERN STUDY (CPS)

The Career Pattern Study (CPS) was launched in 1951 by Super (Super, 1957). The samples consisted of 276 caucasian middle-class males drawn from 8th grade students. All were from public schools of Middle-town, New York (Super and Over-street, 1960: 6 - 14).

The objective of the study was to attempt to increase knowledge of vocational behaviour by empirically testing hypothetical constructs relevant to vocational development. It was also to develop measures indicative of current vocational behaviour. A sample of 105 ninth grade boys were involved in the first published research report concerning the Vocational Maturity of that grade level. The team of researchers followed the vocational development of these students over a twenty year period (1951 - 1977) (Osipow, 1968).

The researchers tested Super's five dimensions of vocational maturity (Super et al., 1974: 12-13):

DIMENSION I - Orientation to vocational choice was assessed through examination of the degree to which a student indicated concern for vocational problems and the effectiveness with which he used available resources to cope with decision-making tasks. Both of these factors were measured by judge's ratings of interview protocols.

DIMENSION II Information and Planning about preferred occupation was assessed by studying (a) the specificity of information possessed by a student about his preferred occupation, (b) the degree of specificity of his planning for the occupation of his choice, and (c) the extent to which the student was involved in planning activities of a vocational nature. These indices were generated on the basis of data obtained in structured interviews with the boys.

DIMENSION III - This had three indices: Consistency of vocational preference within fields, within levels, and within families (or fields and level combined). These indices were based on a modified version of Roe's (1956) occupational classification scheme (Hopson and Hayes, ed. 1975: 131 - 139).
DIMENSION IV - Crystallisation of traits. This had six indices. Two of these: interest maturity and interest patterning were derived from the results of the Strong Vocational Interest Blank (SVIB). Liking for work, concern for work rewards, vocational independence and acceptance of responsibility for vocational planning were determined from interview data. Patterning of work values was evaluated from the scores on the Work Value Inventory (WVI) (Osipow, 1973: 143).

DIMENSION V - Wisdom of vocational preference consists of indices reflecting the agreement between ability and preference, compared measured interests with occupational level of preference and the socio-economic accessibility of the preference of the student. The indices were based on a combination of inventories (SVIB), WVI) and interview data.

FINDINGS - Of all of the twenty indices six were found to be inter-correlated to any really significant degree. This fact is illustrated below:

<table>
<thead>
<tr>
<th>Dimension A. Orientation to choice tasks</th>
<th>IA</th>
<th>IVF</th>
<th>IIA</th>
<th>IIB</th>
<th>IIC</th>
<th>IB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Index IA. Concern with choice</td>
<td>-.</td>
<td>.56</td>
<td>.40</td>
<td>.48</td>
<td>.29</td>
<td>.23</td>
</tr>
<tr>
<td>Index IVF. Acceptance of responsibility</td>
<td>.56</td>
<td>-.</td>
<td>.47</td>
<td>.57</td>
<td>.51</td>
<td>.24</td>
</tr>
<tr>
<td>Index IIA. Specificity of Information</td>
<td>.40</td>
<td>.47</td>
<td>-.</td>
<td>.37</td>
<td>.29</td>
<td>.17</td>
</tr>
<tr>
<td>Index IIB. Specificity of Planning</td>
<td>.48</td>
<td>.57</td>
<td>.37</td>
<td>-.</td>
<td>.46</td>
<td>.07</td>
</tr>
<tr>
<td>Index IIC. Extent of planning</td>
<td>.29</td>
<td>.51</td>
<td>.29</td>
<td>.46</td>
<td>-.</td>
<td>.06</td>
</tr>
<tr>
<td>Dimension IB. Use of resources</td>
<td>.23</td>
<td>.24</td>
<td>.17</td>
<td>.07</td>
<td>.06</td>
<td>-.</td>
</tr>
</tbody>
</table>

SOURCE: Super, D. E. and Overstreet, P.L. The Vocational Maturity of Ninth Grade Boys. New York Teacher College Press 1960: 60). These results suggested that two major factors are relevant to VM in the ninth grade, viz: 'Orientation to choice tasks and the use of resources.'
The other indices are not necessarily less important as a result of these findings but the relationship between them does not seem to have any systematic basis. "They are found to fit in generally" (Super and Overstreet, 1960: 61; Osipow, 1973: 143 - 144) but may be adequate measure of VM at some future life stages of development.

Earlier investigators have observed that the shortcoming of this early research to confirm four of the five hypothesized dimensions as characteristics of vocational behaviours of the ninth grade level may be due to two causes. The first is that of the non-objective and non-standardised method of evaluation employed. The second is the particular population used.

FOLLOW-UP STUDY

Super and his research team (Osipow, 1973: 144 - 147; Super and Overstreet, 1960: 165) conducted a correlational study of the factors with "Orientation to choice tasks" dimension as the index of vocational maturity. They found the following associations: (a) Vocation maturity index is related to intelligence but age is of less importance at least, for the ninth grade stage of development. The difference in specificity of planning suggests that brighter youngsters are able to plan more effectively in general than less bright ones; (b) vocational maturity index correlated with such environmental factors as parental occupational level, school curriculum, amount of cultural stimulation and family cohesiveness but correlated negatively with urban background. The rural boys were reported to be more vocationally mature than their urban counterparts.

Other variables such as grade point average, achievement vs. under-achievement, participation in school activity and out of school activity - all correlated with vocational maturity (Super and Overstreet; 1960; 158, 1967).

SUMMARY OF RELATED STUDIES AND FINDINGS:

The construct 'Vocational Maturity' has become a focal point of controversy. Several studies attempted to clarify or
validate aspects of Super's findings concerning it. Montesano and Geist (1964) hypothesized that if the process of vocational decisions occur in a developmental context, the process of vocational development is "predictable" and orderly". (Osipow, 1973: 147). They reasoned that if the developmental theory of career preference has validity, older boys should be more reflective in their reasons for their interests than the younger boys. They conducted a cross-sectional study involving sixty ninth grade and twelfth grade boys using the Geist Picture Interest Inventory. Their findings supported Super's developmental theory: that is that older boys' responses indicated more concern for vocational opportunities, for information about careers and for the social value of the given careers than did the responses of the ninth grade boys (Osipow, ibid; Maynard, 1971: 27).

STUDIES IN SHIFT IN VOCATIONAL PLANS

(a) Super and his associates (1961) explored the significance of wise and consistent vocational choice at the ninth grade level. Their objective was to examine the long-range adequacy of choice. 105 boys drawn from the CPS ninth grade sample formed the subject of study. Their findings, like those of Ivers (1978), Prince (1978) and Hawkes (1978), showed lack of close relationship between early vocational preferences and consistency.

(b) The research finding by Cooley and Astin (1967) (a) based on data collected in the Project Talent Study, comparing, the educational vocational interests and choice of 9th and 12th grade boys, indicated that the stated career plans of 9th grade boys are relatively good predictors of 12th grade plans (Osipow, 1973: 150). Cooley and Flanagan (1966) had reported the same changes in vocational choice of high school students (Cassidy, 1977).

(c) Astin (1967b') studied the shifts in vocational plans that occur during 9th grade to post high school period. He reported a shift away from science and technology to business and
education. This shift can be a response to reality factors, that is; social factors and demands as well as the mood of the time. These account for frequent changes in some job areas.

Thus, Astin's findings provide reinforcement to Super's theory of vocational maturity. Students are more reflective in career matters as they grow older, and Astin's observed shift indicated a greater awareness of reality factors by older individuals.

STUDIES IN VOCATIONAL DECISION-MAKING ABILITY AND HIGHER ACADEMIC APTITUDE.

(a) Dilley (1965) made some attempt to evaluate Super's theory in terms of decision-making ability. He hypothesized that since the dimensions for decision-making ability overlap those hypothesized for vocational maturity, there should be a positive relationship between both. Using an inventory he constructed to measure decision-making ability to test 174 high school seniors as subjects, he reported its relationship and participation in extra-curricular activities. He found that more subjects made good decisions (as defined by his inventory) than were predictable by chance, and that good decision-making earned higher academic aptitude test scores, higher grades and more involved in schools activities than were poor decision-makers (Osipow, 1973: 148 - 149; Super and associates, 1960: 114; Limoges, 1980).

(b) Wurts (1969) used Dilley's data and found that mental age rather than chronological age could be more appropriate in assessment of Vocational Planning of youths. In other words, his findings supported those of Super and Overstreets that age is of a lesser factor than Intelligence in VM.

(c) Locascio (1964; 1967) carried out a research to ascertain Super's developmental theory, especially its claim that the theory was universally applicable to American males in general. He had disagreed with the developmentalists (Ginzberg and Super) who had thought that vocational development was a continuous process of
development. He then drew attention to two other types - the delayed and the impaired. In his article (in Osipow, 1973: 166) he reported the results of an investigation whose subjects were drawn from the CPS sample. His result complemented many of the Career Pattern Study (CPS) results.

However, he concluded that developmental theories were most accurate when applied to advantaged groups, and that vocational development theory seemed to have little application to the disadvantaged whose vocational development should be characterised best as discontinuous (Osipow, 1973).

So far, Super has established orientation to choice of his hypothesised dimension of vocational maturity. The remaining four: planning, consistency of choice, crystallisation of traits and wisdom of choice were found not to be adequate measures of the construct in the 9th grade. Subsequent studies, especially those of Montesano and Geist (1964) as well as Dilley (1965) to validate Super's theory only support it in a general way.

CAREER DEVELOPMENT STUDY (CDS).

Neither the Career Pattern Study nor the research that generated out of it adequately addressed itself to the culturally deprived subjects of the American society. Another attempt toward solving this problem was the launching of the Career Development Study (CDS) in 1957 by Warrer Gribbon (1964) and later joined by Paul R. Lohness. They developed a rating scale designed to assess eight dimensions of readiness for vocational planning, an equivalence of Super's VM dimensions. The eight dimensions collectively form Index of Readiness for Vocational Planning (RVP) (Super et al., 1974: 53 - 56; Ansell, 1970: 30 - 31).

The subjects of this longitudinal study were one hundred and eleven (111) students: 56 males and 55 females drawn from the 8th grade in five different urban schools of eastern Massachusetts. Assessment was made every two years - while the students enrolled in the 8th grade, and again in the 10th grade.
Eight variables were identified to measure readiness for vocational planning. These included factors of Curriculum choice, factors in occupational choice; Verbalised strengths and weaknesses; Accuracy of self-appraisal; and Evidence for self-rating. Others were Interests; Values and Independence of choice.

FINDINGS  The 1961 responses (tenth grade) showed that students were more discriminative at more mature age. But some 8th graders had higher RVP scores than some of the 10th graders. Most tenth graders even scored below the eight grade mean.

The data on vocational values indicated that boys and girls appeared alike in their employment of vocational values at the 8th grade level (Osipow, 1973: 147 - 148; Sinha, 1986: 63 - 77).

The reliance on extensive use of interviews set a severe limitation to the objectivity of the instrument, and so a measuring instrument sufficiently standardised and reliable to aid in identifying a person's stage of VM has continued to elude investigators.

VOCATIONAL DEVELOPMENT INVENTORY (VDI)

The Vocational Development Project was the sponsorship of the United State Office of Education and was conducted at the University of Iowa under the chairmanship of John O. Crites. The major objective of the project was to provide a standardisation test in order to objectively measure vocational maturity (VM).

The VDI

Through extensive studies Crites' (1961; 1963; 1964; 1966; 1973; 1978) primary concern was how to rectify the limitations of the earlier efforts to measure VM. Crites set out to re-define the measurement criteria used for evaluating the VM. His emphasis was the development of an instrument that could measure typical vocational behaviour of the individual's age group and developmental tasks the individual was coping with. He then proposes an instrument that could synthesize their common features. Meanwhile,
he asserted that individual's vocational behaviour should be indicated by the similarity between his behaviour and that of the oldest person in his vocation.

CRITES' NEW MODEL (FIG. 2 P. 7 AND FIG. 3 P. 9)

Crites revised Super's original dimensions of VM and collapsed some of them to come up with the current categories for his new model (Crites, 1964; 1973; 1978). He indicates that behaviours in developmental context are expected to mature with increasing age, and he then grouped behaviours into 'Attitude' and 'Aptitude' categories. While 'Attitudes' are dimensions of vocational development, the 'Aptitude' is classified as a dimension of vocational behaviour (Borow, 1964: 327).

Thus, Crites merged and re-grouped Super's dimensions of VM into two viz: Career Choice Attitudes and Career Choice Competencies. According to Crites, vocational maturity (VM) proceeds through four dimensions of vocational choice (2) Realism of Vocational choice, (3) Vocational choice competencies, and (4) Vocational choice attitudes. The resulting model is shown in Fig. 2 page 7.

Crites' new model had become known as Career Maturity Inventory (CMI) (Super et al., 1974: 26; 36 - 37; Crites, 1961: 8, 1973: 6; 1978 4). Fig. 3 illustrates a simple model of Career Choice Process.

Crites (1965; 1966; 1972) initiated a long term investigation of vocational development of adolescence in an attempt to solve some of the problems that confronted the early effort to assess the developmental phenomena. He devised, tested and standardised the CMI in two stages.

THE ATTITUDE SCALE (Crites, 1965, 32; Super et al., 1974: 27 - 29; Prince, 1978). The Attitude Scale was developed to elicit 50 attitudinal or dispositional response tendencies which are non-intellective in nature but which may mediate both behaviours and choice aptitudes (competencies) (Crites, 1965: 7). A simple
True-False dichotomy was found to yield a better differentiation than the Likert type rating scales.

The research and development of the Attitude Scale involved a sampling of approximately 5,000 students of various ethnic groups and racial differences enrolled in grade 5 through 12 of the Cedar Rapids, Iowa public schools. The test items were developed and administered from a pool of over 1,000 items. They are then empirically keyed to differentiate the responses of 5th through 12th grade students. Thus, the items have been standar-dised to ensure that mean responses are monotonic functions of age, and then grade. It yields a correlation of .385 with chronological age, and .463 with grade level.

THE COMPETENCE SCALE

In the second stage of Crites' new model, he devised, tested and standardised the competence Test component of the CMI. This is complementary to Attitude Scale and it is constructed to quantify "what might be designated as comprehension and problem solving abilities as they pertain to the career choice process" (Crites, 1965: 7). It consists of five subjects (Fig. 2. page 7) (Crites, 1973: 33; 1976; 1978; Walsh and Osipow, 1983, p.267).

Competence Test was completed, with the testing of approximately 2,000 students in the Santa Ana, California school system in 1972. Its demographic descriptors included various ethnic groups and racial differences (Crites, ibid.). All the items in the test describe hypothetical people in a hypothetical situation who are engaged in one or the other of several aspects of career development subsumed in the career choice competencies.

RELATED RESEARCH STUDIES WITH THE CAREER MATURITY INVENTORY

A number of studies with the aim of validating the CMI (hitherto called the VDI) has been undertaken, but some have produced contradictory results. Wilstach (1967) sampled 104 ninth-grade Mexican-American boys from two agricultural schools in
California. Of the two schools one was metropolitan and the other a rural school. The objective was to replicate the work done by Crites (1965) (Super et al., 1974: 29 - 30) but based on Super's manual. He found that his groups scored significantly lower on the inventory than did Crites' original sample. But the rural mean scores were higher than the urban mean scores. Wilstach reasoned that the higher mean score for the rural boys was due to the fact that about 87.2 percent of the rural boys had been employed for pay as against 3.26 of the metropolitan boys of similar experience.

On the other hand Asbury (1968) conducted a study that used the VDI with rural schools in Appalachian-Kentucky. The Appalachian boys had significantly lower mean scores on the VDI than Crites' sample of 601 Iowa which formed part of the norm group for the VDI. Asbury feels that results indicated that the 8-grade boys in rural Appalachian Kentucky are vocationally immature. Davis (1972) provided results that reinforced Asbury's results. Davis reported in his study that urban 10th graders scored significantly higher than rural 10th graders on the VDI.

SEX/GRAD

Smith and Herr in Altoona Pennsylvania (1972; Hawkes, 1978) used a large sample of 2,020 eighth and tenth grade students. They sought to determine sex and grade differences in mean score of VDI. Using a two-way Anova design they found that at both grade levels female students possessed more mature vocational attitudes than did male students. The grade level differences indicated a three point mean difference in favour of female students. They drew a conclusion that girls were more mature in attitude toward work and career planning than boys. The difference was significant at the .01 level (Davis 1972: 25). Several other investigators (West-brook et al., 1980; Omvig and Thomas, 1977; Thompson et al., 1981) have found that secondary school females are more career mature, on average, than males.
These results are however, at variance with Crites' standardisation sample (Crites, 1973: 1978).

CULTURAL DIFFERENCES (ETHNIC/RACIAL GROUPS).

Crites' CMI has been tested across-ethnic and racial lines. Thus Schmieding and Jesen (1968), Ansell (1970) Maynard (1970) and Davis (1972) have compared the vocational maturity of the white with black American students on the CMI. Schmieding and Jesen (1968) sought to determine the impact of an occupational unit of 22 fifty minute sessions. Their subjects were 78 residential American-Indian high school students, divided into experimental and control groups. There were also a comparison group of white students. Only the Indian experimental group attended group guidance sessions on occupations. At the conclusion all subjects were given VDI. The results indicated a significant difference on the mean score of the Indian experimental and control groups but the white comparison had a significantly higher mean score than either of the other groups.

The investigators concluded that the Indian group seems to fit Locascio's (1964) definition of persons having impaired vocational development that could be appropriately referred to as vocationally retarded.

In another study, Ansell (1970) assumed that the vocational development of non-white students is comparable to that of middle class caucasian students. He tested this by administering the VDI and Gribbons and Lohnes' RVP to 375 eight to twelfth grade students. These were divided into lower Class Caucasian (LCC), Middle class Caucasians (MCC) and Lower Class Negroes (LCN). He was to establish if the VM scores of the three groups increased with age and also with grade at similar rates. Using a multivariate analysis of covariance to determine the effect of socio-economic groups and grade level on VM scores, the investigator found that the MCC had higher VM scores followed by LCC and finally, LCN when assessed by both the VDI and RVP. Maynard (1970) in the same
vein, wondered about the generalizability of findings based on Super's theory as defined by CMI to lower class youths. He then sampled 450 eight-grade boys: 90 blacks in segregated schools; 90 blacks in an integrated school, 90 whites in an integrated school, and 90 whites in a suburban school (Maynard, 1970: 48).

A comparison of their mean vocational scores on the VDI showed that blacks consistently scored lower than other groups. Based on this finding, Maynard (1970) decided that the VDI is not addressing itself to blacks in America and further, that the developmental theory of VM is inconsistent with black vocational development.

Davis (1972) investigated the VM of white and black male and female tenth-grade students of urban and rural youth using the VDI. She found that white students scored higher than blacks; rural white females had higher VM scores than urban black males. Urban white females also scored higher than urban black females.

Davis advocated the intensification of vocational guidance for the rural schools.

Most of these study reports on culturally different groups almost drew a conclusion that the CMI and the development theory are not applicable to non-whites. This is because both the culturally different groups continued to score at unequal levels on the instrument. However, there are indications from these reports that even within the culturally different groups the CMI fulfills its progressive function by grade.

SUMMARY OF STUDIES USING CMI IN RECENT TIMES

In recent times, several studies were carried out to determine the reliability of Crites' Career Maturity Inventory (CMI). Among these were those of Herr and Enderlin (1976); Ashley-Foster (1979), Giammateo (1980), Perez (1980), Pecku (1982) and Sabir and Khan (1983). Herr and Enderlin reported test score increase on Attitude Scale, and assumed that it was the func-
tion of age, class-level (grade) as well as sex and school curriculum variables. Ashley-foster in their works (1978) reported on black female higher school students of economically disadvantaged backgrounds. They compared Crites' (1973) career maturity dimensions with such other dimensions as environmental personal variables, parental educational-level and students' reported problems. They found significant relationship between Crites' Career Maturity dimensions and environmental personal dimensions but found no significant relationship between such other dimensions as parental educational level nor with students' reported problems.

In his study of relationship between degree of VM and sex, socio-economic status (SES) and academic aptitude of a sample of 316 eleventh grade students, Giammatteo (1980) found that academic status correlated with VM. Sex and S.E.S were found not to be significant. Perez (1980) investigated the VM and self-esteem of 200 ninth and twelfth grade students and found that VM was related to such dimensions as grade level and sex. Sabir and Khan (1983), reported similar findings. That is, there was a monotonic score increase on CMI from grade 9 through grade 12 with significant grade and sex effects. They reported too that girls had higher significant scores on career choice Competence Test than boys.

Pecku (1982) in his study report on tenth and twelfth grade secondary school students in Southern Ghana, accepted and recommended the application of CMI across cultures, and the CMI could be used to appraise career maturity among secondary school students.

**NIGERIAN STUDIES USING THE CMI**

Achebe (1975; 1982) carried out an investigation that surveyed the vocational developmental pattern of students in Anambra and Imo States of Nigeria. The aim was to determine the applicability of Super's vocational maturity theory that in adolescence, career maturity progresses systematically with in-
increasing age and also grade. The attitude scale and both the occupational information and planning subtests of the competence test (CMI) were administered to 400 students drawn from classes one to four of four single sex schools in urban and rural settings. A 1 x 8 Anova design was used to examine the effect of the age on the dependent variables while a 4 x 2 x 2 Anova design was used for analysis of the relationship between class, sex and urban/rural schools and the scores on the CMI subtests.

The results indicated significant differences among classes for all three subtests. Boys scored higher than girls in their attitude to work and work knowledge. Urban students scored higher than rural students in work attitude, work knowledge and planning competence. Her results also indicate that significant differences occurred by age on all three subtests of the CMI.

In another study, Agulanna (1977) sampled a total of 398 boys and 250 girls from classes III, IV and V of seven secondary schools in Mbaise Division of Imo State. Using a modified form of occupational Information subtest of the competence Test of Crites' CMI, she found that two-thirds of the subjects were career mature. The comparison of the means career maturity scores increased with class and then with age of students, and that boys had higher mean career maturity scores than girls.

Meanwhile, Onyejiaku (1985: 61) in his study of 'Intra-sex differences in the Vocational Maturity of Nigerian Adolescents' used Involvement in decision making; Occupational Information; Independence in decision-making, and Self-knowledge (Self-Appraisal) of Crites' postulated dimensions of Vocational Maturity. The researcher used 247 students. Mean Scores, Standard errors and t - test statistics analysis technique was used to analyse the data on 'no significant intra-sex differences between one dimension and another'. The results indicate that students were deficient in occupational information and in most cases, at .01 level of confidence.
The concept of vocational maturity has generated a lot of investigations by various research groups - the Career Pattern Study, the Career Development Study and the Vocational Development Project, the forerunner of CMI. Following this, studies were carried out by Crites, Wilstach, Schmieding and Jesen, Asbury, Ansell, Maynard and Davis to establish the construct of vocational maturity. Generally, they all indicate the monotonic function of scores by grade, showing a stronger support than does age.

On the other hand, all the studies along the ethnic and racial lines show that the rate of score increase is in consonance with the cultural stimulation. White students consistently scored higher than their black student counterparts who are usually from 'educationally disadvantaged areas.

The term 'disadvantaged' indicates the level of educational and career opportunities of the State. Benue State has a low percentage enrolment into educational institutions when compared with for instance, Anambra and Imo States. Based on the results of the NCE exams, into Federal Government Colleges it is one of the States with the least Merit Pass List (F.M.E. Bulletin, 1985/1986). In Benue State the opportunity for youths to work in industries, etc., is either non-existent; nor have the youths heard about a large portion of them.

The findings of studies based on urban and rural settings as well as intra-sex differences are in-consistent. Crites' standardisation sample shows higher career maturity mean scores for the students in urban area. This has been confirmed by studies carried out by Asbury (1968), Davis (1972) and Achebe (1975; 1982), White (1978) and Limoges (1979). But Wilstach (1967) found that rural mean scores were higher than the urban mean score on the CMI. Studies on sex differences as determinant of career maturity consistently conflict Crites' standardisation sample results. Boys have higher mean scores than girls (Achebe, 1975;
1981; Agulana, 1977). On the other hand, Smith and Herr (1972) found in their study that female students have more mature vocational attitude than male students. Even recently, research findings continue to produce conflicting reports on students' class-level, age, sex and general environmental dimensions— inconsistent findings (Herr and Enderlin, 1976; Giammatteo, 1980; Sabir and Khan, 1983) have been reported for age and sex effects on career maturity.

The implication of these findings are potentially very significant for the present study. Further research is necessary for a more complete understanding of these results and for eventual adaptation of the CMI in Benue State secondary schools educational guidance programme. The present study therefore surveyed the effect of class, age, sex and school location variables as 'predictors' of the students' career maturity on the Career Choice Attitude; Self-Appraisal, Occupational Information and Planning subtests of Crites' Career Maturity Inventory (CMI).
This study is aimed at determining the extent to which Crites' developmental theory of Career maturity, (using his Career Maturity Inventory; CMI), holds true for secondary school students in Benue State of Nigeria. This chapter describes briefly, the Career Choice Attitude Scale, the Self-Appraisal, Occupational Information and Planning subtests of the Instrument (CMI) (Appendix B) and procedure; the population sample and the subjects used for the study. It also describes how data were collected and analysed. There were some slight modifications (Test Modifications) to suit local situations and aid comprehension. The procedure for the test modification is briefly described here as well.

INSTRUMENT AND PROCEDURE (Appendix B)

Crites' (1973; 1978) Career Maturity Inventory (CMI) was the only instrument used in this study. It consists of Career Choice Attitude Scale (Attitude Scale) and Career Choice Competence Test.

THE ATTITUDE SCALE OF THE CMI

The Attitude Scale consists of 50 monotonically related attitudinal statements intended to measure five attitude clusters (Fig. 3, p. 9).

These are:

i. Involvement in the choice process,

ii. orientation toward work,

iii. independence in decision-making,

iv. preference for career choice factors and

v. conception of the choice process (Crites, 1973; 12).

For instance, orientation toward work is defined as the "... extent to which the individual is task or pleasure-oriented in his attitudes toward work and the values he places upon work" (Crites, 1973: 12). Then a sample item reflecting this dimension
in the scale would be "work is dull and unpleasant," and "work is worthwhile mainly because it lets you buy the things you want", (Crites, 1973). All the attitudinal statements, according to Crites, are derived from contemporary theories of vocational development. The Attitudinal Statements are to be answered 'true' or 'false'.

The test items which were empirically keyed to differentiate the responses of fifth (primary 5) through twelfth grade (SS 3) students, have been standardized to ensure that the mean responses are progressive in functions as to age and then to class-levels. The Attitude Scale has been found to yield a total score of 50 and the results found to reflect a correlation of .385 with chronological age, and .463 with form-level.

Sex differences in item responses have been found to be "negligible" and therefore Crites recommends the Scale to be equally applicable to both males and females.

Reliability Report for the Career Attitude Scale indicates an internal consistency estimate of 0.934 with an average coefficient of .74. The original test-re-test stability with a one-year interval was .71, while the criterion related validity indicated a relation of r = .39 (p < .01) with the Occupational Aspiration Scale (Bathory, 1967) which is reported, was a measure of realism of aspiration. Crites (1973: 46) reported an r = .38 (p < .01) with Gribbons Lohnes' Readiness for Vocational Planning (RVP).

THE COMPETENCE TEST (fig. 3, p. 9)

This is the other component of the CMI. It consists of five subtests, namely,

I. Self-Appraisal
II. Occupational Information
III. Goal Selection
TABLE III: I
INTERNAL CONSISTENCY CO-EFFICIENTS (KR 20) FOR THE COMPETENCE TEST

<table>
<thead>
<tr>
<th>Subtests</th>
<th>CLASS (Nigeria) (Grades in America)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>7</td>
</tr>
<tr>
<td>I. Self-Appraisal (Knowing Yourself)</td>
<td>.77</td>
</tr>
<tr>
<td>II. Occupational Information (Knowing about Jobs)</td>
<td>.81</td>
</tr>
<tr>
<td>III. Goal Selection (Choosing A Job)</td>
<td>.93</td>
</tr>
<tr>
<td>IV. Planning (Looking Ahead)</td>
<td>.83</td>
</tr>
<tr>
<td>V. Problem Solving (What should they do?)</td>
<td>.63</td>
</tr>
</tbody>
</table>


IV. Planning, and
V. Problem Solving.

TEST MODIFICATION

The attractive aspect of this test is that most of the hypothetical situations presented are relevant to the Nigerian situation, excepting in a few cases. For example, Nigerian names have been substituted for foreign names and the Nigerian currency name(s) for foreign ones (Naira for Dollar).

An inspection of the Attitude Scale, and subtests on Self-Appraisal, Occupational Information, and Planning of Career
Choice Competence of the CMI used in this study contained not many 'foreign' or 'unfamiliar' Occupational titles that could adversely affect the performance of the subjects for this research. However, some few changes were effected in some test items to suit the Nigerian subjects. For instance, on the Career Choice Competence Subtest, names of seasons like 'summer', 'Spring' and name of sports like 'baseball' (as in test items 6 and 8) have been changed to 'rainy season', 'Dry season' and 'handball' respectively. Others like 'little league' (item 6), 'pick-up' games (item 6) 'recitals' item 11) and 'women's fall fashion' item 32) in the same Career Choice Competence Subtests have been replaced with 'junior league', 'amature' games, 'practice session' and 'women's seasonal fashions respectively. Other areas where minor changes have been effected also included test items:

(7) 'school paper' for 'school magazine'
(8) 'bus boy' for Motor apprentice'
(9) 'grade school' for 'junior' and
    'high school' for 'secondary school'
(14) 'movie' for 'motion picture'
(15) 'college' for 'university'
(20) 'quits' for 'withdraws'

Similar minor modifications were effected in Subtest II.

For instance,

Subtest II item (21) 'stiff' for 'high'
(22) 'baling' for 'tying'
(23) 'wagons' for 'trucks'
(32) 'Marshall's' for 'We-We Store'
    'New York City' for 'Onitsha'

Sentence patterns which would be noticeably unfamiliar to the students have been slightly modified. The patterns of sentences were obtained from Dictionary of Occupational Titles, Career Journals, the Daily advertisements and a variety of sources including practitioners in their special fields, in order to
reflect local situations. The modified version of the Career Choice Attitude Scale and subtests I (Self-Appraisal), II (Occupational Information) and IV (Planning) of the Competence Test is presented (in Appendix B); Instrument was subjected to further validation with 135 students drawn from Holy Rosary Secondary School (Girls), Idah and Saint Michael's Secondary School (Boys), Aliade, for clarity of the items. the Test Modification exercise was effected before the Pilot Study.

THE PILOT STUDY (Test-re-test Reliability)

The investigator randomly sampled 250 students from each of Idaho Secondary Commercial College, Idaho (Mixed School) and NKST Secondary School, Uavenda. The researcher administered the modified version of the Career Choice Attitude Scale and subtest I, II and IV of the competence Tests of the CMI. After a fortnight, the same modified version (Appendix B) of the Test instrument was administered again to the same group of students. In the pilot Study the test-re-test reliability indices of 0.934; 0.921; 0.933 and 0.899 were obtained for the four tests, respectively. Crites' (1973: 33 - 35, 1978) reliability study report using the Kuder-Rechardson Formula 20 (KR 20) (APA. 1966) indicated an internal consistency co-efficient across form-levels in the range of $r = .81$ to $.73$ for the subtest I, $r = .81$ to $.88$ and $r = .82$ to $.90$, for the II and IV respectively, and an average co-efficient of 0.71 of test-re-test for the standardisation sample (Crites, 1973; 1978). An average co-efficient of reliability of 0.92 obtained here for this instrument is high. This therefore confirms the reliability of the instrument even in its modified version.

The essence of Pilot study was to detect and forestall unexpected difficulties in the entire study. The Career Choice Attitude Scale, and only subtests I, (Self-Appraisal), II (Occupational Information) and IV (Planning) were used (Appendix B).
### Table III: 2

**Sampling Distribution of the Subjects for Study by Zones and School Location**

<table>
<thead>
<tr>
<th>Zone</th>
<th>Schools</th>
<th>Sample Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gboko</td>
<td>Mt. St. Michael</td>
<td>60</td>
</tr>
<tr>
<td></td>
<td>Aliade</td>
<td>60</td>
</tr>
<tr>
<td></td>
<td>Govt. College, Makurdi</td>
<td>60</td>
</tr>
<tr>
<td></td>
<td>Comm. Sec. School Makurdi</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>NKST Girls' Sec., Uavenda</td>
<td>70</td>
</tr>
<tr>
<td>Ayangba</td>
<td>Idah Sec. Commercial</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>H.R.C., Idah</td>
<td>70</td>
</tr>
<tr>
<td></td>
<td>Govt. Sec. School, Dekina</td>
<td>60</td>
</tr>
<tr>
<td></td>
<td>BNASS, Gboloko</td>
<td>70</td>
</tr>
<tr>
<td></td>
<td>Ochaja Boys</td>
<td>60</td>
</tr>
<tr>
<td></td>
<td>St. Charles' Col. Ankpa</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>Enjema Comm. Sec. School, Ofugo</td>
<td>120</td>
</tr>
</tbody>
</table>
Two considerations influenced the choice of the three subtests. The first was inherent in the large sample of subjects in the study. In addition, the Educational Institutions were far and apart and the cost involved in administering all the five subtests to these students would be too enormous. The second reason was deduced from the reliability report for the subtests I, II and IV of the Career Choice Competence subtests that indicate the highest internal consistency co-efficients (KR 20) across form-levels (Table III: I, P.37). For instance, a range of r = .81 to .73 is reported for subtest I, while for subtests II and IV a range of r = .81 to .98 and an r = .82 to .90 have been reported respectively (Crites, 1973; 1978).

THE SUBJECTS

The final subjects consisted of 660 secondary school students drawn through stratified random sampling from eleven randomly selected schools. The schools were 4 boys', 3 girls' and 4 co-educational (mixed) institutions in the urban and rural areas of Gboko and Ayangba educational Zones of Benue State.

The distribution by school is shown on Table III: 2 on page 40. A break-down of the sample distribution of subjects class by class for the study is presented below (Table III: 3):

<table>
<thead>
<tr>
<th>CLASS</th>
<th>NO. OF SUBJECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>JSS I</td>
<td>132</td>
</tr>
<tr>
<td>JSS II</td>
<td>132</td>
</tr>
<tr>
<td>JSS III</td>
<td>132</td>
</tr>
<tr>
<td>SS I</td>
<td>132</td>
</tr>
<tr>
<td>SS II</td>
<td>132</td>
</tr>
<tr>
<td></td>
<td>660</td>
</tr>
</tbody>
</table>
TABLE III: 4
DISTRIBUTION OF RESPONDENTS BY AGE GROUP

<table>
<thead>
<tr>
<th>S/NO</th>
<th>AGE GROUP</th>
<th>NO. OF SUBJECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>11 - 12</td>
<td>82</td>
</tr>
<tr>
<td>2</td>
<td>13</td>
<td>82</td>
</tr>
<tr>
<td>3</td>
<td>14</td>
<td>82</td>
</tr>
<tr>
<td>4</td>
<td>15</td>
<td>82</td>
</tr>
<tr>
<td>5</td>
<td>16</td>
<td>82</td>
</tr>
<tr>
<td>6</td>
<td>17</td>
<td>82</td>
</tr>
<tr>
<td>7</td>
<td>18</td>
<td>82</td>
</tr>
<tr>
<td>8</td>
<td>19 - 25</td>
<td>82</td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td>656</td>
</tr>
</tbody>
</table>

Four of the responses were not usable

TABLE III: 5
DISTRIBUTION OF RESPONDENTS BY SCHOOL

LOCATION (URBAN/RURAL)

<table>
<thead>
<tr>
<th>LOCATION</th>
<th>NO OF SUBJECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban (U)</td>
<td>280</td>
</tr>
<tr>
<td>Rural (R)</td>
<td>380</td>
</tr>
<tr>
<td>TOTAL</td>
<td>660</td>
</tr>
</tbody>
</table>

The over-all components of Table III: 5 above maybe conceptualised in terms of urban students (boys and girls) and rural students (rural boys and rural girls).

The students were randomly selected from JSS 1 to SS II, and of age ranging between 11 and 25 years. There were 330 boys to 330 girls. All completed questionnaires, excepting four of the responses on Age Groups, were usable. The researcher and his team of research aides were present each time to correct the faults that might be due to mis-understanding of instructions.
DATA SCORING AND ANALYSIS

The tests were hand-scored (Crites, 1973: 12 and 1978) with an answer key provided (Appendix B). The data were then collected from the completed and scored answer sheets following the response to the questions that preceded the hypotheses tested (pp. 13-14). The final analysis of the data was handled at the Rivers State University of Science and Technology Marine Engineering Department, Port Harcourt. A 5 x 2 x 2 factorial ANOVA design was used to test the hypothesis of 'no significant mean score difference' by class; by sex and by geographic location of schools. A separate 1 x 8 analysis of variance was used to statistically compare the mean scores on the Attitude Scale, Self-Appraisal, Occupational Information and Planning subtests for age groups.

The choice of ANOVA as a statistical device is that it is a convenient method for making simultaneous comparisons of many means in order to establish if some statistical relation exists between the dependent and independent variables.

POST-HOC COMPARISON OF MEANS

Post-Hoc analysis of significant interaction and main effects was conducted using Scheffe's Method (Ferguson, G.A., 1981: 307 - 309) to locate sources of significance. The Scheffe's Method has to its credit that it is more rigorous than other multiple comparison Methods with regard to Type I error; than other multiple comparison Methods with regard to Type I error; that it leads to fewer significant differences and that it is easier to apply. It also uses the readily available F - test.
CHAPTER IV
DATA ANALYSIS AND RESULT

This chapter contains the result of the data obtained on career maturity of students in Benue State Secondary Schools. The pattern of presentation is as follows:

SECTION I: deals with the results (Tables IV: I - IV: 7) obtained for three of the five basic questions that preceded the hypotheses as well as the analyses of hypotheses 1, 3 and 4 on class, geographic location of schools and sex variables. SECTION II - is the presentation of the results of the Null hypotheses tested for the main effect of age. SECTION III - summary of the findings of the investigation on the interaction effect of the class x sex, class x school location, sex x school location as well as of class x sex x school location.

Meanwhile, for this research while students' scores (representing measures of their career maturity on the Attitude Scale, Self-Appraisal, Occupational Information and Planning) are dependent Variables, the independent variables are class, age, geographic location of schools (urban/rural) and sex. The Attitude Scale (A.S.) which is intended to measure "...the non-intellective attitudinal response tendencies in vocational maturity ..." (Rubinton, 1980: 583) consists of 50 monotonically grade-related attitudinal Statements to be answered true or false. On the other hand, each of the Self-Appraisal (part I), Occupational Information (part II) and Planning (part IV) of the career choice competence test (CMI) yields a total score of 20.

Six hundred and sixty (660) students drawn from JSS classes 1 to SS class II of secondary schools in Benue State were involved in the research. There were 330 boys to 330 girls, randomly selected from urban and rural schools. All students were of age ranging between 11 and 25 years.

The purpose of this study was to find out if the rationale
### TABLE IV: I

**MEAN, STANDARD DEVIATIONS AND STANDARD ERRORS OBTAINED ON THE ATTITUDE SCALE, PARTS 1, II AND IV (CMI) BY CLASS**

<table>
<thead>
<tr>
<th>Variable</th>
<th>JSS I (n = 132)</th>
<th>JSS II (n = 132)</th>
<th>JSS III (n = 132)</th>
<th>SS I (n = 132)</th>
<th>SS II (n = 132)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\bar{x}$</td>
<td>SD</td>
<td>SE</td>
<td>$\bar{x}$</td>
<td>SD</td>
</tr>
<tr>
<td>Attitude Scale</td>
<td>23.50</td>
<td>1.56</td>
<td>0.14</td>
<td>21.25</td>
<td>1.19</td>
</tr>
<tr>
<td>part I (Self-Appraisal)</td>
<td>3.58</td>
<td>0.59</td>
<td>0.5</td>
<td>4.42</td>
<td>0.6</td>
</tr>
<tr>
<td>Part II (Occupational Information)</td>
<td>4.33</td>
<td>0.66</td>
<td>0.06</td>
<td>5.98</td>
<td>0.68</td>
</tr>
<tr>
<td>Part IV (Planning)</td>
<td>3.65</td>
<td>0.72</td>
<td>0.06</td>
<td>4.95</td>
<td>0.84</td>
</tr>
</tbody>
</table>
of prototypic trend in career maturity with regards to career choice attitude, Self-appraisal, Occupational Information and Planning assumed to occur with increasing class-placement and age applied to Benue State students as well. Invariably, this study was set out to test how applicable to Benue State of Nigeria, which is an educationally disadvantaged area, the assumption in which the Career Maturity Theory is based.

This study also tried to find out if the developmental theory of career maturity holds for males and females as well as if the urban or rural location affects the career maturity of students.

Finally, the researcher was interested in finding out if there would be interaction effects among class, sex and geographic location of schools variables on the career choice Attitude Scale and on Self-Appraisal, Occupational Information and Planning of Career Choice Competencies (CMI).

**SECTION 1**

Tables IV: 1 page 45) and IV: 2 and IV: 3 pages 47- 48 summarise the results of the research questions 1, 3, and (p12-13) on the independent variables of class, geographic location of schools (urban/rural) and sex.

Inspection of the table IV: I shows that there were differences in the students' mean career maturity scores. But the variance of mean scores with increasing class-level would not show such progressive prototypic career maturity pattern when the career maturity of students is assessed on Career Choice Attitude Scale of the CMI. However, the assumption of progressive prototypic increase of mean career maturity scores with increasing class was generally apparent but obtains specifically for this study on Self-Appraisal, Occupational Information and Planning, subtests of Crites Career Maturity Inventory (CMI) in all classes.
TABLE IV: 2
MEANS, STANDARD DEVIATIONS: AND STANDARD ERRORS OBTAINED ON THE ATTITUDE SCALE: PARTS I, II AND IV (CMI)
BY SCHOOL LOCATION

<table>
<thead>
<tr>
<th>Variable</th>
<th>Urban (n = 280)</th>
<th>Rural (n = 380)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\bar{x}$</td>
<td>SD</td>
</tr>
<tr>
<td>Attitude Scale</td>
<td>22.94</td>
<td>1.30</td>
</tr>
<tr>
<td>Part I (Self-Appraisal)</td>
<td>5.17</td>
<td>0.53</td>
</tr>
<tr>
<td>Part II (Occupational Information)</td>
<td>5.59</td>
<td>0.57</td>
</tr>
<tr>
<td>Part IV (Planning)</td>
<td>6.63</td>
<td>0.69</td>
</tr>
</tbody>
</table>

The mean career maturity scores for urban were generally higher than those for the rural (Table IV: 2) when the career maturity of the students of this State is assessed on Career Choice Attitude Scale; Self-Appraisal, Occupational Information and Planning of Crites' Career Maturity Inventory (CMI).

In specific terms, Table IV: 2 shows the following score rhythms for urban school: Attitude Scale 22.94 S.D. 1.30; Self-Appraisal 5.17 S.D. 0.53, Occupational Information, 5.59 S.D. 0.57; Planning 6.63 S.D. 0.69 (Urban). For rural schools- Attitude Scale 19.70 S.D. 2.58; Self-Appraisal 4.60, S.D. 0.87; Occupational Information 4.89, S.D. 0.92 and Planning 3.23, S.D. 1.05. From the above data therefore, it can be accepted that...
geographic location of schools does affect career maturity score of students. In this investigation, urban schools indicate higher Career maturity than rural schools on all the subtests (CMI).

**TABLE IV: 3**

**MEANS, STANDARD DEVIATIONS AND STANDARD ERRORS OBTAINED ON THE ATTITUDE SCALE PARTS I, II AND IV (CMI) BY SEX**

<table>
<thead>
<tr>
<th>Variable</th>
<th>MALE</th>
<th></th>
<th>FEMALE</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( \bar{x} )</td>
<td>SD</td>
<td>SE</td>
<td>( \bar{x} )</td>
</tr>
<tr>
<td>Attitude Scale</td>
<td>24.82</td>
<td>5.15</td>
<td>0.28</td>
<td>25.63</td>
</tr>
<tr>
<td>Part I (Self-Appraisal)</td>
<td>6.67</td>
<td>2.15</td>
<td>0.12</td>
<td>6.54</td>
</tr>
<tr>
<td>Part II (Occupational Information)</td>
<td>7.10</td>
<td>2.63</td>
<td>0.14</td>
<td>7.05</td>
</tr>
<tr>
<td>Part IV (Planning)</td>
<td>6.44</td>
<td>3.26</td>
<td>0.18</td>
<td>5.17</td>
</tr>
</tbody>
</table>

The data presented on table IV: 3 reveal that there were sex differences in the students' mean career maturity scores. The male (Boys) have, and maintain, a generally higher mean scores on part I (Self-Appraisal), II (Occupational Information) and IV (Planning) than female students. But the female students' (girls') score difference is much higher on the Attitude Scale of the test. Contrary to Crites' standardization sample report, sex differences affect career maturity of students.

**HYPOTHESES**

All of the data shown in Tables IV: 1 to IV:3 (p 45-48) turn up apparent results of 'mean score difference' on career choice Attitude Scale, and career choice competence subtests (CMI) for the main effects of class, geographic location of schools and sex.
variables. But the research hypothesis called for test of significance.

ANALYSIS OF RESEARCH HYPOTHESES 1, 3 AND 4 (Tables IV: 4, IV: 5, IV: 6 and IV: 7).

According to Crites in his standardisation samples reports for the Attitude Scale (1961; 1965), and for Competence Test (1965, 1973), there were significant differences in scores across grades (class-level) but there were negligible differences between sexes and between schools. For the Competence Test, its demographic descriptors were drawn largely from middle class suburban school system. Crites recommends therefore that the Career Maturity Inventory (CMI) could be generalised across schools and sexes. But from the preceding score data (Tables IV: 3) it is obvious that there were differences in scores by class, sex and by geographic location of schools. The question is whether the differences are significant. Tables IV: 4 to IV: 7 immediately following present the descriptive results for the class, geographic location (urban/rural) and sex main effects on the Attitude Scale, Self-Appraisal (part I) Occupational Information (part II) and Planning (part IV) of the Competence test (CMI).

$H_0$: There is no significant difference in the mean career maturity scores of students in JSS I to SS II on Attitude Scale, Subtests I (Self-Appraisal), II (Occupational Information) and IV (Planning) of Crites' Career Maturity Inventory (CMI).

As can be seen in Table IV: I no systematic mean score differences by class on the Attitude Scale of the four subtests. While Class I students' scores on Attitude Scale was 23.50, S.D. 1.56 those of JSS II, III and SS I students scores were 21.26, S.D 1.19; 20.10, S.D. 1.74, and 23.00. S.D. 1.57 respectively. JSS II students scored 25.17 S.D. 2.21. But an examination of the same table indicates that the mean career maturity scores of students on Self-Appraisal (Part I), Occupational Information (part II)
TABLE IV: 4

A 5 x 2 x 2 FACTORIAL ANOVA DESIGN OF THE ATTITUDE SCALE SCORES OF 660 STUDENTS OF BENUE STATE SECONDARY SCHOOLS CLASSIFIED ACCORDING TO CLASS, SEX AND GEOGRAPHIC LOCATION OF SCHOOLS (URBAN/RURAL)

<table>
<thead>
<tr>
<th>SOURCE OF VARIATION</th>
<th>Ssq</th>
<th>Df</th>
<th>Msq</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLASS</td>
<td>311.05</td>
<td>4</td>
<td>77.76</td>
<td>3.109</td>
<td>*</td>
</tr>
<tr>
<td>SEX</td>
<td>14.008</td>
<td>1</td>
<td>14.008</td>
<td>0.56</td>
<td>NS</td>
</tr>
<tr>
<td>GEOGRAPHIC LOCATION</td>
<td>29.008</td>
<td>1</td>
<td>20.008</td>
<td>1.160</td>
<td>NS</td>
</tr>
<tr>
<td>CLASS/SEX</td>
<td>61.117</td>
<td>4</td>
<td>15.279</td>
<td>0.61</td>
<td>NS</td>
</tr>
<tr>
<td>CLASS/GEOG. LOCATION</td>
<td>192.45</td>
<td>4</td>
<td>48.1125</td>
<td>1.923</td>
<td>NS</td>
</tr>
<tr>
<td>SEX/GEOG. LOCATION</td>
<td>5.209</td>
<td>1</td>
<td>5.209</td>
<td>0.208</td>
<td>NS</td>
</tr>
<tr>
<td>CLASS/SEX/GEOG. LOCATION</td>
<td>315.359</td>
<td>4</td>
<td>73.84</td>
<td>3.152</td>
<td>*</td>
</tr>
<tr>
<td>WITHIN ERROR TERM</td>
<td>16009.60</td>
<td>640</td>
<td>25.015</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

*P < .05

NS = Not Significant at the .05 level.


TABLE IV: 5
A 5 x 2 x 2 FACTORIAL ANOVA DESIGN OF THE SELF-APPRAISAL TEST SCALES OF 660 STUDENTS OF BENUE STATE SECONDARY SCHOOLS CLASSIFIED ACCORDING TO CLASS, SEX AND GEOGRAPHIC LOCATION OF SCHOOLS (URBAN/RURAL)

<table>
<thead>
<tr>
<th>SOURCE OF VARIATION</th>
<th>Ssq</th>
<th>df</th>
<th>Msq</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLASS</td>
<td>50.217</td>
<td>4</td>
<td>12.554</td>
<td>1.379</td>
<td>NS</td>
</tr>
<tr>
<td>SEX</td>
<td>16.134</td>
<td>1</td>
<td>16.134</td>
<td>1.772</td>
<td>NS</td>
</tr>
<tr>
<td>GEOGRAPHIC LOCATION</td>
<td>0.3003</td>
<td>1</td>
<td>0.3003</td>
<td>0.033</td>
<td>NS</td>
</tr>
<tr>
<td>CLASS/SEX</td>
<td>5.116</td>
<td>4</td>
<td>1.279</td>
<td>0.140</td>
<td>NS</td>
</tr>
<tr>
<td>CLASS/GEOG. LOCATION</td>
<td>43.45</td>
<td>4</td>
<td>10.863</td>
<td>1.193</td>
<td>NS</td>
</tr>
<tr>
<td>SEX/GEOG. LOCATION</td>
<td>14.699</td>
<td>1</td>
<td>14.699</td>
<td>1.614</td>
<td>NS</td>
</tr>
<tr>
<td>CLASS/SEX/GEOG. LOCATION</td>
<td>93.48</td>
<td>4</td>
<td>23.37</td>
<td>2.567</td>
<td>*</td>
</tr>
<tr>
<td>WITHIN ERROR TERM</td>
<td>5827.20</td>
<td>640</td>
<td>9.105</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

* < .05  
NS = Not Significant at the .05 level
A 5 x 2 x 2 factorial ANOVA design of the occupational information test scores of 660 students of Benue State secondary schools classified according to class, sex and geographic location of schools (urban/rural)

<table>
<thead>
<tr>
<th>SOURCE OF VARIATION</th>
<th>Ssq</th>
<th>df</th>
<th>Msq</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLASS</td>
<td>65.03</td>
<td>4</td>
<td>16.26</td>
<td>2.688</td>
<td>*</td>
</tr>
<tr>
<td>SEX</td>
<td>11.409</td>
<td>1</td>
<td>11.409</td>
<td>1.336</td>
<td>NS</td>
</tr>
<tr>
<td>GEOG. LOCATION</td>
<td>6.075</td>
<td>1</td>
<td>6.075</td>
<td>1.004</td>
<td>NS</td>
</tr>
<tr>
<td>CLASS/SEX</td>
<td>32.64</td>
<td>4</td>
<td>8.16</td>
<td>1.349</td>
<td>NS</td>
</tr>
<tr>
<td>CLASS/GEOG. LOCATION</td>
<td>73.137</td>
<td>4</td>
<td>18.284</td>
<td>3.022</td>
<td>*</td>
</tr>
<tr>
<td>SEX/GEOG. LOCATION</td>
<td>69.008</td>
<td>1</td>
<td>69.008</td>
<td>11.406</td>
<td>*</td>
</tr>
<tr>
<td>CLASS/SEX/GEOG. LOCATION</td>
<td>203.778</td>
<td>4</td>
<td>50.95</td>
<td>8.421</td>
<td>*</td>
</tr>
<tr>
<td>WITHIN ERROR TERM</td>
<td>3872.00</td>
<td>640</td>
<td>6.05</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

* P < .05  NS = Not Significant at the .05 level
TABLE IV: A 5 x 2 x 2 FACTORIAL ANOVA DESIGN OF THE PLANNING TEST SCORES OF 660 STUDENTS OF BENUE STATE SECONDARY SCHOOLS CLASSIFIED ACCORDING TO CLASS, SEX AND GEOGRAPHIC LOCATION (URBAN/RURAL).

<table>
<thead>
<tr>
<th>SOURCE OF VARIATION</th>
<th>SSq</th>
<th>df</th>
<th>MSq</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLASS</td>
<td>223.617</td>
<td>4</td>
<td>55.9</td>
<td>4.541</td>
<td>*</td>
</tr>
<tr>
<td>SEX</td>
<td>56.034</td>
<td>1</td>
<td>56.034</td>
<td>4.552</td>
<td>*</td>
</tr>
<tr>
<td>GEOGRAPHIC LOCA.</td>
<td>158.70</td>
<td>1</td>
<td>158.70</td>
<td>12.59</td>
<td>*</td>
</tr>
<tr>
<td>CLASS/SEX</td>
<td>11.216</td>
<td>4</td>
<td>2.804</td>
<td>0.23</td>
<td>NS</td>
</tr>
<tr>
<td>CLASS/GEOGRAPHIC LOCATION</td>
<td>29.216</td>
<td>4</td>
<td>7.304</td>
<td>0.59</td>
<td>NS</td>
</tr>
<tr>
<td>SEX/GEOGRAPHIC LOCATION</td>
<td>8.533</td>
<td>1</td>
<td>8.533</td>
<td>0.693</td>
<td>NS</td>
</tr>
<tr>
<td>CLASS/SEX/GEOG. LOCATION</td>
<td>94.85</td>
<td>4</td>
<td>23.713</td>
<td>1.926</td>
<td>NS</td>
</tr>
<tr>
<td>WITHIN ERROR TERM</td>
<td>7878.40</td>
<td>640</td>
<td>12.31</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*P < .05  
NS = Not Significant at the .05 level
and on Planning (part IV) increase systematically by class.

The results of the analysis of variance (ANOVA) (Tables IV: 4 to IV: 7) indicate apparent significant mean score difference for class when career maturity of students of JSS classes I - SS II was assessed on Attitude Scale \( (F = 3, 109, \text{df} = 4) \) and on Occupational Information \( (F = 2.688, \text{df} = 4) \) as well as on Planning \( (F = 4.541, \text{df} = 4) \) subtests respectively. There was no significant mean score difference for F-values \( (F = 1.379; \text{df} = 4) \) when the students of JSS classes I to SS II were assessed on Self-Appraisal. Therefore, while hypothesis was rejected for classes on the Attitude Scale, Occupational Information and Planning subtests, it was however accepted for classes on Self-Appraisal.

\[ H_{03}: \text{There is no significant difference in the mean career maturity scores of students in urban and rural schools on Career Choice Attitude Scale, subtests I (Self-Appraisal), II (Occupational Information) and IV (Planning) of Crits' Career Maturity Inventory.} \]

Table IV: 2 contains the relevant data on all the four subtests of the CMI. It is however evident that urban students scored higher than rural students on all the four tests.

The ANOVA tests for the four subtests are shown in Tables IV: 4 to IV: 7 for the Career Choice Attitude Scale, Self-Appraisal, Occupational Information and Planning (CMI).

Inspection of Table IV: 7 indicates for Planning (part IV) an \( F = 12.835 \text{ df} = 1 \) and 658.

Thus, the hypothesis of no mean career maturity score difference on Planning Competence test (CMI) by geographic location of schools had to be rejected. On the other hand, the hypothesis was accepted when the career maturity of students in urban and rural schools was assessed on the Attitude Scale, (Table IV: 4) \( (F = 1.160; \text{df} = 1 \) and 658); Self-Appraisal (Table IV: 5) \( (F = 0.033; \text{df} = 1 \) and 658) and on Occupational Information (Table IV: 6) \( (F = 1.004, \text{df} = 1 \) and 658).
There is no significant difference in the mean career maturity scores of students on the Attitude Scale, Self-Appraisal (part I), Occupational Information (part II) and Planning (part IV) of Crites’ Career Maturity Inventory by sex.

Table IV: 3 presents the data. On Attitude Scale boys scored 24.82 S.D. 5.15 while girls scored 25.63 S.D. 8.35. On Self-Appraisal boys scored 6.67 S.D. 2.15 as against the girls' score of 6.54 S.D. 2.26. Boys still recorded higher scores on each of the other tests. Scores for boys on Occupational Information (part II) were 7.10 S.D. 2.63 and on Planning (part IV) 6.14 S.D. 3.26 while those of the girls were 7.05 S.D. 3.18 and 5.17 S.D. 0.19 respectively.

The obtained $F$-ratio found for the sexes on all the four subtests (CMI) are reported in Tables IV: 4 to IV: 7. Excepting on subtest IV (Planning) where an $F$-ratio of 4.552 with 1 and 658 degrees of freedom was required for significance at 0.05 level, by sex, none of the score differences in the other tests registered any significance for the sexes. Attitude Scale ($F = 0.56$, df = 1); Self-Appraisal (part I) ($F = 1.772$, df = 1); Occupational Information (part II) ($F = 1.686$, df = 1).

The hypothesis was rejected for sexes on Planning subtest (CMI) but accepted on the Attitude Scale, Self-Appraisal and on Occupational Information subtests respectively.

SUMMARY OF RESEARCH HYPOTHESES 1, 3 AND 4 (Class, geographic location of schools and Sex).

The three hypotheses of no significant difference in the mean career maturity scores on the Attitude Scale, Self-Appraisal, Occupational Information and Planning were for the class, geographic location of schools and sex variables. Tables IV: 4, IV: 6 and IV: 7 indicate significant $F$ - ratios on Attitude Scale, Occupational Information and Planning for classes; and on Planning for geographic location of schools and sex respectively. Class has been found not to have any significant effect on Self-
Appraisal Competence of students. In the same vein geographic location of schools and sex have registered no significant effect on students' career choice attitude, Self-Appraisal and on their occupational information competencies.

For this research, hypotheses for class on the Attitude Scale, Occupational Information and Planning as well as for geographic location of schools and sex on Planning respectively, have been rejected. On the other hand the hypothesis of no significant difference by class on Self-Appraisal, had to be accepted. Accepted also were the hypotheses on Career Choice Attitude Scale, Self-Appraisal and Occupational Information for geographic school location and sex.

SECTION II: Hypothesis on the Age Variable. Result of the Null hypothesis for the Attitude Scale, Self-Appraisal (part I), Occupational Information (part II) and Planning (part IV) CMI. Age factor was one of the two basic independent indices on which Crites' Career Maturity Theory was premised. For Crites 'rate of vocational development:"refers to the maturity of an individual's vocational behaviour in comparison with that of his own age group". (Walsh and Osipow, 1983: 267). In his standardisation sample, Crites reported the mean responses for the Attitude Scale as being progressive in functions as to age and then to grade (class-level). He found that the results reflect a correlation of .385 with chronological age, and .463 with class-level (Crites, 1973). Crites also found each of the subtests of the career choice Competence tests to fulfil the similar monotonic function (Westbrook in Walsh and Osipow, ed. 1983: 267 - 271).

This researcher was interested therefore in finding out if the career maturity scores for Students in Benue State secondary schools would be a monotonic function of age.

H₀₂: There is no significant difference in the mean career maturity scores of students by age group, on the Attitude
Table IV: 8 contains the relevant data, including the career maturity scores, the standard deviations, and standard errors obtained on the Attitude Scale, Self-Appraisal, Occupational Information and Planning (CMI). Following immediately are Tables IV: 9; IV: 10; IV: 11 and IV: 12 each depicting a separate one-way ANOVA results for the four subtests (CMI).

There were discrepancies in the mean career maturity scores by age groups when the Self-Appraisal Competence Test of Crites' CMI was used to assess the career maturity of students. For instance, the 13-year olds had higher mean score (5.27) than those of 16-year olds (4.77) and 17 year olds (4.91) on the test. However, consistent rhythm of progressive mean score increase was evident on the test from 11-12 year olds (4.22) to 15 year olds (5.77), and then between 17 year olds (4.91) and 19-25 year olds (6.44).

The same regression was evident for age groups 5 and 6 (the 16-17 year olds) on Occupational Information Subtest (CMI). While the 15 year olds scored 5.38, the 16 and 17 year olds scored 5.27 and 5.32 respectively, on the test. For age groups 1 (11-12 years), 2 (13 years) and 3 (14 years), a constant mean score increase was registered on the test. 11-12 year olds: 3.33; 13 year olds: 4.41; and 14 year olds: 5.16. The rhythm of the mean score increase was also registered between the 17 year olds (5.32) and the 19 to 25 year olds (6.22).

On Planning Subtest (CMI), one can observe the same 'slips backward' rhythm, between age groups 1 - 4 (11-12 to 15 year olds) and the age groups 5 and 6 (16 and 17 year olds). While there was a consistent mean score increase among 11-12 olds (4.52), 13 year olds (4.80), 14 year olds (5.29) and the 15 year olds (5.78) there was a drop for the 16 year olds (5.25) and for 17 years (5.33) respectively. A step forward rhythm in the
TABLE IV: 8

MEAN STANDARD DEVIATIONS AND STANDARD ERRORS OBTAINED ON
ATTITUDE SCALE, PARTS I, II AND IV (CMI) BY AGE GROUPS

<table>
<thead>
<tr>
<th>AGE GROUP NO</th>
<th>ATTITUDE SCALE</th>
<th>PART I (SELF-APPRAISAL)</th>
<th>PART II (OCCUPATIONAL INFORMATION)</th>
<th>PART IV (PLANNING)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>x</td>
<td>SD</td>
<td>SE</td>
<td>x</td>
</tr>
<tr>
<td>11-12</td>
<td>31.08</td>
<td>6.35</td>
<td>0.70</td>
<td>4.22</td>
</tr>
<tr>
<td>13</td>
<td>22.41</td>
<td>6.45</td>
<td>0.71</td>
<td>4.01</td>
</tr>
<tr>
<td>14</td>
<td>23.58</td>
<td>6.33</td>
<td>0.72</td>
<td>5.02</td>
</tr>
<tr>
<td>15</td>
<td>24.88</td>
<td>7.59</td>
<td>0.83</td>
<td>5.27</td>
</tr>
<tr>
<td>16</td>
<td>24.99</td>
<td>7.25</td>
<td>0.80</td>
<td>4.72</td>
</tr>
<tr>
<td>17</td>
<td>25.91</td>
<td>7.08</td>
<td>0.79</td>
<td>4.91</td>
</tr>
<tr>
<td>18</td>
<td>27.93</td>
<td>7.24</td>
<td>0.80</td>
<td>5.46</td>
</tr>
<tr>
<td>19-25</td>
<td>31.00</td>
<td>7.12</td>
<td>0.79</td>
<td>6.44</td>
</tr>
</tbody>
</table>

Four of the responses were not usable.
### TABLE IV: 9

A 1 x 8 ANALYSIS OF VARIANCE OF THE ATTITUDE SCALE SCORES OF 656 STUDENTS OF BENUE STATE SECONDARY SCHOOLS CLASSIFIED ACCORDING TO AGE GROUP

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Ssq</th>
<th>df</th>
<th>Msq</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between groups</td>
<td>41.02</td>
<td>7</td>
<td>5.86</td>
<td>1.91</td>
<td>NS</td>
</tr>
<tr>
<td>Within groups</td>
<td>1987.93</td>
<td>648</td>
<td>3.07</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>2028.95</td>
<td>655</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

NS = Not significant.

### TABLE IV: 10

A 1 x 8 ANALYSIS OF VARIANCE OF THE SELF APPRAISAL SCORES OF 656 STUDENTS OF BENUE STATE SECONDARY SCHOOLS CLASSIFIED ACCORDING TO AGE GROUP

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Ssq</th>
<th>df</th>
<th>Msq</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between groups</td>
<td>41.483</td>
<td>7</td>
<td>5.9147</td>
<td>1.98</td>
<td>NS</td>
</tr>
<tr>
<td>Within groups</td>
<td>1928.75</td>
<td>643</td>
<td>2.98</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>1970.15</td>
<td>655</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

NS = Not Significant.
### TABLE IV: 11

A 1 x 8 ANALYSIS OF VARIANCE OF THE OCCUPATIONAL INFORMATION SCORES OF 656 STUDENTS OF BENUE STATE SECONDARY SCHOOLS CLASSIFIED ACCORDING TO AGE GROUP

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Ssq</th>
<th>df</th>
<th>Msq</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between groups</td>
<td>49.414</td>
<td>7</td>
<td>7.059</td>
<td>2.57</td>
<td>*</td>
</tr>
<tr>
<td>Within groups</td>
<td>1781.32</td>
<td>648</td>
<td>2.75</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>1830.734</td>
<td>655</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

* P < .05. NS = Not significant at the .05 level

---

### TABLE IV: 12

A 1 x 8 ANALYSIS OF VARIANCE OF THE PLANNING SCORES OF 656 STUDENTS OF BENUE STATE SECONDARY SCHOOLS CLASSIFIED ACCORDING TO AGE GROUP

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Ssq</th>
<th>df</th>
<th>Msq</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between groups</td>
<td>33.35</td>
<td>7</td>
<td>4.79</td>
<td>1.75</td>
<td>NS</td>
</tr>
<tr>
<td>Within groups</td>
<td>1776.04</td>
<td>648</td>
<td>2.74</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>1809.57</td>
<td>665</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

NS = Not Significant at the .05 level.
mean score increase was evident for the 18 year olds (5.23) and the 19 - 25 year olds (6.44).

An examination of Table IV: 8 indicates that the rhythm of progressive increase of the career maturity mean score of students was obvious only on the career choice Attitude Scale (CMI). However, only a difference of 0.11 in an upward direction between the 16 year olds (24.99) and 15 year olds (24.88).

Generally, therefore, the result does not indicate consistent progressive mean score increase on Self-Appraisal, Occupational Information and Planning subtests with increasing age.

The results of the one-way analysis of variance are shown in Tables IV: 9; IV: 10; IV: 11 and IV: 12 for the career choice Attitude Scale, Self-Appraisal, Occupational Information and Planning subtests (CMI).

The observed analyses of the tests of significance of the career maturity mean score difference of students by age differentiation on the Career Choice Attitude Scale (Table IV: 9) Self-Appraisal (Table IV: 10) and on Planning (Table IV: 12) subtests drew no significant mean score difference results. With 7 and 648 degrees of freedom non-significant F-values of 1.91 (Table IV: 9), 1.98 (Table IV: 10) and 1.75 (Table IV: 12) were obtained at the .05 level. In essence, the hypothesis of 'no significant career maturity mean score difference' by age differentiation of students in secondary schools on the Career Choice Attitude Scale, Self-Appraisal (part I) and Planning (part IV) subtests (CMI) was accepted. It is only on part II (Occupational Information subtest) (Table IV: 11) that significant mean score difference was obtained. At P < 0.05 with 7 and 648 degrees of freedom, the F-value was significant (F = 2.57).

SUMMARY

This is the second hypothesis of the five hypotheses for this research. The hypothesis of 'no significant mean score
difference by age differentiation on the Career Choice Attitude Scale, Self-Appraisal and Planning (CMI) was accepted at .05 level of significance. On the other hand, the same Null hypothesis was rejected when the career maturity of students was assessed on Occupational Information subtest (CMI).

Section III Hypothesis of Interactions of the three independent variables: class, sex and geographic location (Urban/rural) of schools. The hypothesis regarding the interaction between the three main effects (class, sex and geographic location of schools) was the last in the series of five hypotheses for this research. The essence of interaction hypothesis was to find out if there would be any functional relationship among the scores on the Career Choice Attitude Scale, Self-Appraisal (part I), Occupational Information (part II) and Planning (part IV) and the combinations of class, sex and geographic location (urban/rural) of schools. The hypothesis was in the Null.

H₀₅: There is no significant interaction effect between: class and sex; class and geographic location of schools; sex and geographic location of schools and among class/sex/geographic location of schools in the mean career maturity score difference on career choice Attitude Scale, Self-Appraisal, Occupational Information and Planning (CMI).

Analysis of H₀₅ Tables IV: 4 to IV: 7 above illustrate the ANOVAS for interaction patterns on the career choice Attitude Scale (Table IV: 4); Self-Appraisal (Table IV: 5); Occupational Information (Table IV: 6) and planning (Table IV: 7) for the combinations of class, sex and geographic location (urban/rural) of schools.

Tables IV: 13 to 16 and Figures 3 to 6 contain the data.
### Table IV: 13
Data for the Interaction Between Class and Sex on the Attitude Scale (CMI)

<table>
<thead>
<tr>
<th>CLASS ×</th>
<th>MALE X</th>
<th>FEMALE X</th>
</tr>
</thead>
<tbody>
<tr>
<td>JSS I</td>
<td>23.50</td>
<td>22.97</td>
</tr>
<tr>
<td>JSS II</td>
<td>21.25</td>
<td>18.78</td>
</tr>
<tr>
<td>JSS III</td>
<td>20.10</td>
<td>19.05</td>
</tr>
<tr>
<td>SS I</td>
<td>23.00</td>
<td>24.01</td>
</tr>
<tr>
<td>SS II</td>
<td>25.17</td>
<td>25.31</td>
</tr>
</tbody>
</table>

### Table IV: 14
Data for the Interaction Between Class and Sex on the Self-Appraisal (Part I) CMI

<table>
<thead>
<tr>
<th>CLASS ×</th>
<th>MALE X</th>
<th>FEMALE X</th>
</tr>
</thead>
<tbody>
<tr>
<td>JSS I</td>
<td>3.58</td>
<td>3.95</td>
</tr>
<tr>
<td>JSS II</td>
<td>4.42</td>
<td>4.81</td>
</tr>
<tr>
<td>JSS III</td>
<td>4.93</td>
<td>5.57</td>
</tr>
<tr>
<td>SS I</td>
<td>6.33</td>
<td>6.81</td>
</tr>
<tr>
<td>SS II</td>
<td>7.33</td>
<td>7.50</td>
</tr>
</tbody>
</table>

### Table IV: 15
Data for the Interaction Between Class and Sex on the Occupational Information (Part II) CMI

<table>
<thead>
<tr>
<th>CLASS ×</th>
<th>MALE X</th>
<th>FEMALE X</th>
</tr>
</thead>
<tbody>
<tr>
<td>JSS I</td>
<td>4.33</td>
<td>4.80</td>
</tr>
<tr>
<td>JSS II</td>
<td>5.58</td>
<td>5.66</td>
</tr>
<tr>
<td>JSS III</td>
<td>6.08</td>
<td>7.59</td>
</tr>
<tr>
<td>SS I</td>
<td>6.83</td>
<td>6.71</td>
</tr>
<tr>
<td>SS II</td>
<td>7.92</td>
<td>8.92</td>
</tr>
</tbody>
</table>
TABLE IV: 16
DATA FOR THE INTERACTION BETWEEN CLASS AND SEX ON THE PLANNING (PART IV) CMI

<table>
<thead>
<tr>
<th>CLASS x</th>
<th>MALE ( \bar{x} )</th>
<th>FEMALE ( \bar{x} )</th>
</tr>
</thead>
<tbody>
<tr>
<td>JSS I</td>
<td>3.65</td>
<td>3.09</td>
</tr>
<tr>
<td>JSS II</td>
<td>4.95</td>
<td>4.95</td>
</tr>
<tr>
<td>JSS III</td>
<td>5.75</td>
<td>5.92</td>
</tr>
<tr>
<td>SS I</td>
<td>6.00</td>
<td>6.83</td>
</tr>
<tr>
<td>SS II</td>
<td>6.33</td>
<td>6.91</td>
</tr>
</tbody>
</table>

Figures 3-6 present the graphic representation of the mean scores for the interaction between class and sex on each of the four subtests reported in Tables IV: 13 to IV: 16.

The observed F - Values for the class x sex interaction indicated 'no significant mean score difference' on all the four subtests. With 4 and 655 degree of freedom the obtained F - ratios were in the following order; Attitude scale, 0.61 (\( p > .05 \)); Self-Appraisal, 0.140 (\( p > .05 \)); Occupational Information, 1.349 (\( p < .05 \)) and Planning 0.288 (\( p > .05 \)). At .05 level of the subtests, there was therefore no significant interaction between students performance on those tests and their class and sex.

INTERACTION BETWEEN CLASS X GEOGRAPHIC LOCATION (URBAN/RURAL) OF SCHOOLS ON THE ATTITUDE SCALE, SELF-APPRAISAL (PART I), OCCUPATIONAL INFORMATION (PART II) AND PLANNING (PART IV). The result of the ANOVA for interaction between class and geographic location of schools on the four subtests (CMI) is presented in Tables IV: 4 to IV: 7. Table IV: 17 - IV: 20 and figures 7 - 10 below illustrate the trend of the interaction between class x urban/rural students on the four subtests (CMI).

The pattern of mean score on the career choice Attitude Scale (Tables IV: 17 and Fig. 7) indicated that students in urban schools maintained higher scores than students in rural schools.
Fig 3: ILLUSTRATION OF THE INTERACTION BETWEEN CLASS AND SEX ON THE ATTITUDE SCALE (CMI).
Fig 4: ILLUSTRATION OF THE INTERACTION BETWEEN CLASS AND SEX ON SELF APPRAISAL (CMI).
Fig 5: ILLUSTRATION OF THE INTERACTION PATTERN BETWEEN CLASS AND CLASS AND SEX ON OCCUPATIONAL INFORMATION (CMI)
Fig 6: ILLUSTRATION OF THE INTERACTION PATTERN BETWEEN CLASS AND SEX ON PLANNING (CMI)
But the difference in the mean scores in some classes in the urban schools and those of the rural schools was apparently insignificant. For instance, while JSS III (urban) scored 20.30, their rural counterparts had 20.00, leaving a difference of 0.30. There was no big difference between SS II (urban) and SS II (rural) mean scores either. The difference was only 0.92.

The obtained F-Value of 1.923 with 4 and 655 degrees of freedom was therefore not significant. The hypothesis was accepted.

**Table IV: 17**

<table>
<thead>
<tr>
<th>CLASS</th>
<th>URBAN</th>
<th>RURAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>JSS I</td>
<td>23.50</td>
<td>24.01</td>
</tr>
<tr>
<td>JSS II</td>
<td>21.25</td>
<td>23.09</td>
</tr>
<tr>
<td>JSS III</td>
<td>20.10</td>
<td>20.30</td>
</tr>
<tr>
<td>SS I</td>
<td>23.00</td>
<td>25.01</td>
</tr>
<tr>
<td>SS II</td>
<td>25.17</td>
<td>25.28</td>
</tr>
</tbody>
</table>

**Table IV: 18**

<table>
<thead>
<tr>
<th>CLASS</th>
<th>URBAN</th>
<th>RURAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>JSS I</td>
<td>3.58</td>
<td>3.75</td>
</tr>
<tr>
<td>JSS II</td>
<td>4.42</td>
<td>4.79</td>
</tr>
<tr>
<td>JSS III</td>
<td>4.8</td>
<td>5.10</td>
</tr>
<tr>
<td>SS I</td>
<td>6.33</td>
<td>6.77</td>
</tr>
<tr>
<td>SS II</td>
<td>7.33</td>
<td>7.43</td>
</tr>
</tbody>
</table>
Fig 7  ILLUSTRATION OF THE INTERACTION BETWEEN CLASS AND GEOGRAPHIC LOCATION OF SCHOOLS (URBAN/RURAL) ON ATTITUDE SCALE (CMI)
Fig 8: ILLUSTRATION OF INTERACTION BETWEEN CLASS AND GEOGRAPHIC LOCATION OF SCHOOLS (URBAN/RURAL) ON SELF-APPRAISAL (CMI)
Fig 9: ILLUSTRATION OF THE INTERACTION PATTERN BETWEEN CLASS AND GEOGRAPHIC LOCATION OF SCHOOLS (URBAN/RURAL) ON OCCUPATIONAL INFORMATION (CMI)
Fig 10: ILLUSTRATION OF THE INTERACTION PATTERN BETWEEN CLASS AND GEOGRAPHIC LOCATION OF SCHOOLS (URBAN/RURAL) ON PLANNING (CMI)
Table IV: 19 and figure 8 above contain the result of the interaction between class and geographic location of schools on Self-Appraisal (CMI). The information on the pattern of scores was the same: urban students maintaining higher mean scores than their rural counterparts. Again, the mean score difference between urban and rural schools was not large. The ANOVA test indicates an $F$-ratio of 1.193 with 4 and 655 degrees of freedom (Table IV: 5). There was therefore no significant interaction between students performance on the Self-Appraisal subtest (CMI) and class and geographic location of schools.

From Table IV: 19 it can be observed that there was a regression on the mean score increase rhythm for urban students in JSS class III (6.59). The same drop in the mean maturity score could be observed with SS class II rural students (4.96). On the same test SS class I rural students scored higher (with 8.71) than SS class I urban (7.05). However, with 4 and 655 degrees of freedom $F$-value of 3.022 was required for significance at .05 level. The hypothesis of no interaction between class and geographic school location was rejected for Occupational Information (CMI).
TABLE IV: 20
DATA FOR THE INTERACTION BETWEEN CLASS AND GEOG. LOCATION (URBAN/RURAL) OF SCHOOLS ON THE PLANNING (PART IV)

<table>
<thead>
<tr>
<th>CLASS</th>
<th>URBAN X</th>
<th>RURAL X</th>
</tr>
</thead>
<tbody>
<tr>
<td>JSS I</td>
<td>4.81</td>
<td>2.27</td>
</tr>
<tr>
<td>JSS II</td>
<td>5.76</td>
<td>3.96</td>
</tr>
<tr>
<td>JSS III</td>
<td>6.35</td>
<td>4.99</td>
</tr>
<tr>
<td>SS I</td>
<td>5.76</td>
<td>5.15</td>
</tr>
<tr>
<td>SS II</td>
<td>6.63</td>
<td>5.21</td>
</tr>
</tbody>
</table>

The ANOVA test for interaction between class and geographic location of schools on the planning (part IV) subtest did not produce any significant result. Table IV: 20 and figure 10 depict the pattern of interaction. With 4 and 655 degrees of freedom an obtained F of 0.543 at .05 level of significance fell short of expected value for rejecting the Null hypothesis. The hypothesis was therefore accepted.

INTERACTION BETWEEN SEX X GEOGRAPHIC LOCATION OF SCHOOLS ON THE ATTITUDE SCALE, SELF-APPRAISAL (PART I); OCCUPATIONAL INFORMATION (PART II) AND PLANNING (CM1)

The data on this are presented in Table IV: 21 to IV: 24 below. Figures 11 to 14 depict graphically, the pattern of interactions.

TABLE IV: 21
DATA FOR THE INTERACTION BETWEEN SEX AND GEOGRAPHICAL LOCATION (URBAN/RURAL) OF SCHOOLS ON THE ATTITUDE SCALE

<table>
<thead>
<tr>
<th></th>
<th>URBAN</th>
<th>RURAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>MALE</td>
<td>17.05</td>
<td></td>
</tr>
<tr>
<td>FEMALE</td>
<td>22.25</td>
<td></td>
</tr>
<tr>
<td>MALE</td>
<td>16.06</td>
<td></td>
</tr>
<tr>
<td>FEMALE</td>
<td>18.41</td>
<td></td>
</tr>
</tbody>
</table>
Fig 11 ILLUSTRATION OF THE INTERACTION PATTERN BETWEEN SEX AND GEOGRAPHIC LOCATION OF SCHOOLS (URBAN/RURAL) ON THE ATTITUDE SCALE (CMI).
Fig 12: ILLUSTRATION OF INTERACTION BETWEEN SEX AND GEOGRAPHIC LOCATION OF SCHOOLS (URBAN/RURAL) ON SELF-APPRAISAL (CMI).
Fig 13: ILLUSTRATION OF THE INTERACTION PATTERN BETWEEN SEX AND GEOGRAPHIC LOCATION OF SCHOOLS (URBAN/RURAL) ON OCCUPATIONAL INFORMATION (CMI).
Fig 14 ILLUSTRATION OF THE INTERACTION PATTERN BETWEEN SEX AND GEOGRAPHIC LOCATION OF SCHOOLS (URBAN/RURAL) ON PLANNING (CMI).
DATA FOR THE INTERACTION BETWEEN SEX AND GEOGRAPHICAL LOCATION (URBAN/RURAL) OF SCHOOLS ON THE SELF-APPRAISAL

<table>
<thead>
<tr>
<th></th>
<th>URBAN</th>
<th>RURAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>MALE</td>
<td>5.38</td>
<td>6.37</td>
</tr>
<tr>
<td>FEMALE</td>
<td>4.71</td>
<td>5.06</td>
</tr>
</tbody>
</table>

DATA FOR INTERACTION BETWEEN SEX AND GEOGRAPHICAL LOCATION (URBAN/RURAL) OF SCHOOLS ON THE OCCUPATIONAL INFORMATION

<table>
<thead>
<tr>
<th></th>
<th>URBAN</th>
<th>RURAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>MALE</td>
<td>5.37</td>
<td>4.87</td>
</tr>
<tr>
<td>FEMALE</td>
<td>5.06</td>
<td>4.34</td>
</tr>
</tbody>
</table>

DATA FOR THE INTERACTION BETWEEN SEX AND GEOGRAPHICAL LOCATION (URBAN/RURAL) OF SCHOOLS ON THE PLANNING

<table>
<thead>
<tr>
<th></th>
<th>URBAN</th>
<th>RURAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>MALE</td>
<td>5.54</td>
<td>4.01</td>
</tr>
<tr>
<td>FEMALE</td>
<td>5.77</td>
<td>3.98</td>
</tr>
</tbody>
</table>

Tables IV: 4 to IV: 7 show the results for the sex X geographic location of schools on the Career Choice Attitude Scale, Self-Appraisal, Occupational Information and Planning. Excepting figure 13, figures 11, 12 and 14 depict parallel lines. Figure 13 illustrates a pattern of interaction. The presence of parallel lines in figures 11, 12 and 14 indicates no significance (Moroney, 1951:414). On the other hand, figure 13 shows evidence of relationship between the performance of male and female students and their geographic location (urban/rural).
of schools on Occupational Information (Part II). Thus, the hypothesis of no significant interaction between sex and geographic location of the schools was rejected. The hypothesis of no significant interaction between sex and geographic location (urban/rural) of schools on the Career Choice Attitude Scale (Fig. 11), Self-Appraisal (Part I) Fig. 12) and Planning (Part IV) (Fig. 14) was accepted.

The results were confirmed by the obtained F-values from ANOVA test (Tables IV: 4 - IV: 7).

**INTERACTION AMONG CLASS X SEX X GEOGRAPHIC LOCATION (URBAN/RURAL) OF SCHOOLS ON THE ATTITUDE SCALE; SELF-APPRAISAL (PART I); OCCUPATIONAL INFORMATION (PART II) AND PLANNING (PART IV) (CMII)

The results were significant on the Attitude Scale ($F = 3.182$, $df = 4$ and 655), Self-Appraisal ($F = 2.567$, $df = 4$ and 655), and Occupational Information ($F = 8.429$, $df = 4$ and 655). The F-value on Planning was not significant ($F = 1.926$).

Tables IV: 4 to IV: 7 contain the detail on the ANOVA test data.

**SUMMARY OF RESULTS FOR THE HYPOTHESIS OF 'NO SIGNIFICANT' INTERACTIONS

For the fifth hypothesis three first order interactions (class X sex; Class X Geographic location of schools, and sex X geographic location of schools) and second order interactions (class X sex X geographic location of schools) were tested. The hypothesis of 'no significant interaction' was respectively between the three first order interactions, and then the second order interactions and scores on the Attitude Scale, Self-Appraisal (Part I), Occupational Information (Part II) and Planning (Part IV).

The ANOVAs for interaction patterns were calculated. With 4 and 655 degrees of freedom, the class X sex interaction hypothesis of no significant effect was accepted on the Attitude Scale ($F = 0.610$); Self-Appraisal ($F = 0.140$); Occupational Information ($F = 1.348$); and on Planning ($F = 0.228$) respectively. On subtest II i.e Occupational Information, interaction between class X geographic location of schools registered significant mean score difference. The $F = value$
was 3.022, df = 4 and 655. With 4 and 655 degrees of freedom no significant interaction between class x geographic location of schools was found on other subtests; viz Attitude Scale, $F = 1.923$; Self-Appraisal, $F = 1.193$; and Planning, $F = 0.543$. While the Null hypothesis was rejected with respect to Occupational Information (Part II), it was however, accepted on the Career Choice Attitude Scale; Self-Appraisal (Part I) and Planning (Part IV) where ANOVA showed no significant mean score difference.

At $P < 0.05$ with 1 and 659 degrees of freedom, all ANOVA $F$-values for interaction between sex and geographic location of schools on the Career Choice Attitude Scale ($F = 0.208$), Self-Appraisal ($F = 1.614$) and Planning ($F = 0.693$) (CMI) indicated no significant results. This implied that the Null hypothesis was accepted for all the three sub-tests (CMI). On the other hand, the sex x geographic location of schools mean score difference calculated at $P < 0.05$ with 1 and 658 degrees of freedom showed a higher $F$-values on Part II ($F = 11.406$). The Null hypothesis was therefore rejected.

Tables IV: 4 to IV: 7 reveal the results of interaction among class x sex x geographic location of schools on the four subtests (CMI) used in this research. The hypothesis of no significant interaction among class/sex/geographic location of schools on the Attitude Scale ($F = 3.152$, df = 4 and 655), part I ($F = 2.567$, df = 4 and 655), and part II ($F = 8.429$, df = 4 and 655) was rejected. However, the $F$-value of 1.926 on part IV (Planning) subtest at $P < 0.05$ with 4 and 655 degrees of freedom failed to meet the required value. Therefore statistically, the Null hypothesis was accepted.

**SUMMARY OF THE FINDINGS**

Tables IV: 4 to IV: 24 as well as figures 3 - 14 illustrate major results on the main effects and the pattern of interactions. Analysis of the data resulted in a statistical basis for rejection or acceptance of the Null hypotheses tested at the .05 level of probability. The first hypothesis of no significant mean
maturity score difference by 3SS class I - SS II students on the Attitude Scale, Self-Appraisal, Occupational Information and Planning subtests (CMI) was rejected for Attitude Scale, Occupational Information and Planning. The result for Self-Appraisal was not significant. The hypothesis was accepted.

The second hypothesis tested was for age differences on the four subtests. Excepting on Occupational Information subtest, the hypothesis was accepted for age on the Attitude Scale, Self-Appraisal and Planning subtests (CMI). It is only on the Occupational Information that the hypothesis of no significant difference was rejected.

The third and the fourth hypotheses of no significant mean score difference on the four subtests used in this research were on geographic location (urban/rural) of schools and sex differences respectively. For the third hypothesis, the obtained F-value was not significant on the Attitude Scale, Self-Appraisal, and Occupational Information, but significant on the Planning subtest (CMI). For the fourth hypothesis tested, the same result as obtained for geographic location of schools was repeated for sex. This shows that for either geographic location of schools or the sex differences the score differentiation on the Attitude Scale, Self-Appraisal and Occupational Information would not be significant, but significant only for either geographic location of schools or sex differences on the career choice Planning subtest.

For interaction hypothesis of the three main effects (class, sex, geographic location of schools) the following is the summary of the findings:

With the class by sex interaction no significant interactions occurred on all the four subtests (CMI). Class yielded score differentiation on the Career Choice Attitude Scale, Occupational Information (part II) and Planning (part IV). This result was independent of the effect of sex on the scores. The
hypothesis of no interaction between class and sex was therefore accepted.

The no interaction between class and geographic location (urban/rural) of schools hypothesis on the four subtests was rejected only on Occupational Information (part II). The hypothesis was accepted on the Attitude Scale, Self-Appraisal and Planning. The difference in the mean scores found across classes on the Career Choice Attitude Scale, Self-Appraisal and Planning did not depend on the effect of urban or rural school location. But on the other hand, the difference in scores found across classes on the Occupational Information Subtest depended on the effect of urban or rural location of schools.

The hypothesis of no significant interaction between sex and geographic location of schools produced the same pattern as above. That is, excepting on the Occupational Information subtest, the hypothesis was accepted on the Career Choice Attitude Scale, Self-Appraisal and Planning, respectively. Any statement therefore about the effect of sex on the scores obtained on the Occupational Information need to be qualified by information on the effect of urban or rural schools on the scores.

The last in the series of the hypothesis on interactions tested was that of class by sex by geographic school location. The hypothesis (urban/rural) was rejected on the Career Choice Attitude Scale, Self-Appraisal and Occupational Information. The hypothesis was accepted on Planning (subtest). This again demonstrates that any statement about effect of class on the scores obtained on the Career Choice Attitude Scale, Self-Appraisal and Occupational Information needed to be supported by information on the effect of both sex and geographic location of schools simultaneously.


Significant main effects and interaction effects were
registered by

a) **CLASS** On Career Choice Attitude Scale, Occupational Information and Planning;

b) **SEX** and by geographic location of schools, on Planning, respectively. There was statistical significant result for the Age Groups on Occupational Information.

The 'no interaction' hypothesis registered significant interaction between class and geographic location of schools, and between sex and geographic location of schools on Occupational Information respectively. The 'no interaction' among the second order interaction hypothesis of class x sex x geographic location of schools registered significance on the three subtests: The Attitude Scale, Self-Appraisal and Occupational Information.

Post-hoc comparison of means was conducted using Scheffe's Method or the F - test to compute sources of significance. The following formula was used to compute the Scheffe's post-hoc comparisons of mean score differences (ferguson, 1981: 307 - 309).

\[ F = \frac{(\bar{x}_i - \bar{x}_j)^2}{\frac{SW_{ni} + SW_{nj}}{2}} \]

WHERE

\[ F = \frac{F \text{ - ratio between pairs of means; } SW^2 = \text{ within-group variance estimate.}}{F^1 = (K - 1)F.} \]

For the difference to be significant, \( F \) must be greater than or equal to \( F^1 \).

The results of the post-hoc analysis at the .05 level of significance are presented in Table IV: 25 to IV: 35.
### Table IV

**Source of significance of mean score difference among Class JsS I to SS II students on the career choice attitude scale.**

<table>
<thead>
<tr>
<th>Comparison (Classes)</th>
<th>( F ) ((F_0^2; 4, 655))</th>
<th>( F^1 ) ((9.56))</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>JsS I Cfd II</td>
<td>13.36</td>
<td>( F &gt; F^1 )</td>
<td></td>
</tr>
<tr>
<td>&quot; I &quot; III</td>
<td>30.50</td>
<td>( F &gt; F^1 )</td>
<td></td>
</tr>
<tr>
<td>&quot; I &quot; SS I</td>
<td>0.660</td>
<td>( F &lt; F^1 )</td>
<td>NS</td>
</tr>
<tr>
<td>&quot; I &quot; SS II</td>
<td>7.360</td>
<td>( F &lt; F^1 )</td>
<td>NS</td>
</tr>
<tr>
<td>&quot; II &quot; III</td>
<td>3.490</td>
<td>( F &lt; F^1 )</td>
<td>NS</td>
</tr>
<tr>
<td>&quot; II,&quot; SS I</td>
<td>8.080</td>
<td>( F &lt; F^1 )</td>
<td>NS</td>
</tr>
<tr>
<td>&quot; III,&quot; SS II</td>
<td>40.34</td>
<td>( F &gt; F^1 )</td>
<td></td>
</tr>
<tr>
<td>&quot; III,&quot; SS I</td>
<td>22.190</td>
<td>( F &gt; F^1 )</td>
<td></td>
</tr>
<tr>
<td>SS I &quot; SS II</td>
<td>12.424</td>
<td>( F &gt; F^1 )</td>
<td></td>
</tr>
</tbody>
</table>

* *= Significant. NS = Not Significant

Comparisons JsS I/II, JsS I/III and JsS II/SS II to SS I/SS II produced significance. Inspection of Table IV: 13 indicated that while each of the mean score differences between the pair of classes JsS I/II, I/III, JsS II/SS II to SS I/SS II maintained a large range of 2.25; 3.40; 3.92; 2.90; 5.07 and 2.17, on the other hand, comparison JsS I/SS I to JsSII/SS I had very small range of mean score differences: 0.50; 1.67; 1.15 and 1.75 for JsSII/SSI, JsS I/SSI, JsS II/III and for JsS II/SS I respectively. The source of significance registered on the test by classes was from classes with larger range of mean scores. Their respective \( F \) - value therefore confirm these results.
### TABLE IV: 26

SOURCE OF SIGNIFICANCE OF MEAN SCORE DIFFERENCE AMONG JSS CLASSES I TO SS II CLASS OF STUDENT ON OCCUPATIONAL INFORMATION

<table>
<thead>
<tr>
<th>Comparisons (Classes)</th>
<th>(F) ((Fo_{5}; 4, 655))</th>
<th>(F^1) ((9.56))</th>
<th>REMARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>JSS I, Cfd JSS II</td>
<td>4.123</td>
<td>(F &lt; F^1)</td>
<td>NS</td>
</tr>
<tr>
<td>&quot; I, &quot; JSS III</td>
<td>8.080</td>
<td>(F &lt; F^1)</td>
<td>NS</td>
</tr>
<tr>
<td>&quot; I, &quot; SS I</td>
<td>16.490</td>
<td>(F &gt; F^1)</td>
<td>*</td>
</tr>
<tr>
<td>&quot; I, &quot; SS II</td>
<td>34.10</td>
<td>(F &gt; F^1)</td>
<td>*</td>
</tr>
<tr>
<td>&quot; II, &quot; JSS III</td>
<td>0.660</td>
<td>(F &lt; F^1)</td>
<td>NS</td>
</tr>
<tr>
<td>&quot; II, &quot; SS I</td>
<td>4.123</td>
<td>(F &lt; F^1)</td>
<td>NS</td>
</tr>
<tr>
<td>&quot; II, &quot; SS II</td>
<td>14.43</td>
<td>(F &gt; F^1)</td>
<td>*</td>
</tr>
<tr>
<td>&quot; III, &quot; SS I</td>
<td>1.48</td>
<td>(F &lt; F^1)</td>
<td>NS</td>
</tr>
<tr>
<td>&quot; III, &quot; SS II</td>
<td>6.93</td>
<td>(F &lt; F^1)</td>
<td>NS</td>
</tr>
<tr>
<td>SS I, &quot; SS II</td>
<td>3.14</td>
<td>(F &lt; F^1)</td>
<td>NS</td>
</tr>
</tbody>
</table>

* = Significant.  
NS = Not Significant.

From Table IV: 26 it can be observed that comparison JSS I/II, JSS I/III, JSS II/III, JSS II/SS I, JSS III/SS I, JSS III/SS II and SS I/SS II did not achieve the level of \(F\) - values to be significant. The range of mean score difference (Table IV: 14) between any pairs for these classes was very small when compared with any pairs of classes JSS I/SS I, JSS I/:SSII, and JSS II/SS II, where significant mean score difference occurred.
### TABLE IV: 27

**SOURCE OF SIGNIFICANCE OF MEAN SCORE DIFFERENCE AMONG JSS CLASSES I - SS II CLASSES OF STUDENT ON PLANNING**

<table>
<thead>
<tr>
<th>Comparisons (Classes)</th>
<th>F (Fo₀; 4, 655)</th>
<th>Fₜ (9.56)</th>
<th>REMARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>JSS I, Cfd JSS II</td>
<td>4.459</td>
<td>F &lt; Fₜ</td>
<td>NS</td>
</tr>
<tr>
<td>JSS I, &quot; III</td>
<td>11.636</td>
<td>F &gt; Fₜ</td>
<td>*</td>
</tr>
<tr>
<td>JSS I, &quot; SS I</td>
<td>14.57</td>
<td>F &gt; Fₜ</td>
<td>*</td>
</tr>
<tr>
<td>JSS I, &quot; SS II</td>
<td>19.65</td>
<td>F &gt; Fₜ</td>
<td>*</td>
</tr>
<tr>
<td>JSS II, &quot; JSS III</td>
<td>1.689</td>
<td>F &lt; Fₜ</td>
<td>*</td>
</tr>
<tr>
<td>&quot; II, &quot; SS I</td>
<td>2.909</td>
<td>F &lt; Fₜ</td>
<td>NS</td>
</tr>
<tr>
<td>&quot; II, &quot; SS II</td>
<td>5.40</td>
<td>F &lt; Fₜ</td>
<td>NS</td>
</tr>
<tr>
<td>&quot; III, &quot; SS I</td>
<td>0.165</td>
<td>F &lt; Fₜ</td>
<td>NS</td>
</tr>
<tr>
<td>&quot; III, &quot; SS II</td>
<td>1.047</td>
<td>F &lt; Fₜ</td>
<td>NS</td>
</tr>
<tr>
<td>SS I, Cfd SS II</td>
<td>0.381</td>
<td>F &lt; Fₜ</td>
<td>NS</td>
</tr>
</tbody>
</table>

* = Significant  
NS = Not Significant.

From Table IV: 27 above, only the F-ratios of comparisons JSS 1/III, JSS I/SS I and JSS I/SS II substantially provided the source of significance attained by the classes on this test. This result confirms the large range existing between any of the paired comparisons (Table IV: 16)

### TABLE IV: 28

**SOURCE OF SIGNIFICANCE BETWEEN MALE STUDENTS ON PLANNING**

<table>
<thead>
<tr>
<th>Comparison (Male/Female)</th>
<th>F (Fo₀; 1, 658)</th>
<th>Fₜ (3.86)</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>M, F</td>
<td>21.80</td>
<td>F &lt; Fₜ</td>
<td>*</td>
</tr>
</tbody>
</table>

* = Significant.
A reference to Table IV: 3 shows a small range mean score difference of 1.27 between male (urban and rural) students and female (urban and rural) students on Planning subtest. But a closer inspection of specific data on geographic location of schools indicated a large range of 3.32 aggregate for urban male students over any rural male counterparts or female (urban and rural) on this test (table IV: 24).

This account explains also the source of the statistical significance obtained for geographic location of schools (urban/rural) on the Planning subtest. Table IV: 29 below illustrates the result of the F-test for the main effect of geographic location of schools.

TABLE IV: 29
SOURCE OF SIGNIFICANCE BETWEEN URBAN (U) AND RURAL (R) SCHOOL LOCATIONS ON PLANNING (CMI)

<table>
<thead>
<tr>
<th>COMPARISONS (U/R)</th>
<th>F</th>
<th>F^1</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>U/R</td>
<td>154.94</td>
<td>F &gt; F^1</td>
<td>*</td>
</tr>
</tbody>
</table>

*Significant.

The major source of significance on this test was from the urban mean score difference.

A statistical significant result was obtained for the main effect of age variable on the Occupational Information subtest. Table IV: 30 illustrates the results of attempts at locating the source of significance.
<table>
<thead>
<tr>
<th>Comparisons (Age Groups)</th>
<th>F ( (F_{0.05}^*; 7, 648) )</th>
<th>F(^1) ( (131.747) )</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1, 2</td>
<td>17.153</td>
<td>( F &lt; F^1 )</td>
<td>NS</td>
</tr>
<tr>
<td>1, 3</td>
<td>45.249</td>
<td>( F &lt; F^1 )</td>
<td>NS</td>
</tr>
<tr>
<td>1, 4</td>
<td>61.80</td>
<td>( F &lt; F^1 )</td>
<td>NS</td>
</tr>
<tr>
<td>1, 5</td>
<td>55.347</td>
<td>( F &lt; F^1 )</td>
<td>NS</td>
</tr>
<tr>
<td>1, 6</td>
<td>58.237</td>
<td>( F &lt; F^1 )</td>
<td>NS</td>
</tr>
<tr>
<td>1, 7</td>
<td>95.626</td>
<td>( F &lt; F^1 )</td>
<td>NS</td>
</tr>
<tr>
<td>1, 8</td>
<td>122.825</td>
<td>( F &lt; F^1 )</td>
<td>NS</td>
</tr>
<tr>
<td>2, 3</td>
<td>8.272</td>
<td>( F &lt; F^1 )</td>
<td>NS</td>
</tr>
<tr>
<td>2, 4</td>
<td>13.837</td>
<td>( F &lt; F^1 )</td>
<td>NS</td>
</tr>
<tr>
<td>2, 5</td>
<td>10.876</td>
<td>( F &lt; F^1 )</td>
<td>NS</td>
</tr>
<tr>
<td>2, 6</td>
<td>12.178</td>
<td>( F &lt; F^1 )</td>
<td>NS</td>
</tr>
<tr>
<td>2, 7</td>
<td>31.778</td>
<td>( F &lt; F^1 )</td>
<td>NS</td>
</tr>
<tr>
<td>2, 8</td>
<td>48.178</td>
<td>( F &lt; F^1 )</td>
<td>NS</td>
</tr>
<tr>
<td>3, 4</td>
<td>0.712</td>
<td>( F &lt; F^1 )</td>
<td>NS</td>
</tr>
<tr>
<td>3, 5</td>
<td>0.178</td>
<td>( F &lt; F^1 )</td>
<td>NS</td>
</tr>
<tr>
<td>3, 6</td>
<td>0.376</td>
<td>( F &lt; F^1 )</td>
<td>NS</td>
</tr>
<tr>
<td>3, 7</td>
<td>7.624</td>
<td>( F &lt; F^1 )</td>
<td>NS</td>
</tr>
<tr>
<td>3, 8</td>
<td>16.524</td>
<td>( F &lt; F^1 )</td>
<td>NS</td>
</tr>
<tr>
<td>4, 5</td>
<td>0.178</td>
<td>( F &lt; F^1 )</td>
<td>NS</td>
</tr>
<tr>
<td>4, 6</td>
<td>0.053</td>
<td>( F &lt; F^1 )</td>
<td>NS</td>
</tr>
<tr>
<td>4, 7</td>
<td>3.676</td>
<td>( F &lt; F^1 )</td>
<td>NS</td>
</tr>
<tr>
<td>4, 8</td>
<td>10.376</td>
<td>( F &lt; F^1 )</td>
<td>NS</td>
</tr>
<tr>
<td>5, 6</td>
<td>0.037</td>
<td>( F &lt; F^1 )</td>
<td>NS</td>
</tr>
<tr>
<td>5, 7</td>
<td>5.472</td>
<td>( F &lt; F^1 )</td>
<td>NS</td>
</tr>
<tr>
<td>5, 8</td>
<td>13.272</td>
<td>( F &lt; F^1 )</td>
<td>NS</td>
</tr>
<tr>
<td>6, 7</td>
<td>4.412</td>
<td>( F &lt; F^1 )</td>
<td>NS</td>
</tr>
<tr>
<td>6, 8</td>
<td>11.812</td>
<td>( F &lt; F^1 )</td>
<td>NS</td>
</tr>
<tr>
<td>7, 8</td>
<td>2.70</td>
<td>( F &lt; F^1 )</td>
<td>NS</td>
</tr>
</tbody>
</table>

NS = Not Significant.
A careful inspection of table IV: 30 above should reveal that three different groups emerged from the comparisons of the mean maturity scores among the eight age groups. Comparisons 3/4 to 3/6, 4/5 to 4/6 and 5/6 formed a group (i.e. mean maturity score differences not significantly different), while comparisons 1/2, 2/3 to 2/7, 3/8, 4/8 and 5/7 to 5/8 formed another. The last group, the main source of significance on the Occupational Information subtest (CMI), was that of comparisons 1/3, 1/4, 1/5, 1/6, 1/7, 1/8 and 2/8 age groups. The data in table IV: 8 confirm these facts. Although neither of the groups produced F - value of significance for the main effect but the last group indicated higher range, and therefore source of significance produced on this test when the different range of scores for all groups was statistically compared.

TABLE IV: 31

SOURCE OF SIGNIFICANCE OF INTERACTION BETWEEN CLASS (C) AND GEOGRAPHIC LOCATION OF SCHOOLS URBAN (U) AND RURAL (R) ON THE OCCUPATIONAL INFORMATION

<table>
<thead>
<tr>
<th>Comparisons (C/U) (C/R)</th>
<th>F (F0.05; 4,655)</th>
<th>F1 (9.52)</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>C,U</td>
<td>63.56</td>
<td>F &gt; F1</td>
<td>∗</td>
</tr>
<tr>
<td>C,R</td>
<td>8.177</td>
<td>F &lt; F1</td>
<td>NS</td>
</tr>
</tbody>
</table>

∗ = Significant NS = Not Significant.

The only comparison that achieves significance at the .05 level is that between class and urban.

The sex by geographic location of schools (urban/rural) interaction was statistically significant generally for urban students but more specifically for male urban students. In other areas male students (urban or rural) continued to perform better than their female counterparts (urban or rural) on this test.
## SOURCE OF SIGNIFICANCE OF INTERACTION BETWEEN SEX AND GEOGRAPHIC LOCATION OF SCHOOLS ON OCCUPATIONAL INFORMATION

### TABLE IV: 32

<table>
<thead>
<tr>
<th>Comparisons</th>
<th>$F$</th>
<th>$F^1$</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>MU/MR (FU/FR)</td>
<td>(F0.05: 1,658)</td>
<td>(3.85)</td>
<td></td>
</tr>
<tr>
<td>MU, FU</td>
<td>24.87</td>
<td>$F &gt; F^1$</td>
<td>*</td>
</tr>
<tr>
<td>MU, MR</td>
<td>52.72</td>
<td>$F &gt; F^1$</td>
<td>*</td>
</tr>
<tr>
<td>MR, FR</td>
<td>12.50</td>
<td>$F &gt; F^1$</td>
<td>*</td>
</tr>
<tr>
<td>FU, FR</td>
<td>2.806</td>
<td>$F &lt; F^1$</td>
<td>NS</td>
</tr>
</tbody>
</table>

* = Significant
NS = Not Significant

**WHERE**
- MU = Male (Urban) students
- FU = Female (Urban) students
- MR = Male (rural) students
- FR = Female (rural) students

INTERACTION AMONG THE TRIPLET OF CLASS X SEX X GEOGRAPHIC LOCATION OF SCHOOLS.

Interactions among class x sex x geographic location of schools at the level of .05 were registered on the Attitude Scale; Self-Appraisal and Occupational Information; the hypothesis of 'no interaction' was therefore rejected. Tables IV: 33 - IV: 35 illustrate source of significance noticed on all three of the subtests.
**TABLE IV: 33**

SOURCE OF SIGNIFICANT INTERACTION EFFECT AMONG THE TRIPLET OF CLASS X SEX X GEOGRAPHIC LOCATION OF SCHOOLS ON THE ATTITUDE SCALE

<table>
<thead>
<tr>
<th>Comparisons (Class/Sex/Sch. location)</th>
<th>F ((F_0); 4, 655)</th>
<th>(F^1) (9.52)</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>C, M</td>
<td>56.67</td>
<td>(F &gt; F^1)</td>
<td>*</td>
</tr>
<tr>
<td>C, F</td>
<td>2.40</td>
<td>(F &lt; F^1)</td>
<td>NS</td>
</tr>
<tr>
<td>C, U</td>
<td>63.14</td>
<td>(F &gt; F^1)</td>
<td>*</td>
</tr>
<tr>
<td>C, R</td>
<td>111.64</td>
<td>(F &gt; F^1)</td>
<td>*</td>
</tr>
</tbody>
</table>

**WHERE**

C = Class  
M = Male student  
F = Female student  
U = Urban school Location  
R = Rural School Location

Details of the data for Table IV: 33 are contained in tables IV: 13 and IV: 17. The following illustrates the mean maturity scores on the Attitude Scale for each of the three main effects: class, 22.60; Male students, 22.02; Females students, 22.72 (Table IV: 13); Geographic Location of schools - urban, 23.54 and rural, 21.35. Using the class mean maturity score as the basis to compare the scores, it is obvious that the class mean score surpassed that of male students by (22.60 - 22.02) 0.58 as well as that of rural school location by (22.60 - 21.35) 1.25 where significant F-ratios of 56.67 and 111.64 were obtained respectively. The range of mean maturity score between class and urban school location was 0.94 in favour of the urban school location. An F-value of 63.14 was required for significance.
On the other hand, the range of 0.12 mean maturity score between class and female was not high enough to be of significance. The low $F$ - value of 2.40 with 4 and 655 degrees of freedom was not significant. The source of significant interaction among the class, sex and geographic location of schools could be traced when the mean maturity scores of male students, urban and rural school locations were statistically compared with that for the class. However, the low range of mean maturity score between class and female students confirmed the fact that female students performed better on this test than male students.

**TABLE IV: 34**

**SOURCE OF SIGNIFICANT INTERACTION EFFECT AMONG THE TRIPLET OF CLASS X SEX X GEOGRAPHIC LOCATION OF SCHOOLS ON SELF-APPRAISAL (CMI)**

<table>
<thead>
<tr>
<th>Comparisons (Class/Sex/Sch. Location)</th>
<th>$F$</th>
<th>$F^1$</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>C,M</td>
<td>30.82</td>
<td>$F &gt; F^1$</td>
<td>*</td>
</tr>
<tr>
<td>C,F</td>
<td>25.35</td>
<td>$F &gt; F^1$</td>
<td>*</td>
</tr>
<tr>
<td>C,U</td>
<td>12.15</td>
<td>$F &gt; F^1$</td>
<td>*</td>
</tr>
<tr>
<td>C,R</td>
<td>18.15</td>
<td>$F &gt; F^1$</td>
<td>*</td>
</tr>
</tbody>
</table>

WHERE

C = Class  
M = Male Students  
F = Female Students  
U = Urban School Location  
R = Rural School Location  

The picture one gets from **table IV: 34** above is that there is a relationship between a student's performance on the Self-Appraisal subtest and his/her class on one hand and the geographic location (urban/rural) of schools on the other hand. All $F$ - value...
exceed that required for significance at the set of .05 level. Evidence therefore exists (tables IV: 14 and IV: 18) of a relationship between scores on Self-Appraisal (part I) and the triplet of class \( \times \) sex \( \times \) geographic location of schools. Larger contributions to the significance were however from male students and urban schools, than from female students and rural schools.

**TABLE IV:** 35

**SOURCE OF SIGNIFICANT INTERACTION EFFECTS AMONG CLASS X SEX X GEOGRAPHIC LOCATIONS ON OCCUPATIONAL INFORMATION**

<table>
<thead>
<tr>
<th>Comparisons (Class/Sex/Sch. Location)</th>
<th>( F )</th>
<th>( F^1 )</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>( C_rM )</td>
<td>28.02</td>
<td>( F &gt; F^1 )</td>
<td>*</td>
</tr>
<tr>
<td>( C_rF )</td>
<td>72.60</td>
<td>( F &gt; F^1 )</td>
<td>*</td>
</tr>
<tr>
<td>( C_rU )</td>
<td>15.11</td>
<td>( F &gt; F^1 )</td>
<td>*</td>
</tr>
<tr>
<td>( C_rR )</td>
<td>9.78</td>
<td>( F &gt; F^1 )</td>
<td>*</td>
</tr>
</tbody>
</table>

* = Significant.

In table IV: 15 the class mean maturity score on this test was 6.15, while the mean maturity score for male students was 5.74 that for the female students was 5.49. For geographic location of schools (table IV: 19) the mean maturity scores for urban and for rural schools were 6.61 and 5.78 respectively. Using the class mean maturity score as the basis for comparison it could be observed that the range of 1.12 was very low to produce significant mean score differences without the weighted values of each significant \( F \) result, it is evident that the collective effect of class, sex and geographic location of schools on the performances of students should be recognised in the interpretation of the results.

**SUMMARY:** The results of Post-hoc comparisons for the source of significant mean maturity scores were presented in tables IV: 25 to IV: 35. On the main effect of class on the Attitude Scale sub-test, JSS classes I, SS I and SS II performed better than JSS class II and III.
The same result was obtained for JSS class I, and for SS classes 1 and 11 on Occupational Information. The mean maturity scores on Planning subtest for JSS classes I, III, SS classes I and II provided sources of significance among classes on the test.

For the significant interaction between male and female students on Planning Subtest, an F - Value of 21.80 (Table IV: 28) for the paired comparison of means proved that the male students (urban) substantially provided the source of significance. In the same vein, the source of statistical significance obtained for geographic location of schools (urban/rural) on the Planning subtest was the urban mean maturity score difference (Table IV: 29).

The Post-hoc comparisons of mean maturity scores for the Age Groups on Occupational Information (Table IV: 30) yielded no significant F - value results. This illustrates that although each of the different age groups had the effect of yielding score differentiation on the test, this effect was not independent of the other age groups. The cumulative effect of other age groups must therefore be taken into account in the interpretation of the results. Specifically, however, the paired comparisons of mean maturity scores for age groups 1 and 3 to 1 and 8 as well as 2 and 8 formed the main source of significance on the Occupational Information subtest.

The finding on interaction source between class and geographic location on the Occupational Information showed that the only comparison of significance was the pairs of class and urban. With an F - ratio of 63.56, this provided greater source of significance than the pairs of class and rural schools (F - ratio of 8.177) (Table IV: 31).

For the interaction between sex and geographic location of schools on Occupational Information, statistically significant results were obtained generally for urban students (F = 24.87, 1 and 658 degrees of freedom) but in specific terms, with 1 and 658 degrees of freedom male (urban) students performed better (F = 59.72) than either female urban and rural students or their male
rural student counterparts.

Finally, the findings on the second order interaction of class x sex x geographic location of schools on the career Attitude Scale, Self-Appraisal and Occupational Information showed that the source of significance on the Attitude scale was from the mean maturity scores of male (urban and rural) students. On Self-Appraisal subtest all paired compared mean maturity scores produced significant F-values. It is an evidence that the effect of all the three factors must be taken into account in interpreting the source of significance obtained on this test. The same result was obtained on the Occupational Information (Table IV: 35) for the class x sex x geographic location of schools.
The chapter deals with the discussion and interpretation of the research findings and conclusions of this study. Implications are drawn for educational guidance and counseling programme of the 6 - 3 - 3 - 4 National Policy on Education.

Meanwhile the main conceptual framework of this investigation is career development. Stated briefly, the generalisation concern Crites' (1973; 1978) career maturity theory in adolescence as described by Crites' (1965; 1973, 1978; 1983) Career Maturity Inventory (CMI) which assumes that as each individual matures with increasing age but more importantly with increasing class-level (grade), he proceeds through some series of vocational life stages and tasks that in every stage the individual is confronted with a number of specific career developmental problems such as career choice attitude and career (choice) competencies which his society would expect him to accomplish. To the extent that the individual could successfully cope with such career developmental tasks of each life stage, according to Crites (1983; 1978), would he also be able to cope with subsequent ones, and that individual's ability to cope successfully with each task would be a reflection of his level or degree of career maturity.

DISCUSSION OF HYPOTHESES Four of the five hypotheses for this research were based on the main effect variables of class, age, geographic location of schools and sex while the fifth was on their interaction effects (class/sex/geographic location of schools). In all, the investigator hypothesized 'no significant difference' in the mean career maturity scores of the students when the Career Choice Attitude scale, Self-Appraisal; Occupational Information and Planning were used to assess their career maturity. Each of the Null hypotheses was tested by using Analysis of variance (ANOVA) and was accepted at .05 level of confidence. The Benue State sample for
this study yield expected and unexpected results.

DIFFERENCES BETWEEN CLASSES: The first hypothesis was on the class main effect. The hypothesis of 'no significant difference' in the mean career maturity scores of students in the JSS Classes I to SS I and II classes on the Career Choice Attitude Scale, Self-Appraisal, Occupational Information and Planning subtests (CMI) yielded significant F-values on the career choice Attitude scale, Occupational Information and Planning. While the hypothesis was rejected on these subtests, it was however accepted for the class on Self-Appraisal (subtest). Although no cross-cultural comparison is intended as to whether America and Benue State share close cultural affinity with particular reference to the work ethics of their various peoples, the primary focus of this study is however whether the pattern of career maturity that is assumed to increase with class-level (grade) and age is true for students of Benue State of Nigeria. Considering also that although both America and Benue State of Nigeria are at different levels of industrial, social and economic development, it was the interest of this investigator to find out if the differentiation in geographic location of schools (urban/rural) and in sex affects career maturity of students in Benue State.

Crites' Career Maturity Inventory (CMI), 1965; 1978 was constructed to measure the degree of the career maturity using class-level (grade) and age as criteria. The instrument contains items that should reflect a monotonic function of age and grade. That is, the scores on the instrument are expected to increase by age and grade, although that the scores may not reverse themselves at the same time that they need not be strictly linear. In this research the Career Choice Attitude Scale, Self-Appraisal (part I), Occupational Information (Part II) and Planning (Part IV) subtests (CMI) were used on 660, secondary school students (male/female) from urban and rural settings.

For the Benue State sample, excepting on Self-Appraisal, the result indicated the existence of significant score differences
on the Career Choice Attitude Scale, Occupational Information and Planning. However, Table IV: 13 shows no progressive and systematic mean score increase rhythm by class on career choice Attitude Scale. The observed trend of scores on the Attitude Scale is that the rhythm of mean scores is not gradual with students progressing from lower class to higher class. For instance, some regression could be noticed on the scores on the Attitude Scale in the SS classes II, III and SS I class but only to pick-up again in the upward direction in SS II class. In other words class I was more mature than either SS class II, III or SS I class on this test. In his standardisation study, Crites (1973) found on the Attitude Scale that the 11th grade mean was much more like the 9th grade mean than any other grade. Although the result of the present investigation does not show the 'prototypic' mean scores across classes on the Attitude Scale, this should not negate the significant F-value which indicates that significant mean score differences exist among classes. From this finding, it only indicates that students in the SS classes II, III and in the SS I class in Benue State secondary schools require further career counselling on their attitude to career choice.

Based primarily on the result of the study it can be concluded that the significant difference found for class on Attitude Scale; Occupational Information and Planning subtests (CMI) goes to indicate that Benue State students in the SS classes I to SS I and II classes exhibit significant mean maturity score differences but with increasing maturity only in their Career Choice Attitude, knowledge of occupations and in their career planning (Tables IV: 13 - IV: 16). Even on the Self-Appraisal subtest (Table IV: 14) which failed to produce significant mean score difference by class, the mean maturity score was gradual and progressive with increasing class. Therefore, with regard to the effect of class on career maturity, the result seems to indicate
acceptance of possible applicability of the construct to the Benue State students but only with particular reference to the Career Choice Attitude Scale, Occupational Information and Planning subtests (CMI).

DIFFERENCES BY AGE GROUP. The second hypothesis of 'no significant' difference in the career mean score by age group on the career choice Attitude Scale; Self-Appraisal; Occupational Information and Planning was rejected only on Occupational Information subtest (CMI). In other words, excepting on Occupational Information no significant difference in the career maturity mean scores on the Attitude Scale, Self-Appraisal and Planning subtests (CMI) for the different age groups.

But Crites hypothesized that career maturity should increase with age. He however modified this in his later statement (1973:13) that grade - (Class) level rather than age should be used as index with the passage of time in subsequent analysis. This was a consequence of his standardisation sample where he found that age yielded less differentiation on his instrument (CMI) than grade or class - level. The trend observed from this study therefore gives credence to Crites' recommendation in a general way. On the instrument it is only on Occupational Information subtest that significant career maturity mean score exists for this sample. But when this finding was further subjected to post hoc comparison of mean score analysis, using Scheffe's test to locate source of mean score difference, the result failed to yield significant F - value for any of the age groups (Table IV: 30). A comparison of score differentiation due to the effect of age on the four subtests produced irregular pattern, indicating a weak F - value significance for the Occupational Information subtest. Age therefore might not be a potent factor in career maturity.

Crites' (1973:13) statement that grade (class-level) rather than age should be used as index should apply in this case. In other words, that although the construct expects that vocational maturity should increase with age and class-level, it should be accepted that the score across both need not significantly reverse themselves at the same time.
that they need not also be linear.

It can be concluded from this result that for Benue State Sample age difference does not have an overall effect on the students' career choice attitude, career Self-Appraisal, Occupational Knowledge and career planning skills. However, the hypothesis is rejected on Occupational Information subtest (CMI) for the age groups.

DIFFERENCE BETWEEN URBAN AND RURAL SCHOOLS  It was hypothesized on the same set of the four subtests (CMI) that there is 'no significant career maturity score difference of students by geographic location' of schools (urban/rural). The resulting ANOVA test produced a significant F - value only on Planning subtest at the .05 level of confidence. On the Planning subtest, the hypothesis was rejected but accepted on the others: Career Choice Attitude Scale, Self-Appraisal and Occupational Information. This means that it was only on Planning that urban and rural students significantly responded differently with reference to their maturity.

The trend observable in Tables IV: 17 - IV: 20 is however that urban school students tended to be more mature with respect to their career choice attitude, Self-Appraisal Skills, job knowledge and in their planning competencies than students in rural school settings. Achebe's (1975) findings support the result of this study, that urban students were more mature than rural counterparts with respect to their career choice attitude, their job knowledge as well as their planning competencies. The result is a reflection of the reality of the situation.

The true situation is that in most parts of Benue State and indeed this country, rural environments are predominantly agricultural, and they have remained under-developed. The general trend is that there are few job opportunities in rural areas, which explains the rural - urban drift by school leavers (Callaway, 1960), a problem which was identified in the National Development Plan, (1974 - 1978). On the other hand, urban environments have benefitted from most programmes of development and expansion, thus providing wider variety of job opportunities and experiences which can serve as models.

Account must be taken therefore of the general factors of the envi-
ronment (Hopson and Hays, ed. 1975: 40-43; Shertzer/Store, 1976: 319-321; Bello, 1976: 19-36; Ikemefuna, 1975: 22-28, Blair et al. 1968: 38) in generalising the research findings from a situation where there is also low level of general educational attainment. The consequence is that students' career maturity may be impaired or wholly retarded. For reasons of general low level of economic activities in the rural areas the students would not exhibit such behaviours that would embrace certain work values which in turn would affect or militate against the accomplishment of"... certain vocational developmental tasks ..." (Maynard, 1970:87).

Stacey, in Hopson and Hays (ed. 1975: 117-118) said that the kind of environment to which a student has been exposed is a factor for vocational aspirations.

Terese Keil, Ridel and Green (ibid: 164) made similar observations when they said that young people choose un-realistically but within a realistic range, adding that in general, "... it seems that the poorer the school performance, the lower the realism of aspirations". Commenting on youths' choice occupation on the criteria of prejudices and prestige as value factors for occupational choice advanced by some writers, Napier (1972: 62) provides a contrasting view when he says

... it is not so much of the nature of the work which has led youth into the pattern of occupational selection they now have; rather it is the nature of the society and the limited opportunities available.

Adequately therefore, the right career choice attitude, and career choice competence skills are functions of rich, meaningful and dynamic environment which appeals to natural human growth and development. This situation only obtains in urban areas. Although Benue State is generally disadvantaged in career opportunities its rural areas are much more highly under-developed. Amount of environmental stimulation in matters for career development is very negligible in most rural settings. Most students in the rural schools have not seen many of the nation's economy, nor even heard about a large portion of them. Opportunities to work are rare and mostly non-existent. Most people are peasant, small
hectre of land farmers. Petty trading and small scale businesses thrive only in the local government headquarters which are recent development nuclei.

The non-existent information sources about the world of work outside the schools' programmes lowers the range of career horizons of the rural school students. It contributes to lack of the knowledge of occupational Self-concept. The few students who may discover occupational self-concept will be less likely to be able to find jobs which will provide them with the opportunity of adequately expressing their occupational self-concept.

The potency of an individual's parental background in setting the range of occupational horizon should be recognised. According to John Hayes (Hopson and Hayes, ed., 1975: 436):

The individual's socio-economic background is one of the major determinants of the occupational information he will possess and where experience of his family, peer group, and other regular contacts is limited, then his occupational horizon of knowledge of various career possibilities may also be severely restricted.

Under these circumstances a fair interpretation of the findings from the Benue State sample is that the geographic location of schools whether urban or rural, does affect the career maturational level of students, and in particular, their career choice attitude, career self-concept and appraisal as well as their work knowledge and Planning competence.

Although it is only on the Planning subtest that a significant mean score difference result was obtained, thus, rejecting the hypothesis of 'no significant' mean career maturity Score for the geographic location of schools, the effect of urban or rural location of schools on the performance of their respective students on the Career Choice Attitude Scale, Self-Appraisal and Occupational Information subtest (CMI) is apparent. Generally, on all the subtests (CMI) urban students performed better than their rural counterparts (tables IV: 17 - IV: 20)
DIFFERENCES BETWEEN THE SEXES: The last hypothesis on the main effect variables was on the sex differences. It stated that there is 'no significant' mean career maturity score difference by sex on the Career Choice Attitude Scale, Self-Appraisal, Occupational Information and Planning. For sex, like for geographic location of schools, significant mean maturity score difference was obtained on Planning ($F = 4.552$ with 1 and 698 degrees of freedom). At $p < .05$ the hypothesis was rejected for the sexes on Planning subtest, but accepted for the sexes on the Career Choice Attitude Scale, Self-Appraisal, and Occupational Information. In other words, while boys and girls differ significantly in their career planning competence, they however lack significant sex differentiation with respect to their career choice attitude, career self-appraisal and to their occupational knowledge.

Crites in his standardisation sample found sex differences in item responses to be "negligible", and therefore recommended his Career Maturity Inventory (CMI) to be equally applicable to both males and females. The result of this research supports Crites' findings but only on the Career Choice Attitude Scale, Self-Appraisal and on Occupational Information subtests where mean scores produced negligible significance. On planning subtest, boys and girls significantly responded differently. Male students performed better on this test than female students. This result violates Crites' finding of negligible differences of scores by sexes on his instrument.

Other research findings (Sabir and Khan, 1983; Herr and Enderlin, 1976; Achebe, 1975) reported lack of consistency with Crites'. Meanwhile, the lack of correspondence with Crites' results is apparent. An explanation could be found in social support for sex role differentiation of the society. Although, parental aspirations for children may not accurately reflect available career opportunities it is known mostly in agriculturally
based economy that differentiation by sex may have its roots also in the division of labour between sexes. These and other conditions (Shetzer/Stone, 1976: 319) may have fostered the significant mean score difference attained for either the different geographic location, or the sex on planning subtest. Further more, Molter (1972: 11 - 16), Bardwrick (1971) and Sandray (1973) reported that generally inferior status of female in some societies stems from factors of innate psycho-biological dispositions such as hormonal difference or their inherent physical weakness. However, this investigator would infer that the assumed in-equality of sexes and variations in sex role in the traditional society can in addition affect significantly the career maturity patterns of students (males and females) in the different geographic settings. General career development in the community are controlled by prevailing concepts, values, strength of different interest groups and general social trends (Hansen, 1975: 293). All these explain the non-correspondence of research findings with Crites' standardisation sample study for the sex.

Even in American cultures there have been evidenees from series of research findings, using the Career Maturity Inventory (CMI) that sex does significantly affect career maturity. For instance while Davis (1972), using a multivariate analysis of variance to analyse the maturity of vocational attitude between 10th grade boys and girls found no variation, the findings obtained by Smith and Herr (1972) showed significant difference in favour of girls.

For this country, Achebe's (1975; 1981) study discovered that boys and girls differ in the maturity of both their vocational attitude and job knowledge. The study reported that boys were more mature than girls for reasons of cultural pressure and expectations that seemed to predispose girls to be less vocationally mature than boys.

Sex differentiation therefore affects career maturity patterns of students.
SUMMARY OF FINDINGS FOR MAIN EFFECTS

The findings regarding the effect of class, age, geographic location of schools, urban or rural and sex differences on Career Maturity Inventory subtests used in this study yielded results in part that are in keeping with the developmental theory of career maturity. For the Benue State sample, the developmental theory of vocational development of systematic increase by class obtains significantly on the Career Choice Attitude Scale, Occupational Information and Planning Subtests of the instrument.

Age differentiation effect has been found not to be a strong predictor of career maturity on the instrument. Therefore, this finding corresponds with Crites' hypothesis that age does not differentiate as well as grade or class-level with respect to career maturity.

Geographic location of schools (urban/rural) does affect generally the career maturity patterns of students. Urban school location that predisposes students to more career opportunities performed better than the rural school location, and therefore have more vocational behaviours.

For sex differences, girls registered an apparent higher mean scores on the career choice Attitude Scale than boys. But on the three other subtests: Self-Appraisal, Occupational Information and Planning, boys seemed to be more mature than girls, but more significantly on Planning subtest. This finding of sex differentiation on the instrument contradicts Crites' standardisation sample report and Davis' findings, but the present findings are supported by other study reports (Sabir and Khan, 1983; Achebe, 1975; Smith and Herr, 1972).

Meanwhile the variation by geographic location of schools and by sex on the instrument can be speculated from cultural sex role expectation for the different sexes in the society and lack of vocationally related opportunities in rural areas.
INTERACTIONS. The hypothesis of 'no significant' interactions between each pair of class x sex, class x geographic location of schools and between sex x geographic location of schools was tested. The same Null hypothesis was tested for the second order interaction of class x sex x geographic location of schools. Both the first order and the second order interactions were tested on the Career Choice Attitude Scale, Self-Appraisal, Occupational Information and Planning subtests (CMI) and accepted as significant at the .05 level of confidence.

INTERACTION BETWEEN CLASS X SEX

Interaction between class x sex was not significant, and therefore the Null hypothesis was accepted on all the subtests of the Career Maturity Inventory used in this study. The absence of interaction indicates that the students' career maturity with regards to their career choice attitude, Career self-appraisal, career knowledge and career planning Competences was not dependent upon the joint effects of class and sex, but upon the separate main effects, of either class or sex.

For instance, Tables IV: 13 to IV: 16 and figure 3 to 6 illustrate the data and the patterns of interaction between class and sex on all the four subtests (CMI) used in this research. On the Career Choice Attitude Scale, the observed mean score for the female students is higher than either that for the class or that for the male students. On the Self-Appraisal, Occupational Information and Planning subtests the situation is reversed. But in all cases, the mean score difference is not significant.

With this observed difference in the pattern of development of JSS I - S5 II boys and girls, it should be concluded that overall maturity due to class can be made without relating to the appropriate sex of the students. It can be speculated that general low level of economic activities within the society seem to affect career maturity of JSS I - S5 II boys and girls. This
situations becomes more realistic in rural settings.

**INTERACTION BETWEEN CLASS X GEOGRAPHIC LOCATION OF SCHOOLS.**

The hypothesis of 'no significant' interaction between class and geographic location of schools (urban/rural) was rejected on Occupational Information but accepted on the Career Choice Attitude Scale, Self-Appraisal and Planning subtests. It means only on the Occupational Information need there be qualification on the statement on interaction between the effects of class and the effects of urban or rural school location on the career maturity of JSS I - SS II students. Post-hoc comparison of mean scores indicated the source of career mean score significance to be urban school location.

Figure 9 demonstrates the pattern of interaction between class and geographic location of schools on Occupational Information (CMI). In the subtest, urban class students in JSS classes I, II and III begin by being more mature than their rural counterparts. This situation is reversed in favour of rural class students in SS class I. While the mean score on the test for the rural SS class I students is 8.71 that of their urban counterpart is 7.05. Urban SS class II students mean score is higher than those of the rural SS class II students. Excepting in SS class I where there is a regression in the mean score for the urban students; urban school location appears to demonstrate more maturity on this subtest than their rural counterparts. However, the presence of interactions between class and geographic location of school (urban/rural) demonstrates that the overall maturity of JSS I - SS II students on this subtest cannot be made without relating to the appropriate location of the schools, urban or rural.

**Interaction Between Sex Geographic LOCATION OF SCHOOLS.**

The sex X geographic location of schools interaction was significant on the Occupational Information subtest (table IV: 6). The hypothesis of no interaction was therefore rejected. It means that Sex affects the career maturity of students, but in favour of urban boys (table IV: 23). Figure 13 illustrates the pattern of
interaction between sex and geographic location of schools on this test.

The cause of noticeable variation on the performance between sex and geographic location on the test is once again due to the level of cultural and environmental stimulations arising from availability or otherwise, of career opportunities. For this study any statement about the overall effect of sex on Occupational Information must be predicated on urban geographic location of students. In urban settings, the students tend to exhibit better Career Maturity behaviour. This is so because not only that Urban areas provide a wider variety of jobs and more stimulating and broader exposure to the world of work; but also that in this culture, sex role differentiation for girls either in urban/rural acts as constraining factor to minimise the role of females in vocational matters. In other words, because males have more freedom and are all wed greater responsibility they are bound to be more exposed to the work world than the females.

INTERACTION AMONG CLASS X SEX X GEOGRAPHIC LOCATION OF SCHOOLS

This is the last in the series of the 5th hypothesis of 'no significant' interaction effects. It involves the second order interaction of the main effect variables of class, sex and geographic location of schools (urban/rural).

Significant interactions among class x sex x geographic location occurred for the Career Choice Attitude Scale, Self-Appraisal and Occupational Information. The hypothesis was therefore rejected but accepted for career Planning competence. The pattern which emerges from this modifies the statement made separately about the class, sex and geographic location of schools main effects. It demonstrates that even though the students progress from lower to higher classes, their career attitude, career Self-concept and appraisal, as well as their job knowledge become increasingly more mature, and that this can be made with
the effects of sex and geographic location of schools, urban/rural. In other words the effects of sex and geographic location of school variables introduce modifications to confirm the statement that as students progress from lower to higher classes they become increasingly more mature in their career choice attitude, self-appraisal and job knowledge.

CONCLUSION

Analysis of the results of this study supports Crites' construct in a general way, that is, that there are differences in career maturity in students as they progress from lower to higher classes. The findings for students in Benue State secondary schools while not being different however indicate that as they progress in class they exhibit more significant mean maturity score difference in their Career Choice Attitude, in their knowledge of occupations and career planning.

Age is not a strong predictor of career patterns of the students. The effect of class on the students' career maturity is greater than the effect of their age.

The findings for urban/rural location of schools show apparent effect of geographic location of schools on the general career maturity of the students. Urban students are generally more mature than their rural counterparts, and this is a consequence of the different levels of cultural and environmental stimulations.

The level of career maturity for the sexes is found to be different, the male students being more mature on self-appraisal, job knowledge and planning skills than females.

However, from the analysis of the findings, other causatives would tend to introduce modifications. For instance, significant interactions occurred between class and geographic location of schools; sex and geographic location of schools on one hand, and among class, sex and geographic location of schools on another hand. It therefore means that any statement on any of the main effects where significant interactions occurred about career
maturity of the students should be qualified by the possible effect of the other main effect variable. In this study the effect of class on career maturity should be qualified by the effect of geographic location of the class. In the same vein, any statement about the effect of sex must be qualified by the effect of the location of the students - urban or rural. The same interpretation goes for the joint interactions among the main effect variables of class, sex and geographic location of schools.

IMPLICATIONS: The result of this study has implications for the Career maturity theory in general and for the career maturity of the students (Males/Females) in Secondary Schools (urban/rural) in Benue State in particular. The result has implications as well for the career counseling practice in Benue State Schools. A Scheme of suggestions intended for future research is also outlined.

The major proponents of the theory of vocational maturity, Super (1957) and Crites (1973), expect that vocational behaviour should increase during adolescence by age and grade (class - level). In practice, the theory assumes increasing vocational behaviour as the individual progresses through different life stages. Crites (1973), in building this construct into his instrument, the Career Maturity Inventory (CMI), places more emphasis on grade or class-level and less on the effect of age groups. That is, higher classes rather than older age groups should be expected to exhibit more mature career behaviour by scoring generally higher on the instrument. The results of the present investigation for the student in all the JSS classes to SS II classes of Secondary Schools in Benue State lend support to the theory in a general way, but in a more significant way, on the career attitude traits as well as their job knowledge and career planning competencies. Some of the factors that might introduce modifications in interpreting the performance of the students on the instrument have been considered. Meanwhile, the results of the research for the class and age main effects suggest applicability of the developmental theory of vocational
maturity across class-level and age cultures of the instrument.

But the continued lead by male students on the instrument sets a limitation when the career maturity by sex is assessed. Crites (1965; 1973; 1978; 1983) assumes that the score difference by sex should be negligible. In reality, male students have continued to score higher than their female counterparts on the instrument. This finding is supported by Achebe's (1975) and Agulana's (1977).

This study investigated also if the developmental assumption of vocational maturity applies to the students in urban and rural school locations of the State. The results were a reflection of the reality of the marked difference between the stimulating, broad exposure to world of work of urban life and the crippling economic activities and constraining social life of rural settings. The findings indicated that urban students performed much better on their career attitude, job knowledge and career planning skills and competency trait measures than their rural counterparts. When the question 'how ready' are the students by geographic location of schools should be answered, it is obvious from the results of this research that urban students are more mature than rural students. In the same vein, male students (urban/rural) perform better in a general way than their female counterparts.

Admittedly, there is need for the observed differentiation in the career maturity mean scores of the urban and rural students as well as of the sexes to be examined and taken note of especially in the career counseling programme of the schools.

For rural schools, intervention programmes on career talks, educational trips and excursions to industrial centres should be organized. Such promotion of closer links between vocation centres and the utilisation of all available resources (Marshak, 1985; Hobart, 1985; Bello, 1982; Miller, 1980) can hasten the rate of career maturity of students. Carew (1985: 192) Oladele (1985) and Adoyaju (1985) suggest that such elaborate career programme models
are good guidelines in the process of career maturity. In other words, there should be a greater co-ordination of the rural schools programme and the placement services with industry and employment institutions in order to accelerate maturity in vocational matters. For the girls, every effort should be made to give them encouragement in order to raise their self-concept and their motivational levels so that they do not overtly suffer from the constraints placed on them by the societal prejudices. The girls like their male counterparts, should be exposed to broadly based secondary school programme for their overall development. Such benefits can be derived from the programme of the 6-3-3-4 National Policy on Education of the country when fully implemented.

The results on interaction effects of class x school location, and sex x school location are significant on some of the subtests used in this research. From the post-hoc analysis for the sources of significance of the mean score difference on the interaction effects, students' career maturity should be qualified by the possible effects of the performances of the male students, in classes, generally and mainly from urban schools. Although it suggests that male students from urban and rural schools in Benue State schools are generally more career mature than female students from the same school locations when their career maturity is assessed, the overall career maturity of students cannot be made without relating to both sexes and the geographic location of schools. Without relating to both sexes and the geographic location of schools.

The research finding has other implications for the Guidance programme of the State. The Career Maturity Inventory (CMI) which defines career choice attitude and career choice competencies, as an appraisal instrument, can be used to:

i. assess guidance needs
ii. study career development patterns of students
iii. screen career immaturity patterns of the students
iv. evaluate guidance and curricular programmes of school, and
v. to test career counseling programmes of educational
institutions of the State.

SUGGESTION FOR FUTURE RESEARCH

Outside Anambra and Imo States, this is the first attempt to try out Crites Theory and instrument anywhere in this country. A further research is therefore needed for some of the potential applications of Crites' Career Maturity Inventory to be fully realised. While this investigator would recommend a replication of the study, it would be worthwhile to suggest that the test be normed and validated for use in Benue State.

In this study only the Attitude Scale; Self-Appraisal, Occupational Information and Planning skills and competency trait measures of the instrument have been used. For subsequent research, the whole instrument might be considered, but on a longitudinal research basis. On such research would an efficient conceptual frame-work for career maturity as described by Crites' Theory be more properly established for students in secondary schools in Benue State. The period for the longitudinal research should be enough to cover commercial, trade and technical schools other than the traditional grammar type institutions in the State.

Guidance programmes of schools should be linked with vocation centres in order to enhance career maturity generally but more specifically for rural schools and for female students in Benue State Secondary Schools. Educational visits to Industries, factories and to employment agencies go in no small way in enhancing career maturity. Staging of Career Week programmes and the employment of career resource personnel to give career talks add some pep to the schools' career guidance programmes.

Denga's Modular Approach to Career Guidance Programming in schools is suggested. It is based on the propositions that
(a) career development proceeds from random, un-differentiated
activity to goal directed, specific activity;
(b) development is in the direction of increasing awareness and orientation to reality, and from dependence to independence.
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APPENDIX A:

GRAPHS ON THE COMPUTER CALCULATED MEAN SCORE VALUES ON THE INSTRUMENT (CMI)
MEAN VALUES FOR ATTITUDE SCALE
URBAN BOYS

MEAN VALUE

MEAN VALUES
TOTAL

FORM I

FORM II

FORM III

FORM IV

FORM V

SCHOOLS #
128
MEAN VALUES FOR ATTITUDE SCALE
RURAL BOYS

MEAN VALUES
TOTAL

FORM I

FORM II

FORM III

FORM IV

FORM V

MEAN VALUE

SCHOOLS #

129
MEAN VALUES FOR ATTITUDE SCALE
URBAN GIRLS

MEAN VALUES
TOTAL

FORM I

FORM II

FORM III

FORM IV

FORM V

MEAN VALUE

SCHOOLS #
130

10 12 14 16 18 20 22 24 26 28

1 2 3 4
MEAN VALUES FOR ATTITUDE SCALE
RURAL GIRLS

MEAN VALUE

SCHOOLS #

FORM V
FORM IV
FORM III
FORM II
FORM I
TOTAL

MEAN VALUES

131
MEAN VALUES OF SELF-APPRaisal
RURAL BOYS

MEAN VALUES
TOTAL

FORM I

FORM II

FORM III

FORM IV

FORM V

MEAN VALUE

SCHOOLS #
1
2
3
4

133
MEAN VALUES OF SELF-APPRAISAL
RURAL GIRLS

MEAN VALUES
TOTAL

FORM I

FORM II

FORM III

FORM IV

FORM V

MEAN VALUE

SCHOOLS #
135
MEAN VALUES IN OCCUPATIONAL
INFORMATION FOR RURAL BOYS

MEAN VALUES
TOTAL

FORM I

FORM II

FORM III

FORM IV

FORM V

MEAN VALUE

SCHOOLS #
MEAN VALUES IN OCCUPATIONAL INFORMATION FOR URBAN GIRLS

MEAN VALUES
TOTAL

FORM I

FORM II

FORM III

FORM IV

FORM V

MEAN VALUE

SCHOOLS #
MEAN VALUES IN PLANNING
URBAN BOYS

MEAN VALUE

SCHOOLS #

1 2 3 4 5 6

FORM V

FORM IV

FORM III

FORM II

FORM I

MEAN VALUES
TOTAL
MEAN VALUES IN PLANNING
RURAL BOYS

MEAN VALUES
TOTAL

FORM I

FORM II

FORM III

FORM IV

FORM V

MEAN VALUE

SCHOOLS #
APPENDIX B

CAREER MATURITY INVENTORY

(CMI)

MODIFIED VERSION OF

ITS

ATTITUDE SCALE

AND SUBTESTS

OF THE COMPETENCE TEST:

(1) ... SELF-APPRAISAL

(II) ... OCCUPATIONAL INFORMATION

AND

(IV) ... PLANNING.
ABOUT THIS INVENTORY

The Career Maturity Inventory has been constructed to survey the various attitude and competencies which are important in making decisions about your career; it is not a personality inventory, an interest inventory, and achievement test or aptitude test.

This inventory consists of an Attitude Scale and a Competence Test. The Attitude Scale, which you are about to take, asks you about your attitude and feelings toward making a career choice and entering the world of work. The Competence Test is more concerned with knowledge about occupations and the decisions involved in choosing a career. The information you get from taking the Career Maturity Inventory can be used in choosing and planning for your career and can contribute to your career maturity. Complete this inventory carefully and thoughtfully; it may help you choose a more satisfying and successful career.
DIRECTIONS

There are a number of statements about career choice in this booklet. Career Choice means the kind of job or work which you will probably be doing when you have finished all of your schooling.

Read the statements and mark your answers in the section marked ATTITUDE SCALE on the separate Answer Sheet. If you agree or mostly agree with the statement, use your pencil to blacken the space marked with a T. If you disagree or mostly disagree with the statement, blacken the space marked with F. Be sure that your marks are heavy and black and that they completely fill the spaces. Erase completely any answer you wish to change. Do not make any stray pencil marks on the Answer Sheet.

1. Once you make an occupation choice, you can't make another one.
2. In order to choose a job, you need to know what kind of person you are.
3. I plan to follow the line of work my parents suggest.
4. I guess everybody has to go to work sooner or later, but I don't look forward to it.
5. A person can do any kind of work he wants as long as he tries hard.
6. I'm not going to worry about choosing an occupation until I'm out of school.
7. It doesn't matter which occupation you choose as long as it pays well.
8. Work is worthwhile mainly because it lets you buy the things you want.
9. The greatest appeal of a job to me is the opportunity it provides for getting ahead.
10. I often daydream about what I want to be, but I really haven't chosen a line of work yet.
11. You have to know what you are good at and what you are poor at before you choose an occupation.
Your parents probably know better than anybody else which occupation you should enter.

If I can just help others on my work, I'll be happy.

Work is dull and unpleasant.

Everyone seems to tell me something different; as a result I don't know which kind of work to choose.

Sometimes you can't get into the occupation you want to enter.

Why try to decide upon an occupation when the future is so uncertain.

I spend a lot of time wishing I could do work I know I can never do.

I don't know what courses I should take in school.

It's probably just as easy to be successful in one occupation as it is in another.

By the time you are 15, you should have your mind pretty well made up about the occupation you intend to enter.

There are so many things to consider in choosing an occupation, it is hard to make a decision.

I seldom think about the job I want to enter.

It doesn't matter which job you choose as long as it pays well.

You can't go very far wrong by following your parent's advice about which job to enter.

Working in an occupation is much like going to school.

I am having difficulty in preparing myself for the work I want to do.

I know very little about the requirements of occupation.

The occupation I choose has to give me plenty of freedom to do what I want.

The best thing to do is to try out several jobs and then choose the one you like best.

There is only one occupation for each person.

Whether you are interested in a particular kind of work is not as important as whether you can do it.
I can't understand how some people can be so certain about what they want to do.

As long as I can remember, I've known what kind of work I want to do.

I want to really accomplish something in my work - to make a great discovery or earn a lot of money or help a great number of people.

You get into an occupation mostly by chance.

It's who you know, not what you know, that's important in a job.

When it comes to choosing a job, I will make up my own mind.

You should choose an occupation which gives you a chance to help others.

When I am trying to study, I often find myself daydreaming about what it will be like when I start working.

I have little or no idea of what working will be like.

You should choose an occupation, then plan how to enter it.

I really can't find any work that has much appeal to me.

Choose a job in which you can someday become famous.

If you have some doubts about what you want to do, ask your parents or friends for advice and suggestions.

You should choose a job which allows you to do what you believe in.

The most important part of work is the pleasure which comes from doing it.

I keep changing my occupational choice.

As far as choosing an occupation is concerned, something will come along sooner or later.

I am not going to worry about choosing an occupation until I am out of school.

STOP.
SUBTEST I

SELF-APPRAISAL

DIRECTIONS

In each item of this part, you are given a short description of a person. Following the description are four statements about that person. Read the description and then select the statement, if any, that tells what you think about that person. If you have no idea, indicate "don't know".

Mark your answer to this part of the test in the SELF-APPRAISAL section of the separate Answer to this part of the test in the SELF-APPRAISAL section of the separate Answer Sheet. Make sure that your marks are heavy and black and that they completely fill the space. Erase completely any answers you wish to change. Make no stray marks on the Answer Sheet.

Continue to work until you reach the word STOP. If you complete this part before time is called, you may go back and check your answers. Do not begin the next part until you are told to do so.
1. Victoria was in a bad car accident three years ago and has since been in a wheelchair. There is little hope that she will ever be able to walk again. She has accepted this fact and has stayed in school. She was going to be a physical education teacher, but now she doesn't know what she is going to do.

What do you think?

A. Since she is handicapped, she should let someone else take care of her.

B. There is so little she can look forward to from a wheelchair; her future is a dark one.

C. She has already shown that she can overcome her handicap. If she tries hard, she may even be able to walk again.

D. With her determination and desire, the chances are that she will find something she can do and will like, even with her handicap.

E. Don't know.

2. Daniel does a lot of carpentry work at home and also takes wood-work courses at school. He has made several professional-looking cabinets and has won a prize for one in a nation-wide contest. He is now trying to decide if he has enough skill to continue with cabinet-making.

What do you think

F. The work he has done suggests that he had above average cabinet-making skills and interest.

G. If his friends think he has cabinet-making skill, he probably does and should continue making cabinets.

H. He should plan carefully, since he may not have enough skill to be a successful cabinet-maker later on.

J. He has skill in making cabinets, and he should also design them.

K. Don't know.
3. Frank has always been in a number of activities - debate, science club, plays sports, and band. He is also bright, having scored higher on the scholastic aptitude tests than anyone else in his class. He keeps asking himself which of his interests he should follow.

What do you think?

A He should ask his parents for their opinions.
B Before he decides which interest to follow, he should be as certain as possible that it is the right one.
C It doesn't matter which interest he follows, since he has enough ability for any of them.
D He shouldn't give up any of his interests because he might give up the wrong one.
E Don't know.

4. Ako Eke is an Explorer Scout and takes part in most of his troops activities. He enjoys being outdoors and he's looking forward to a trip that they have planned. He has learned the names and marking of most of the birds in his area and is interested in nature. He has also been active in efforts to conserve the environment and thanks he'll study ecology in college.

What do you think?

F There is no doubt that he has the interest and ability to be an ecologist.
G He should discuss his interests with his Scout-master and do what he suggests.
H His interest in nature is probably only a temporary one, and he shouldn't make plans based on it.
J His interest in ecology is developing, and he should follow it, but with the understanding that it may change later on.
K Don't know.

GO ON TO NEXT PAGE.
5. Michael comes from a family of doctors. His father is a doctor, and both his grandfather and great-grandfather were medical men. Everyone expects him to follow in the family tradition, even though he spends most of his time practising the guitar and playing in a folk music group.

What do you think?

A. If his family wants him to be a doctor, he should follow their advice.

B. His ability and desire to be a doctor are uncertain, but knows he can play the guitar.

C. He must have the ability to be a doctor, since all of the other men in his family were doctors.

D. On the one hand, he might make a good doctor, but on the other hand, maybe he should be a guitarist.

E. It's hard to say which he would be better at.

F. Don't know.

Dansofo plays handball whenever he can. He was in a junior league team for three years, and now he dreams of being in the Senior League someday. He tried out for the high school team this dry season, however, and did not make it. He still plays in amateur games but is not an organised team.

What do you think?

F. He should try out for the team again next years, but realize that he may not be a ballplayer.

G. He should never have tried out in the first place because then he couldn't have failed.

H. He should give up playing handball; there's no way he can make the high school team now.

J. He should ask his father how good he really is at playing.

K. Don't know.

7. Angelina spends most of her spare time reading poetry and novels. She also does some writing and has had a few pieces printed in the school magazine. Her English teacher has
encouraged her to go to a college with a writer's workshop and to study creative writing. She wonders if she is good enough.

What do you think?

A She should ask her friends what they think,
B She can never really be certain that she's good enough.
C Her teacher wouldn't encourage her if she weren't good enough.
D The only way she could find out would be to try college, but then it might be too late if she failed.
E Don't know.

8. Abuul lives near the ocean and is fascinated by it. Last rainy season he worked as a bus-driver at one of the resort hotels, and this rainy season he'll be a bait boy on one of the deep-sea fishing boats. After high school, he is thinking of becoming a merchant seaman. He knows they make good money, but he doesn't know if he'd like being at sea for sometimes as long as six months.

What do you think?

F He should depend on his father's judgement about whether he should go to sea.
G He sounds like a born seaman. He'll probably work his way up in rank quickly.
H No matter how much more he found out about living at sea, he couldn't be sure he could really like it.
J He should get some more information and experience, he might sign on for a rainy season cruise as a cabin boy and see how he likes it.
K Don't know.

9. Jack has always been in the centre of things. In junior school he was on the student council and the safety patrol. In secondary school he was elected as a president of the...
Junior Class and has held offices in several clubs. Others seem to turn to him as a natural leader. What do you think?

A He has the ability to be one of the future leaders of the country.
B He has shown leadership qualities
C He needs more experiences before he can decide that he has leadership abilities.
D If he had an older person's opinion, he would know if he were a leader.
E Don't know.

10. Kunav is proud of being well liked. He feels he has more friends than any of his classmates. He feels at ease with others and likes being with them. He was voted "most popular" in his Junior Class and was master of ceremonies at the junior concert. He also relates well to both adults and children. What do you think?

F He may be well liked today but not tomorrow.
G He appears to get along with all kinds of people quite well.
H He's a "social lion" he can't miss getting along with others.
I He should take a "social ability" test to check how well he really gets along with people.
J Don't know.

11. Patricia has taken piano lessons for several years, mostly because her mother has wanted her to. She has played in several recitals and has been praised by her teacher and friends for her performances. Her mother wants her to study piano seriously, but she hates the long hours of practice and being alone doing them. What do you think?

A It's hard to tell if she has talent.
B She seems to have musical talent but not the interest.
C She has great talent. It is not really important if she likes piano or not.
D Her mother, friends, and teacher are better judges of her ability than she is.
E Don't know.

12. Calvin has been a paperboy for three years and has never missed a morning's delivery. He also has not been absent or tardy during that time.
He is not a top student, but he feels he works hard and is dependable.
What do you think?
F His record speaks for itself; he is quite dependable
G It's hard to say; he might still miss a morning or be late.
H If his supervisor agrees with him, then he probably is dependable.
J He is not only dependable, but also one of those people who is always on time.
K Don't know.

13. Ruth comes from a large family, and because she is the oldest, she has had to help take care of the others. She has enjoyed it, and being a member of a close-knit family means a lot to her. She cooks, sews, and likes interior decorating. Most of her time, however, she spends with the younger children-teaching them, playing with them, and loving them when they need it. She sees herself as being a housewife, even though she might also train for a career.
What do you think?
A There's no doubt that she should be a housewife and forget about a career.
B There's no way she can be certain that either marriage or a career is for her.

GO ON TO NEXT PAGE
C She should ask her friends what they are going to do and then make the same choice.

D With her interest in homemaking, she would probably be happy as a housewife and could have both a career and marriage, if she wanted to.

E Don't know.

14. Salome reads almost every motion picture magazine printed. The people she admires the most are actors and actresses. She often daydreams of being one of them - of being in the motion pictures or on TV. She has thought about taking some acting lessons, and she has tried out for three school plays, but has not been in any of them yet.

What do you think?

F She should ask some other people what they think of her acting.

G How can she possibly have any acting ability, when so few do?

H Until she has been in a play or show, it's hard to tell if she can act.

I She definitely has acting ability; otherwise, she wouldn't be so interested in being an actress.

J Don't know.

15. Katherine has a telescope in her backyard which is strong enough for her to study the stars and planets. When her father first set it up, she thought of it as a toy, but now she spends more and more time with it. She has studied astronomy at school and thinks she may major in it at university.

What do you think?

A She has the makings of an astronomer; she should definitely go ahead with her plans.

B Before she decides about university, she should ask an
astronomer's advice.
C Her interest in astronomy is strong enough, and she knows enough about it, to plan further study.
D She can't possibly decide if she has either aptitude or interest in astronomy from a backyard telescope.
E Don't know.

16. Edith is quiet and studious. She keeps to herself much of the time. She expresses herself through her poetry. She has written many poems; some have appeared in the school newspaper and others have been published by a printer in her town. She once thought about being a poet but gave up the idea because she didn't think she was good enough.
What do you think?
F It was wise for her to give up poetry for something which is more certain.
G Her decision may have been hasty, since it is obvious she has some talent as a poet.
H With her talent, she should start writing poems again; she has a great future ahead of her.
I Now that she has decided not to be a poet, she should ask her parents what she should be.
J Don't know.

17. Onoja has enjoyed drawing pictures at home. He hangs them in his room and shows them to friends. His parents have praised his work, but he was disappointed that none of his drawings from the art class at school were chosen for an exhibit. His art teacher told him they were not as good as those of the other students.
What do you think?
A His art teacher is the best judge.
B He should get somebody else's opinion.
C His parents know him better than his art teacher.
D He likes to draw, so he's probably good at it too.
E Don't know.
18. Madzah sometimes feels there's nothing that he's very good at. He has about average class marks in school, and he is not an athlete. He has not had the time for many outside activities, he works after school to help support his family. His younger brothers and sisters think he is a great guy, but he wonders what he can do after he finishes secondary school. What do you think?

F With his good attitude toward work, he should be able to do anything he wants.

G He needs the advice of someone else to tell him what kind of person he really is.

H His willingness to work and his concern for others will help him find and hold any job.

J If he is now not sure about what he can do in the future, he'll be even more unsure when he starts looking for a job.

K Don't know.

19. William likes to do things rather than study about them. His interest in school is not very strong, but he spends a great deal of time on his hobby—photography. He has developed into a good photographer over the years and has just sold some of his pictures. He realises the competition in photography as a field is tough, but he thinks he has the talent. What do you think?

A Before he decides anything, he should ask his friends what they think.

B With the start he has, there's no doubt that he has the talent in photography to be outstanding.

C It is unlikely that he has enough talent in photography to be successful in such a highly competitive field.

D He has enough developed talent to continue in
photography until he can decide if he should stay in the field.

E Don't know

20

Cecilia has tried to become interested in several different things, but she has not stayed with any of them for very long. She will start an activity, such as flower arranging or dancing, but then withdraws in a short time. It is hard for her to decide out what she likes to do.

What do you think?

F She may just be going through a time of trying different things; and interest will develop in one of them later on.

G It's almost impossible for her to know for sure what her interests are.

H She should be interested in anything she wants; she should go ahead and get into something.

J Her parents know her best; she should ask them what her interest are.

K Don't know.

STOP

WAIT FOR FURTHER INSTRUCTIONS.
SUBTEST II:

OCCUPATIONAL INFORMATION

DIRECTIONS.

In each item of this part, you are given a brief description of a job performed by a person. Following the description are four occupational titles. Read each job description and then select the correct occupational (job) title for it. If you have no idea, indicate "don't know".

Mark your answers to this part of the test in the OCCUPATIONAL INFORMATION section of the separate Answer Sheet. Make sure that your marks are heavy and black and that they completely fill the space. Erase completely any answer you wish to change. Make no-stray marks on the Answer Sheet. Continue to work until you reach the word STOP. If you complete this part before the time is called, you may go back and check your answers. Do not begin the next part until you are told to do so.

WAIT.
21. Jose thought back over the years to his first lessons. How awkward he was. Now, he was waiting to try out for a TV show which should run the whole session. His part in it would be large, but it would give him a "credit" which might lead to a bigger part next time. He had worked hard to get this far - many hours of hard work each day. He also spent a lot of money for lessons. Competition in this field is high and it is not easy to be successful.

What is his occupation?
A Commercial artist
B Dancer
C Physical therapist
D roustabout
E Don't know.

22. Chukurah watched carefully as the huge press ran at top speed, turning out the Daily Star evening newspaper. Suddenly, he pushed a button and stopped the press to repair a tear in the roll of paper that was feeding into one of the rollers. He also checked the ink tanks and filled those that were running low. He started the press again and finished the first part of the newspaper. With new plates in place for the remaining parts, he once again started the press and finished the job.

What is his occupation?
F laboratory technician
G office machine operator
H printer
I too-and-die maker
J Don't know.

23. Tony carefully placed the piece of iron between the jigs on the surface of his drill press. Before going on, he checked his measurements and the exact place where he wanted to drill the hole. He then lowered the drill until it started to spin through the metal. When he finished, he again measured the inside of the hole before placing the iron in the bin next to his bench. This was the last piece in this job; after lunch he would set up his drill to work on connecting rods.

What is his occupation?
A optician
B instrument assembler
C machinist
D X-Ray technician
E Don't know.
Diana sat at her desk which was filled with piles of orders and bills for goods used by her company, the General Machine Company. She was checking the bills for due dates when her secretary said that her 10 o'clock appointment was ready. She talked with her visitor, the salesman for the Sturdee Box Company, for about an hour and placed an order with him for 5,000 large sized cardboard boxes. She spent the rest of the morning writing; she attended a business meeting in the afternoon.

What is her occupation?

F bookkeeper
G production planner
H purchasing agent
J vendor
K Don't know.

Melinda smiled and handed Mr. Okoro two packages of quarters, five of fifty kobo notes and ten of ten kobo pieces. She said "have a nice day", as he gathered up the money and left. There was no one else at her window; so she took the time to check how much change she had left in her money drawer and filled some notes she would need to balance her cash at the end of the day. What is her occupation?

A accountant
B bank teller
C buyer
D postal clerk
E Don't know.

Maria set the camera so that it was pointed at the man's chest. She checked some measurements and then moved him a little to the left of centre of the machine's platform before she went behind a lead wall where the controls were. She asked him to hold his breath for a few seconds while she pushed a button which started the machine. Then she was finished, except for developing the film.

What is her occupation?

A machine tool operator
G optometrist
H photographer
J X-ray technician
K Don't know.
27. Dele sipped a steaming hot cup of coffee and thought ahead to what he had to do during the day. First, he had chores—feeding and milking the cows. Then he wanted to finish knowing the northwest pasture so that he and some neighbours who would help him, could start tying the hay. It was getting late in the season, and he could not put off filling the barn with hay any longer. Finally, he had some repair work to do on one of the wagons while there was still daylight.

What is his occupation?

A animal trainer  
B agricultural engineer  
C farm equipment dealer  
D farmer  
E Don't know.

28. Sheng checked the drawings and then started to add furring to a basement wall before finally paneling it. He placed the two-by fours 16cm on centre and fixed them to a basement wall to the lowest part of the wall with a nail gum. His plan was to nail the paneling to the furring and finish the joints with coves. Since the room was going to be for study, he also had to build in bookcases and a work surface with file drawers.

What is his occupation?

F consumer canvasser  
G carpenter  
H interior decorator  
J machine tool operator  
K Don't know.

29. Denga looked at the long lists of numbers on his desk and wondered where he had made the mistake. He could not make the credits and debits come out even. As he started to add them again, his secretary telephoned him to say that a customer was in her office waiting to see him. It was Mr. Stephens, a pet shop owner, who wanted to know how to report a new sales tax. During the day Denga talked with customers about other money matters, as well as making more general audits of their income and expenditures.

What is his occupation?

A accountant  
B bookkeeper  
C Lawyer  
D statistician  
E Don't know.
30. Agnes worked rapidly on the electrical part which was laid out in front of her on the workbench. Her job was to put the circuit board and base into the case. She then had to solder the two pieces together and wrap the whole piece with a sleeve which protected it from heat and cold. Once the part was finished, it would move along the production line and be put together with other parts to make a space vehicle.

What is her occupation?

F instrument assembler
G key punch operator
H Machinist
J optician
K Don't know

31. Josephine works for the Family Welfare Agency, where she helps people with many things, such personal adjustment, money and jobs. She makes up a case history, talks about the family's problem at meetings and tries to find a solution to it. She arranges child care, hospital care, legal advice, and other services for the family.

What is her Occupation?

A doctor
B public relations worker
C social worker
D recreation worker
E Don't know.

32. Rita was looking forward to another busy day in her job at WE-WE-Store, the largest clothing store in town. She was expecting her orders of women's season's fashions to arrive, and this meant getting them ready for Christmas. She also had to make plans for another trip to Onitsha to look at several new lines of coats and dresses for rainy season.

What is her occupation?

F buyer
G Advertising copywriter
H public relations worker
J social worker
K Don't know.
33. Jim looked through the glass bubble of the helicopter and spotted a clearing in the woods where they could land; then he could go on fact to "timer cruise." He would be picked up at the same spot later in the day after he looked at the in-the area and checked a strip which had been plated following last year's fire. He found several trees which had to be removed, either because they were dying or were causing others to die, and he marked them with an "X". What is his occupation?

A real estate salesman
B Forester
C Pilot
D Wildlife manager
E Don't know.

34. Andy looked up from the counter, where he had just placed a plate of blue-band and eggs, and reached for three other orders which had been left on the counter in front of him. One was for the blue place lunch, corned beef and cabbage today; another was a steak well done; and the third was pork chops. He quickly started preparing each of these dishes so that he would have them ready before new order come in.

What is his occupation?

A cook
B orderly
C dietician
D Vendor
E Don't know.

35. Roberts was at the hospital by 8 a.m. and had finished her round by 10 a.m. She was now headed for her office, where she had appointments until 3 p.m. She was then due back at the hospital for a meeting, before taking her weekly turn on the emergency service.

During the evening, she treated only one really serious case, an elderly man who had been in an accident, the others were all minor cuts and scrops.

What is her occupation?

A hospital administrator
B medical technologist
C physician
D Don't know.
36. Rose is a pretty, well-dressed young woman who makes a good impressions and can talk easily with her customers as she cuts, brushes, washes, and sets their hair. She often had ideas for new haircuts and for fashion that go with them. Sometimes she also gave manicures and scalp messages, and she is trained to find skin deseases even though she cannot treat them.

What is her occupation?

F beautician
G fashion designer
H receptionist
J personal maid
K Don't know.

37. Ogunmola was in a hurry for the loading crew to finish with his "rig". He wanted to get on the road again; he always enjoyed being on the move, even if it were to places he had been before. This trip, however, was to Enugu, and he had never been there. The big "semi" was finally ready to go, and he made a last-minute check with the office about his route and time of arrival. Within a few minutes, he was on his way.

What is his occupation?

A bus driver
B routeman
C rigger
D truck driver
E Don't know.

38. Elizabeth scanned the menu once more before sending it to the kitchen for the next day's meals. she had planned it to be both good testing and nutritious, She also had to worry about the cost, since she worked on a fairly tight budget. She tried to use leftovers, but there was always waste whenever menus had to be prepared for hundreds of workers. She depended on her training in nutrition and food preparation to satisfy them as much as possible.

What is her occupation?

F Chemist
G cook
H dietician
J food technologist
K Don't know.
39. Carolyn sorted through a pile of cloth pieces, searching for one that would go with the living room rug in the Benson house. She wanted to have some ideas to show the Bensons when they met this afternoon. She also needed to pick out some curtain fabrics so that they could place an order for them. That would about finish the job, except for some last-minute toughes, such as pictures, vases, and so on.

What is her occupation?
A architect
B comparison shopper
C interior decorator
D upholsterer
E Don't know.

40. Linus leaned back in his big, soft chair and listened carefully as the woman sitting across from him told how she has tried to make a success of her marriage but now wanted to file for a divorce. He explained the state laws about divorce to her and asked her if she wanted to go through with it. She said 'yes', and he started to gather the information needed to file the first papers.

What is his occupation?
F Lawyer
G marriage counselor
H creative writer
J Psychiatrist
K Don't know

STOP

WAIT FOR FURTHER INSTRUCTIONS.
SUBTEST IV

PLANNING

DIRECTIONS

In each item of this part, you are given an occupational title and three steps that a person could complete to prepare for and enter this occupation. You are then given four ways in which these steps could be ordered. Read the occupational title and the steps and then select the correct order for completing the three steps. If you have no idea indicate "don't know". Mark your answers to this part of the test in the PLANNING section of the separate Answer Sheet. Make sure that your marks are heavy and black and that they completely fill the space. Erase completely any answers you wish to change. Make no stray marks on the Answer Sheet.

Continue to work until you reach the word STOP. If you complete this part before time is called, you may go back and check your answers. Do not begin the next part until you are told to do so.

WAIT.
61. Charity has decided to be a printer. Three steps she can take to become one are:

1. train as an apprentice printer
2. pass journeyman printer's tests
3. get a job as a printer's "devil" (assistant)

What is the correct order of these steps?

A 1 2 3  
B 2 1 3  
C 3 1 2  
D 3 2 1  
E don't know.

62. Juliana wants to be a beautician. Three steps she can take to become one are:

1. find a job as a beautician
2. pass the govt. Trades Tests for beauticians
3. attend a school of beauty culture (cosmetology)

What is the correct order of these steps?

F 1 3 2  
G 2 3 1  
H 3 1 2  
J 3 2 1  
K don't know.

63. Bassagi has chosen to be a carpenter. Three steps he can take to become one are:

1. learn to be carpenter as an apprentice
2. take carpentry courses in the high school
3. pass tests to qualify as a journeyman carpenter

What is the correct order of these steps?

A 1 2 3  
B 2 1 3  
C 1 3 2  
D 3 2 1  
E don't know.

GO ON TO NEXT PAGE.
Tony has decided to be a nurseryman. Three steps he can take to become one are:

1. find a full-time job in a nursery
2. get a high school diploma in vocational agriculture
3. take work-study courses in horticulture at a two-year college.

What is the correct order of these steps?

F 1 3 2
G 3 1 2
H 2 3 1
J 3 2 1
K don’t know.

Tom is interested in being a forester. Three steps he can take to become one are:

1. get a university degree in forestry
2. work as a junior forester or timber cruiser
3. pass civil service tests for a job with the Forest Service.

What is the correct order of these steps?

A 1 3 2
B 2 2 1
C 3 2 1
D 3 1 2
E don’t know

Elizabeth has chosen to be a lawyer. Three steps she can take to become one are:

1. pass her exams.
2. go to law school
3. major in history in university

What is the correct order of these steps?

F 1 3 2
G 2 3 1
H 3 1 2
J 3 2 1
K don’t know.
67. Abdullahi wants to be a machinist. Three steps he can take to become one are:

1. get a job as a machinist
2. take mechanical engineering courses in secondary school.
3. gain experience in setting up machine

What is the correct order of these steps?

A  2  1  3
B  2  3  1
C  3  1  2
D  3  2  1
E  don't know.

68. Edet has chosen to be a librarian. Three steps she can take to become one are:

1. major in liberal arts in university
2. get a master's degree in library science
3. file credentials with a librarian placement service.

What is the correct order of these steps?

F  1  2  3
G  2  1  3
H  2  3  1
J  3  2  1
K  don't know.

69. Fred wants to be a policeman. Three steps he can take to become one are:

1. pass police qualifying tests
2. go to a police college for training
3. take a general courses in secondary school

What is the correct order of these steps?

A  1  3  2
B  2  3  1
C  3  1  2
D  3  2  1
E  don't know.
70. Margaret wants to be a secretary. Three steps she can take to become one are:

1. take commercial courses in secondary school
2. go to a business college
3. interview for a job at some commercial secondary school.

What is the correct order of these steps?

F 1 2 3
G 1 3 2
H 2 1 3
J 3 1 2
K don't know.

71. Nama has decided to be an interior decorator. Three steps she can take to become one are:

1. graduate from a school of design
2. finish an apprenticeship in a decoration studio
3. attend university for a few years and take course in interior decoration and related subjects.

What is the correct order of these steps?

A 1 2 3
B 2 1 3
C 2 3 1
D 3 1 2
E don't know.

72. Ele-Ọjo thinks he'll be an instrument assembler. Three steps he can take to become one are:

1. check employment office for jobs
2. receive on-the-job training as an assembler
3. take technical and practical workshop course in secondary school.

What is the correct order of these steps?

F 1 2 3
G 2 3 1
H 3 1 2
J 3 2 1
K don't know.
73. Anthonia had decided to be an architect. Three steps she can take to become one are:
1. major in architecture in university
2. pass government Trade Tests for Architects
3. finish a three-year apprenticeship in an architect's office

What is the correct order of these steps?

A. 1 3 2
B. 2 1 3
C. 3 1 2
D. 3 2 1
E. don't know.

74. Edith has decided to be a cook in a large restaurant, three steps she can take to become one are:
1. get promoted to fry cook
2. find a full-time job as a vegetable cook
3. take home economics course and work part time as a waitress while in secondary school.

What is the correct order of these steps?

F. 1 2 3
G. 2 3 1
H. 3 1 2
J. 3 2 1
K. don't know.

75. Ellen's goal is to be a department store buyer. Three steps she can take to become one are:
1. work up to head of stock and assistant buyer
2. get a job as a saleswoman in a department store
3. earn a degree in business administration in university.

What is the correct order of these steps?

A. 3 2 1
B. 2 3 1
C. 3 1 2
D. 1 3 2
E. don't know.
76. Akura wants to be a long-distance truck driver. Three steps he can take to become one are:

1. find a job with a trucking company
2. get a high grade in driver's training
3. pass the tests for a chauffeur's license.

What is the correct order of these steps?

- F 1 2 3
- G 2 1 3
- H 2 3 1
- J 3 2 1
- K don't know.

77. Charlotto wants to be a doctor. Three steps she can take to become one are:

1. finish an internship
2. go to medical school
3. take a residency in some medical specialty.

What is the correct order of these steps?

- A 1 3 2
- B 2 1 3
- C 3 2 1
- E don't know.

78. Mary wants to be an X-ray technician. Three steps she can take to become one are:

1. graduate from x-ray technician school
2. pass registry test in x-ray technology
3. find a job with a hospital or clinic.

What is the correct order of these steps?

- F 3 1 2
- G 1 3 2
- H 2 1 3
- J 1 2 3
- K don't know.

79. John has decided to be an office machine operator. Three steps he can take to become one are:

1. complete secondary school in a commercial course
2. apply for a job at the state employment office
take special training at a business school in office machines.

What is the correct order of these steps?

A  1  2  3
B  1  3  2
C  2  3  1
D  3  1  2
E  Don't know.

Alice wants to be a dancer. Three steps she can take to become one are:

1. go to a dancing school
2. try out for parts through a booking agency
3. learn different forms of dance, then specialize

What is the correct order to these steps?

F  1  3  2
G  2  1  3
H  3  1  2
J  3  2  1
K  don't know

STOP

WAIT FOR FURTHER INSTRUCTIONS.
ATTITUDE SCALE

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3. F 13 F 23 F 33 F 43 F
4. F 14 F 24 F 34 F 44 F
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8. F 18 F 28 F 38 T 48 F
9. F 19 F 29 F 39 F 49 T
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SUBTEST I (PART I)

SELF-APPRAISAL

1. E 11 B
2. K 12 J
3. E 13 D
4. G 14 J
5. B 15 B
6. F 16 M
7. C 17 E
8. J 18 J
9. E 19 D
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### Subtest II (Part II)

**Occupational Information**

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### Subtest IV (Part IV)

**Planning**

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CAREER MATURITY INVENTORY
(C M I)

ANSWER SHEETS

FOR

1. ATTITUDE SCALE &
2. PART I SELF-APPRAISAL
3. PART II OCCUPATIONAL INFORMATION
4. PART IV PLANNING.

Your School and Place: ____________________________

___________________________________________________________

L.G.A:  _________________________________________________

Your Sex (Male or Female): ________________________________

Your Age (Approximate Age): ______________________________
### ATTITUDE SCALE

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